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MECHANISMS OF CHAIN FORMATION

Cedric Arnaud Boeckx, Ph.D.

University of Connecticut, 2001

The theoretical domain of the present investigation is the
mechanisms of chain formation. The empirical domain is the nature
of resumption. I provide compelling arguments in favor of a
movement-based analysis of resumptive chains. However, unlike
more traditional analyses, I do not take a resumptive pronoun to
be a (minimal) copy of its antecedent. Instead, I argue that
resumptive elements and their antecedents are distinct syntactic
entities, which form a constituent with their antecedents upon
First Merge. Resumptive chains are the result of stranding
(subextraction) under A-bar movement. My proposal makes correct
predictions in various domains pertaining to the interpretive
consequences of resumption, the relation between resumption and
clitic doubling, and cases of agreement mismatch between the
resumptive pronoun and its antecedent, which turn out to be
crucial in defining the nature of resumption. I define as
precisely as possible how resumptive chains are formed, which
necessitates a theory of extraction. The answer I suggest is
strongly reminiscent of Ross's (1967). For Ross, movement was

Cedric Arnaud Boeckx—University of Connecticut, 2001

unbounded. Crossing an island in and of itself did not suffice to yield a deviant output. Rather, only certain <u>types</u> of rules were sensitive to islands. I revise Ross's taxonomy in such a way as to make agreement processes island-sensitive. Movement triggered in the absence of agreement can be island-insensitive. By stranding resumptive pronouns, antecedents are able to undergo Move without Agree, and thereby void islandhood. A careful examination of the properties of resumptive pronouns is shown to predict when the latter will be island-sensitive. The final chapter of this work expands the data base by examining more marked instances of resumption, and shows how these can be accounted for at no cost. In particular, cases of mixed chains, resumptive pronoun fronting, clitic left dislocation, and interacting A-bar dependencies are analyzed. Instances of so-called intrusive pronouns (resumption restricted to island contexts) are examined, and formally distinguished from cases of genuine resumption. The chapter ends with a discussion of some implications of the present analysis of resumption for domains like Weak Crossover, parasitic gaps, reconstruction, and asymmetries between interrogative and relative clauses.

MECHANISMS OF CHAIN FORMATION

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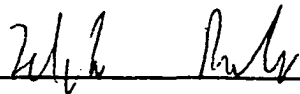Cedric Arnaud Boeckx

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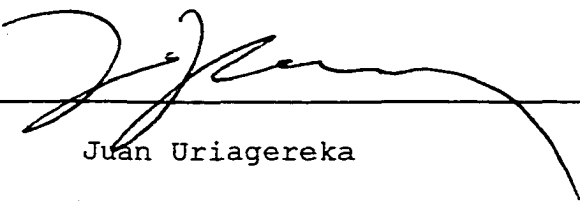
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For Kazolfo, Dougbbie, Sanobuji, and koosob

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1. Introduction

1.1. General Considerations

The present study is couched within the Principles-and-Parameters approach to the central concerns of generative grammar: the characterization of linguistic knowledge, and the factors underlying its growth in the individual. The Principles-and-Parameters approach holds that a child's biological endowment includes a Universal Grammar which provides core principles of linguistic competence as well as well-defined points of variation ('parameters') which are assigned a fixed value as the child interacts with its environment (see Chomsky 1981, 1986a). The approach grew out of two major advances in the 1970s: (i) the sharpening of general conditions on rules (see, e.g., Chomsky 1973) and (ii) the systematic uniformity discovered in large-scale attempts to characterize languages other than English (see, especially, Kayne 1975).

The perceived success of the approach led to an emphasis on issues of language design which the Minimalist Program seeks to investigate by putting into a larger context (see Chomsky 1995; Freidin and Vergnaud 2001; Jenkins 2000; Martin and Uriagereka 2000; Uriagereka 1998, among others). Although little explicit discussion is devoted here to design specifications, the present inquiry is animated by the substantive issues raised by the Minimalist Program. This is reflected in some concrete principles proposed here to analyze specific empirical phenomena in a new light. Such a methodological strategy is justified in so far as

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the proof of a program ultimately rests on how interesting the detailed products that result from taking its strictures seriously look.

As one would expect from a program, Minimalism is many things to many researchers, and there are by now many alternative versions of it. Central to all is the fundamental question: to what extent is the human language faculty an optimal solution to minimal design specifications. The question becomes empirical to the extent that we are able to formulate interface conditions and clarify notions of good design. Good design specifications are common to all rational inquiries, and typically revolve around the same concepts: symmetry, elegance, parsimony, etc. Interface conditions are more specific to the linguistic enterprise, and will therefore be of central concern here.

1.1.1. Core operations

A particularly important guiding idea of the Minimalist Program is that movement is not optional, but triggered by the need to license (/check) features of lexical items to ensure legibility of linguistic expressions at the interfaces (PF and LF). In short, movement is subject to Last Resort.

In its barest form syntax is nothing but a concatenative procedure that arranges and rearranges items taken from the lexicon according to their properties with a view to meeting the requirements of Full Interpretation. Following Chomsky (1993 through the present), I will refer to the arrangement and rearrangement of lexical items as Merge and Move, respectively.

Merge and Move are determined by (properties of) features of lexical items. Features may interact in the following three ways. (See Chomsky 2000:122.)

(1)   Features <u>Match</u>

(2)   (Properties of) Features trigger <u>Agree</u>

(3)   (Properties of) Features trigger <u>Move</u>

With Epstein 1999, Esptein, Groat, Kawashima, and Kitahara 1998, and Chomsky 2000, 2001a,b, I assume that (features of) lexical items may only interact if the elements are in relations defined over the most basic operation Merge: Immediate Containment, Sisterhood, and C-command (see Chomsky 2001a:3).

Following Chomsky (2001a:5), I take Match to be a relation holding of two items sharing a feature. (For the sake of concreteness, I will assume, with Chomsky (1995:277), that the matching feature on one of the members of the Match relation is [-interpretable]. No substantial result of this study is affected if alternatives such as those of Brody 1997 or of Pesetsky and Torrego 2001 and Platzack 2000 are assumed.)

Agree is a (potentially long-distance) agreement relation holding between two elements (which Chomsky 2000 calls Probe and Goal). The need for such a relation is best illustrated by means of existential sentences.

Chomsky 1986a proposes that the associate-indefinite NP in a sentence like (4) replaces the expletive <u>there</u> in the covert component.

(4)   a. there is a man in the garden : S(urface)-Structure

b. a man is [t in the garden]   : LF-expletive replacement

This analysis was criticized as soon as it was proposed (apparently, first, by Lori Davis; Howard Lasnik, personal communication): the expletive replacement analysis gets the scope facts wrong. As is well-known, indefinites in subject positions are scopally ambiguous (see (5)). (4b) predicts that such ambiguity exists in existential constructions. But this is not the case (see (6)). The associate in (6) only has a low reading.

(5)   someone from New York is likely to win the lottery

                         (someone >> likely/likely >> someone)

(6)   there is likely to be someone here

                         (*someone >> likely/likely >> someone)

Chomsky 1991 puts forward a new analysis of existential constructions. He suggests that at LF the associate does not literally replace the expletive but adjoins to it, as shown in (7).

(7)   [a man [there]] is [t in the garden]

There are many problems with this analysis, and I won't review them here. They are thoroughly discussed in Lasnik 1992.

Chomsky 1995 proposes a much more satisfactory account. Chomsky's reasoning is that movement is triggered to check features ("the operation Move (...) seeks to raise just F[eature]" (p. 262)). We therefore expect under Minimalist assumptions that demand minimization wherever possible that if the computational component can raise just what is needed (features to carry out the checking operation), it will do so.

Thus, Chomsky argues for the existence of feature movement (Move-F). Relying on the Move-F hypothesis, Chomsky proposes that in existential constructions only formal (ϕ-) features of the associate NP move (head-adjoin) to Infl^0, leaving all phonological and semantic features behind. Raising of ϕ-features immediately accounts for the fact that finite agreement in existential constructions is controlled by the feature specification of the associate, as illustrated in (8). (I here set aside semi-formulaic examples like <u>there's two men in the garden</u>.)

(8) a. there is/*are a man in the garden

  b. there *is/are two men in the garden

As Lasnik has extensively discussed (see the essays in Lasnik 1999a), the Move-F account provides a straightforward explanation for the narrow scope of the associate NP in these constructions if we assume, quite plausibly, that the establishment of scopal relations is more than a matter of formal features, and requires phrasal displacement (see Pesetsky 2000:2-5 for some discussion).[1]

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[1]Lasnik also points out that the Move-F analysis captures the paradigm discussed in Den Dikken 1995 (see also Lasnik and Saito 1991 for similar examples in ECM-contexts) which is problematic under expletive-replacement.

(i) a. <u>Some</u> applicants seem to <u>each</u> <u>other</u> to be eligible for the job

  b. <u>No</u> applicants seem to <u>any</u> of the deans to be eligible

On largely conceptual grounds, Chomsky (2000:123) dispenses with feature movement altogether and captures its effects via the operation Agree. The latter amounts to a process of feature checking (in his terms, valuation) at a distance.

Chomsky (2000:122) takes Agree to operate under Match, but not every matching pair induces Agree. In particular, Chomsky provides one argument in favor of distinguishing the two operations. The argument rests on the existence of what he calls "defective intervention effects" (Chomsky 2000:123). Defective intervention arises when an element α matches the featural requirements of a probe P, but fails to agree with it (for reasons I will not go into here; assume, for concreteness, that α

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    for the job

(ii) a. *there seem to <u>each</u> <u>other</u> to be <u>some</u> applicants

    eligible for the job

  b. *there seem to <u>any</u> of the deans to be <u>no</u> applicants

    eligible for the job

As the data in (ii) show, the associate is incapable of licensing an NPI/anaphor located in the matrix clause, which is unexpected under the expletive replacement analysis since according to the latter (i) and (ii) share the same LFs. Lasnik takes the ungrammaticality of the sentences in (ii) to mean that such licensing mechanisms require more than formal features. But see Branigan 2000, Yatsushiro 1999, and Watanabe 2000a for some arguments that binding (but not scope) can be established via feature movement.

bears inherent Case, which renders its φ-features inert).
Crucially, in such cases, no more deeply embedded element β that
matches the featural requirements of P, and is able to agree with
it in other circumstances, is able to do so here, due to the
presence of α. A clear case of intervention arises in Icelandic
Quirky subject constructions (the data are taken from Boeckx
2000a, where the agreement facts are discussed at length). As is
well-known, Quirky subjects fail to trigger agreement on the
finite verb (9), despite the fact that they behave for all other
purposes as <u>bona fide</u> subjects. (Again, assume, for concreteness,
that this follows from the fact that Quirky elements bear
inherent Case, and that inherent Case-marked elements have inert
φ-features.)

(9)   Stelpunum   var   hjálpað
        The girls.Dat.pl.fem was.3sg helped.Neuter.sg
        'The girls were helped'

Yet, their presence blocks the establishment of an agreement
relation between the verb and a nominative element (10), which is
otherwise possible (11).

(10) Mér   fannst/*fundust henni   leiðast þeir
     Me.Dat seemed.3sg/3pl   her.Dat bore   they.Nom
     'I thought she was bored with them'

(11) Mér   *virðist/virðast þeir   vera skemmtilegir
     Me.Dat seem.3sg/3pl   they.Nom be   interesting
     'It seems to me that they are interesting'

Chomsky observes on the basis of such facts that if Agree were

the only significant relation, the intervention effect in (11) would be unexpected, since the quirky element cannot participate in Agree. However, if Match exists independently of Agree, the blocking effect falls into place. Being a closer matching element, the quirky NP renders the nominative NP inaccessible to the finite verb. Additional arguments in favor of distinguishing Match from Agree will be provided in this study.

Move is a function of the ill-understood EPP-property of a probe that demands a goal to be remerged into its specifier. It is important to emphasize that the EPP-requirement is more specific than "a probe P requires a SPEC." As Chomsky (2001b:11) observes, "it seems that raising of α from XP is always restricted to some category of constituents of XP, hence some feature F of α (or complex of features)." To put it differently, it is not the case that anything can satisfy a probe's EPP property. Rather, at the very least anything <u>featurally</u> related to the head of which the EPP holds can satisfy it (I suspect that the EPP-requirement is even stricter than that, but the present formulation will suffice here. For extensive recent discussion of the EPP, see Boeckx 2001a, Bošković 2001b, Castillo, Drury, and Grohmann 1999, Epstein and Seely 1999, Martin 1999). Exactly how to formulate the generalization just made is no easy matter, but it seems accurate for a wide range of cases. Thus construed, the EPP is reminiscent of the notion of 'strong feature' in Chomsky 1993, which demands that checking of a strong feature F be satisfied by overt displacement. The current conception of the

EPP departs from the notion of strong feature in essentially one way: EPP means 'strong' (it is a property of a feature), it is not an isolable feature that may be either strong or weak. In other words, the EPP is featurally related, but itself is not a feature (in the technical sense of the word).[2]

As Chomsky has occasionally noted (class lectures, Spring 2001; see also Chomsky 2001a:40, and Frampton and Gutmann 2000:7), the EPP-property may not require overt movement within narrow syntax, it may be an indication for the interfaces to pronounce/interpret a goal G in the specifier of the associated probe P. That raises challenging questions in various domains, for extraction in particular. It is a well-documented and quite robust generalization that extraction out of displaced elements is illicit (see already Wexler and Culicover's 1980, and in a minimalist context, Takahashi 1994). If no actual displacement takes place within narrow syntax, how are we to understand the notion of extraction (and islands)? The issue is addressed at length in this work.

Taken together, Match, Agree and Move characterize displacement phenomena in natural languages. The presence of uninterpretable features on an element α turns it into a probe P. Match determines what kind of category P seeks. Agree establishes the feature checking relation between P and G. The EPP property

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[2]See Lasnik 2001 for an argument in favor of this view.

determines whether P offers a (specifier) position for Move.[3]

Before proceeding, let me point out one crucial respect in which I will depart from Chomsky's assumptions. Like him, I assume that Agree cannot take place in the absence of Match, which seems to me uncontroversial. I also assume that Match is a prerequisite for EPP-satisfaction (recall that the EPP is not an independent feature, but a property of a feature). Where I depart from Chomsky is in not taking Agree to be a prerequisite for Move. In particular, I will provide extensive arguments in favor of allowing Move to take place solely under Match. I do so by restricting Agree to φ-features. Other features may be checked solely under Match. This will provide a basis for understanding the distribution of inflected (agreeing) and non-inflected (non-agreeing) forms in various domains where displacement is arguably involved, as I show in chapters 3 and 4.

Having clarified my assumptions concerning the core operations of narrow syntax, I now touch upon further issues related to the nature of displacement.

1.1.2. Successive cyclicity

The problem posed by successive cyclicity has been around ever since the advent of the minimalist program and its insistence on movement as last resort. Prior to minimalism,

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[3]An obvious question arises with respect to head movement. I will not address this issue here. For relevant discussion, see Chomsky (2001a:37-38), Boeckx and Stjepanović 2001, Brody 2000, and Mahajan 2000, among others.

successive cyclicity was 'built-in,' as in Chomsky 1973 and much subsequent work.

Currently, intermediate steps in the case of long movement are typically taken to involve the EPP (and not Case or ϕ-features) (see Chomsky 2000, 2001a,b; see also McCloskey to appear for a particularly well-worked out analysis of long-distance A-bar dependencies in such terms). But as I emphasized above, the EPP is not a feature (in the technical sense). It is a requirement that must be met by the Probe upon the establishment of Match/Agree. Saying that intermediate movement steps are triggered by EPP-features is inconsistent with the view on the EPP adopted here.

Denying the existence of successive cyclic movement is clearly untenable. That movement indeed proceeds in short steps can be seen on the basis of various tests, for both A- and A-bar movement. Consider the following binding facts in the case of A-movement. Castillo, Drury, and Grohmann (1999:94) attribute to David Pesetsky (himself crediting the argument to Danny Fox) the following paradigm as evidence for successive cyclic A-movement.

(12) a. John$_i$ seems to Mary [$\underline{t''}_i$ ✓ to appear to himself$_i$ [($\underline{t'}_i$)
       to be [($\underline{t}_i$) happy]]]

     b. *Mary seems to John$_i$ to appear to himself$_i$ to be happy

     c. *Mary$_k$ seems to John$_i$ [$\underline{t''}_k$ to appear to himself$_i$ [($\underline{t'}_k$) to
       be [($\underline{t}_k$) happy]]]

Standard assumptions about binding tell us that the binding of the reflexive in (12a) is unproblematic since <u>John</u> has raised

from its base position over the reflexive to the specifier of <u>to</u> <u>appear</u> and then subsequently raised to its surface position. Thus we understand the reflexive to be locally bound by virtue of the trace/copy in the intermediate position (indicated by ✓). (12b), on the other hand, is ruled out by virtue of a kind of blocking effect since <u>Mary</u>, by hypothesis, has raised through the specifier of <u>to appear</u> as in (12c). (For evidence that the experiencer NP inside the <u>to</u>-phrase c-commands outside the PP and induces binding effects, see Kitahara 1997 and Boeckx 1999, among others.) Thus typical binding requirements could be seen to rule out (12b) on the assumption that the intermediate movement really takes place.

That A-bar movement also proceeds in short steps can be seen from examples like (13).

(13) a. [Which pictures of himself$_{i/j}$] does John$_i$ think __✓__ that Bill$_j$ bought __

   b. who said that John$_i$ thinks that Bill$_j$ bought pictures of himself.$_{i/j}$

Movement of the wh-phrase in (13a) brings the anaphor to a position where it is c-commanded by <u>John</u> but not by <u>Bill</u> (position indicated by ✓).

Additional arguments for successive cyclic movement can be constructed on the basis of Quantifier Float data (under Sportiche's 1988 influential analysis of Q-stranding, and

McCloskey's 2000 extension of it to the A-bar domain).[4] (Data in

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[4]Past participle agreement facts in Romance (analyzed along the lines of Kayne's 1989 seminal study) are often mentioned in the context of successive cyclic movement.

(i)   Les filles$_i$ ont   été <u>t'$_i$</u> vu<u>es</u> <u>t$_i$</u>

      the girls   have.3.pl been   seen.3.pl

      'The girls have been seen'

(ii) quelles filles$_i$ Jean a-t-il <u>t'$_i$</u> vu<u>es</u> <u>t$_i$</u>

      which girls   Jean has-he   seen.3.pl

      'Which girls did Jean see?'

Past participle agreement has often been said to be triggered by φ-features on past participles. However, there is good reason to believe that more than φ-feature checking is involved in the case of past participle agreement. Obenauer 1994, Déprez 1998, and Rizzi 2000 have argued at length that past participle agreement correlates with referentiality/D-linking. In contexts where the moving wh-phrase cannot receive a D-linked interpretation, past participle agreement is excluded, as shown in (iii).

(iii) combien de fautes en plus Jean a-t-il <u>t</u>' commis(*-es) <u>t</u>

      how many of mistakes more Jean has-he made(3.pl)

      'How many additional mistakes did Jean make?'

(Note that the phrase <u>combien de fautes</u> is able to trigger agreement in other contexts (as in (iv)), which shows that it may have active φ-features:

(iv) dis moi combien de fautes ont été commis*(-es)

      tell me how many of mistakes have been made3.pl

(14) are from standard English. Data in (15) come from West Ulster Irish English.)

(14) a. all the boys seem to appear to like ice cream

     b. the boys seem <u>all</u> to appear to like ice cream

     c. the boys seem to appear <u>all</u> to like ice cream

     d. the boys seem to appear to <u>all</u> like ice cream

(15) a. what <u>all</u> did you get for Christmas

     b. what did you get <u>all</u> for Christmas

     c. what <u>all</u> did John say that Peter ate for breakfast

     d. what did John say that Peter ate <u>all</u> for breakfast

That successive steps are not triggered by Case/ϕ-feature checking is clear in the Q-Float and binding cases, as the contexts are typically non-finite and never display any sign of Case-/ϕ-feature checking.

To capture the cyclic (local) nature of movement, I revive Takahashi's 1994 core idea that successive steps are taken not in order to check some feature in intermediate sites, but simply due to the requirement that steps be local (see also Bošković 2001b). In Takahashi's terms, each link of a chain must be as short as possible (see Chomsky and Lasnik's 1993 Minimize Chain Links Condition). The requirement forces element X undergoing movement of type Y to stop at every position of type Y on the way to its final landing site independently of feature checking. (For a related proposal, see Sportiche 1989.) It is worth noting that

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     'Tell me how many mistakes were made'   )

I return to past participle agreement in French in section 2.5.

Takahashi assumes that the relevant operation underlying movement is Form Chain. In so doing, Last Resort is relevant only to the formation of a chain, not links of a chain.[5] In other words, formation of a chain must have feature-checking motivation, not formation of chain links. Notice also that since Form Chain is a single operation, formation of a chain cannot be interleaved with any other operation (see also Collins 1994).

Apart from relativizing chain-link formation to the type of movement taking place, Takahashi assumes a Uniformity Corollary on Adjunction (based on Chomsky's 1993 notion of Chain uniformity), which says that adjunction is impossible to a proper subpart of a uniform group, where a uniform group is a non-trivial chain or a coordination. (That assumption helps him derive the ban on extraction out of moved elements, and the ban on extraction out of adjuncts and conjuncts, which Takahashi treats alike.)

Following Manzini 1994 and in the spirit of Takahashi 1994,

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[5]Taking Form Chain as a single operation nullifies Zwart's 1996 objection that the Shortest Move condition is not obviously part of virtual conceptual necessity. According to him, there is an equally economical condition that says that steps of movement must be kept as few as possible, Fewest Steps. However, Zwart's point is moot if what counts is the formation of a chain, not chain links, any application of Form Chain counts as one step (see Chomsky 1993:182 and Uriagereka 1998:512n.2). It is difficult to imagine fewer steps than that.

I will assume that a moving element adjoins to the maximal domain of each head on its way to its ultimate landing site. The motivation for this idea is twofold. First, ever since the principle of the cycle was proposed, the number of cyclic nodes (originally restricted to S and NP) increased, and just about every node became a cyclic node (see already Williams 1975). This is certainly the null assumption. Any departure from it would require ample justification (see the related problem of the definition of phase below). Second, the notion of movement type (A/A-bar) has no clear status in the current framework, which makes it very difficult to define what a possible landing site is. (In relativizing landing sites Chomsky and Lasnik 1993 were concerned with recapturing the main results of Relativized Minimality, but the same results can be captured via Match and defective intervention, as I show in chapter 3.)

Following Takahashi 1994, I adopt the idea that an element does not move until its final landing site has been introduced into the tree. (Given that I do not assume the existence of phases (Chomsky 2000, 2001a,b), or any implementation of Cyclic Spell-Out (Uriagereka 1999b), there is no risk of an element being trapped in a spelled-out unit by staying in situ until its final target is introduced.) Only at the point where an actual probe for the goal is introduced is movement triggered (often, but not always, the actual probe will be the goal's ultimate landing site; see chapters 3 and 4 for discussion). Such a notion of long-distance movement is still consistent with Chomsky's

(1995:233-234) assumption that an element must reach its target by the very next step after introduction of the probe provided we incorporate Shortest/Minimize Chain Links into the definition of Move.[6]

Richards 1997, 1999 provides interesting evidence that Shortest Move has to be satisfied alongside Closest Attract (for independent additional arguments, see Maki 1995, Collins 1999). His argument rests on instances of multiple attraction to the same head which involve 'tucking-in' (movement to inner specifiers). One such case is the celebrated Multiple Wh-Fronting pattern found in Bulgarian and other languages.

(16)   koj kogo vižda   (Bulgarian)

       who whom sees

       'Who sees whom'

(17)   *kogo koj vižda

Richards accounts for the 'subject-wh' first pattern ((16) vs. (17)) by adopting the Attract-Closest version of superiority (see Oka 1993 and Bošković 1998, 1999 for compelling arguments in

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[6]The image to keep in mind (suggested to me by Howard Lasnik (p.c.)), is one where someone on one side of a river starts crossing the river only if called for by someone in need on the other side. No matter how much the person crossing the river would like to jump to the other side in one fell swoop, his physical limitations will impose short movements and the use of stepping stones ('intermediate landing sites') to reach the other side.

favor of the latter) that demands that the closest potential attractee be moved to C^0. Richards argues that the second instance of wh-movement tucks in (instead of targeting an external SpecCP) due to Shortest Move. According to some definition of Shortest Move (which one need not go into here (see Richards 1999); the intuition in terms of node crossing is clear enough), moving to an inner specifier (tucking-in) is shorter than moving to an outer specifier, hence the pattern in (16).

The idea of superimposing a Shortest Move requirement upon Closest Attract might at first sight conflict with current views on the cycle such as Chomsky's 1993 Extension Condition. It is not the place for me to review the numerous ways that have been proposed to capture the cycle (see Freidin 1999 for overview). It suffices to say that the conception of successive cyclicity I am advocating is compatible with a version of the cycle based on Chomsky's (1995:233-234) 'virus theory' of 'strong feature,' given in (18). (It may also be compatible with Chomsky's (2001b:6) notion of Weak Extension Condition.)

(18) a strong feature must be checked as soon as possible after being introduced into the derivation

(18) is easily reformulated in terms of EPP-requirement, as in (19) (recall that for us EPP-requirement and strong feature are virtually identical.)

(19) the EPP requirement of a head H must be satisfied as soon as possible after H has been introduced into the derivation

Bošković and Lasnik 1999 compare the version of 'featural

cyclicity' in (18) with other versions of the cycle, and conclude that it is superior in allowing a variety of attested 'acyclic' operations so long as no strong features are involved.[7] Successive intermediate steps resulting from the Shortest Move requirement in the case of long-distance movement would be exactly instances of that kind: not being subject to any checking (let alone checking of a strong feature), they do not violate the cycle.

The view of the cycle I am adopting allows us to capture successive cyclicity without any need of 'spurious' intermediate EPP-features of the type postulated by Chomsky 2000, 2001a,b. (In so doing, the proposal is fully in line with recent attempts to reduce the EPP to independent requirements of the grammar, see Boeckx 2001a, Bošković 2001b, Castillo, Drury, and Grohmann 1999, Epstein and Seely 1999, Martin 1999.) Conceptually, a Takahashi-inspired analysis of successive cyclic movement appears to be superior to Chomsky's 2000, 2001a,b revival of the notion of cyclic nodes by appealing to the notion of phase, roughly (for present purposes), selected intermediate sites. Chomsky suggests that in order to remain accessible to elements outside of its phase, α must first move to the edge of the phase. This essentially yields some form of successive cyclicity. However, there are several problems with a phase-based analysis. First, at

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[7]Although the present version of successive cyclicity fits nicely with Bošković and Lasnik's view on the cycle, I do not necessarily endorse all the conclusions they draw from it.

the moment, the choice of CP and vP as phases appears as arbitrary as the GB-notion of governor. (See Legate 1999 for arguments that most of the tests used in Chomsky 2000 to characterize phases fail to isolate CPs and vPs.) Second, it is not clear why moving to the edge of a phase should allow an element to escape the phase (why is the edge an escape hatch?). Third, the abandonment of the original notion of Greed renders movement to the edge of a phase unmotivated, thereby violating Last Resort. It is no surprise to see Chomsky (2001b:26n.51) appeal to "a more abstract notion of phase, based on the concept of valuation of features [roughly, ultimate checking site - CB] rather than just size of the category."

Empirically, evidence in favor of the 'one fell swoop' version of successive cyclic movement is hard to come by. Most tests for successive cyclic movement involve binding or scope (see especially Lebeaux 1998, Fox 2000a), phenomena that under plausible assumptions are part of the interpretive components, and act on final representations. Such tests provide evidence for intermediate steps, but don't tell us how or when such steps are taken. Similarly, evidence involving the acyclic insertion of adjuncts (Lebeaux 1988, Nissenbaum 2000) will fail to distinguish between the various versions of successive cyclicity we are trying to compare. In the absence of a comprehensive and constrained view on adjunct insertion, it will always be possible to allow for adjunct insertion in such a way as to capture the desired results irrespective of when intermediate steps are

taken. Nevertheless, some empirical arguments can be provided in favor of the present proposal that succeccive cyclic movement is the result of Minimize Chain Links, and not due to any feature checking operation. I offer two such arguments here.

<u>Argument 1</u>

The first argument comes from Saito's 1994 work on scrambling.[8] Saito notes that in general both IP and VP are possible adjunction sites for scrambling. Consider (20a,b,c).

(20) a. [$_{IP}$ John-ga [$_{VP}$ Mary-ni   sono hon-o   watasita]] (koto)

        John-Nom   Mary-Dat that book-Acc handed   fact

        'John handed the book to Mary'

      b. [$_{IP}$ sono hon-o$_i$ [$_{IP}$ John-ga [$_{VP}$ Mary-ni t_i watasita]] (koto)

      c. [$_{IP}$ John-ga [$_{VP}$ sono hon-o$_i$ [$_{VP}$ Mary-ni t_i watasita]] (koto)

However, when we consider instances of long-distance (cross-clausal) scrambling, a difference between IP- and VP-adjunction emerges. While long-distance scrambling across a finite clause can target IP, it cannot target VP.[9]

(21) a. [$_{IP}$ John-ga [$_{VP}$ Bill-ni [$_{CP}$ Mary-ga   sono hon-o   motteiru

        John-Nom   Bill-Dat   Mary-Nom that book-Acc have

        to]   itta]] (koto)

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[8]Thanks to Koji Sugisaki (p.c.) for bringing Saito's discussion to my attention in the present context.

[9]For the sake of completeness, I note, as does Saito, that VP-adjunction scrambling out of control (non-finite) clauses is fine. However, there is good evidence that in such cases we are dealing with A-scrambling (see Nemoto 1993).

        that said   fact

        'John said to Bill that Mary has that book'

    b. [$_{IP}$ sono hon-o$_i$ [$_{IP}$ John-ga [$_{VP}$ Bill-ni [$_{CP}$ Mary-ga $\underline{t}_i$

        motteiru to] itta]] (koto)

    c. ?*[$_{IP}$ John-ga [$_{VP}$ sono hon-o$_i$ [$_{VP}$ Bill-ni [$_{CP}$ Mary-ga $\underline{t}_i$

        motteiru to] itta]] (koto)

Saito notes that the facts in (21) are problematic for many

approaches to successive cyclicity. (21c) shows that VP-

adjunction is impossible. But if long-distance scrambling to IP

(21a) is required to take place via short steps, and if the short

steps are independently triggered, it is not clear how (21b) can

be derived, as its derivation would contain an illicit

intermediate step (adjunction to matrix VP, which is illicit for

long-distance scrambling, as seen in (21c)).

    The generalization that emerges is that (in the case of

long-distance scrambling) VP can be a target of adjunction iff it

constitutes an intermediate, but not a final landing site. Such a

generalization would be very hard to capture under an approach

like Chomsky's that assumes that intermediate movement steps are

taken independently of final steps, and before higher structure

is built. In his terms, the VP (or, equivalently, $\underline{v}$P) would have

to contain an EPP-feature. But it then becomes unclear why (21c)

is out.

    By contrast, the difference between (21b) and (21c) is

readily captured under an approach like the present one, which

says that no feature is involved in intermediate sites. That no

feature relevant to scrambling is found on VP is irrelevant for purposes of successive cyclic movement. By contrast, the absence of such feature accounts for the ungrammaticality of (21c). (Under such an approach, (20c) would have to be analyzed as an instance of Case-driven movement, as in Kitahara 1999.)

<u>Argument 2</u>

The second argument I want to offer is admittedly more abstract than the first. (A version of it is to be found in Brody 2001.)

Suppose one finds a phrase γ which readily allows subextraction of α (say, non-specific <u>a picture of α</u>). In an approach that allows blind intermediate links (spurious EPP-features), one could in principle allow for movement of α out of γ (via the insertion of an EPP-feature), followed by movement of γ to a position β out of which subextraction is impossible. Nothing seems to prevent further movement of α as the latter has moved out of γ prior to the latter's fateful landing on an freezing node. An example of this scenario is given in (22), with the derivation sketched in (23).

(22) Target: *who did [a picture of <who>] caused Bill to cry

(23) a. movement of <u>who</u> out of <u>[a picture of]</u> to YP when the <u>picture</u>-NP is in Spec$v$P (where subextraction is allowed)

b. movement of <u>a picture of <who></u> to SpecIP, a "freezing node"

c. movement of <u>who</u> from SpecYP to SpecCP

Nothing seems to ban the undesirable derivation sketched in (23).

This is not so if we adopt the idea that movement is initiated upon insertion of the final landing site, as we do here. When C^0 is inserted, <u>picture of who</u> would already have landed on a freezing node, and subextraction would be doomed. This would correctly rule out (22). (For equivalent accounts in terms of Form chain and Chain integrity or the ban on chain interleaving, see Collins 1994, Ormazabal, Uriagereka, and Uribe-Etxebarria 1994, and Uriagereka 1998:392ff.)

Although theory-internal, the argument reflects the options available under the two theories under consideration. And, to the extent that it is tenable, it lends support to the version of successive cyclicity adopted here.[10]

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[10]The ban on unbound intermediate traces discovered by Müller (1998:26) as a constraint on remnant movement may provide another case where the two theories make different predictions. However, as the crucial data (i) Müller uses depend on finite clause extraposition in German, whose status touches on the difficult issue of the nature of clausal complement 'extraposition' in German, I have chosen not to develop the argument here.

(i) a. *[$_{CP}$ $\underline{t}'_i$ daß Fritz $\underline{t}_i$ liebt]$_j$ weiß ich nicht [$_{CP}$ wen$_i$ er $\underline{t}_j$

             that Fritz   loves   know I   not   who he

      gesagt hat]

      said   has

      'I don't know who he said that Fritz loves'

  b. *[$_{VP}$ gesagt [$\underline{t}'_i$ daß Fritz $\underline{t}_i$ liebt]]$_j$ weiß ich nicht [$_{CP}$

In conclusion, I have provided two empirical arguments in favor of the version of successive cyclic movement adopted here, which is a refinement of Takahashi's 1994 claim that intermediate chain links are taken by virtue of Shortest Move.

1.1.3. Chains

The notion of chain, originally introduced in Chomsky 1981, has come to play a major role in syntactic theory. A chain is a concise representation of displacement. Here I again follow Chomsky (2000:115) in characterizing chains contextually, via the notion of <u>occurrence</u>, where an occurrence OCC of α is a sister of α. The foot of the chain is defined via first-Merge. (For now, I am focusing on arguments, setting aside adjuncts, to which I return in later chapters, and heads, which I examine in independent work; see Boeckx and Stjepanović 2001). With Chomsky (2001a: 40), I take the EPP-property to constitute another occurrence of α, with the instruction for PF to pronounce α in that context (this is equivalent to the 'Specifier requirement' discussed above). Call this a Strong Occurrence S-OCC, which I will henceforth represent as OCC*. Accordingly, the syntactic object <u>John</u> in (24) would be defined as in (25). (Strictly speaking, the S-OCC of <u>John</u> is T', not T, but as the bar-level has no status at the interfaces, it can, and will be omitted from the definitions I provide here and below.)

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said   that Fritz   loves   know I   not

wen$_i$ er $\underline{t}_j$ hat]

who   he   has

(24) John$_i$ was [t$_i$ arrested]

(25) CH(John) = {T*,V}

In this section I introduce a major proposal of the present work, viz. that at the interfaces a chain must be defined unambiguously. Call this the Principle of Unambiguous Chain (PUC). I take a chain to be unambiguous if it contains at most one strong position (indicated by *). (Note that a trivial chain, {α}, does not contain any S-OCC, but is unambiguous at the interfaces.) The condition on unambiguous chains immediately rules out hypothetical outputs of the form {α*,β*,γ}, which contain more than one S-OCC. The question that arises at this point is whether such outputs are ever generated by the computational system.

Hyperraising cases like (26), where an element has moved from a Case checking position to another Case checking position, are likely candidates for ambiguous chains in the sense just introduced.

(26) *John$_i$ seems [t$_i$' is [t$_i$ clever]] (CH(John) =

   {T$_{seem}$*,T$_{is}$*,Adj$_{clever}$})

The fact that (26) is deviant is consistent with the PUC. We will see in chapter 3 that the PUC plays a central role in ruling out many extractions out of islands, and is instrumental in characterizing the nature of resumptive chains, which will be the empirical focus of the following chapters.

Summing up, I have reviewed some core assumptions of this work regarding how Probe-Goal relations are established, and why;

how intermediate links of a syntactic chain are formed; and what conditions are imposed on chains at the interfaces.

1.2. Overview

The theoretical domain of the present investigation is the mechanisms of chain formation. Its empirical domain is the nature of resumption. I will focus exclusively on instances of resumption in A-bar chains. The nature of resumptive elements like (27) (from Hebrew) has been widely discussed since Ross's 1967 Copying Rule and Perlmutter's 1972 Shadow Pronoun hypothesis.

(27) ha-ʔiš še-   raʔiti (ʔoto)

     the-man that (I) saw him

     'The man that I saw'

Here I show that an understanding of resumption provides a special window into the nature of chains.

The present study is organized as follows. Chapter 2 lays out the basic empirical phenomena that constitute the core of this work. I provide several arguments in favor of a movement-based analysis of the relation between a resumptive pronoun and its antecedent. However, unlike more traditional (movement) analyses, I do not take the resumptive pronoun to be a (minimally) lexicalized copy of its antecedent. Instead, I argue that resumptive elements and their antecedents are distinct syntactic entities. The core proposal in this chapter is that resumptive pronouns form a constituent with their antecedents upon First Merge. Resumptive chains are the results of stranding

(subextraction) under A-bar movement. I show that such a proposal makes interesting and correct predictions in various domains pertaining to the interpretive consequences of resumption, the relation between resumption and clitic doubling, and cases of agreement mismatch between the resumptive pronoun and its antecedent, which turn out to be crucial in defining the nature of resumption.

Chapter 3 defines as precisely as possible how resumptive chains are formed. This necessitates a theory of extraction. In the absence of such a theory, a movement approach to resumption faces a serious problem due to the fact that resumptive pronouns in many (though, not all) languages are island-insensitive. At a very general level, the question I raise is, how can movement violate islands?

The answer I suggest is (important details aside) pretty much the one Ross gave in his 1967 dissertation, which established the notion of island on the agenda of linguistic theory. For Ross, movement was unbounded. Crossing an island in and of itself did not suffice to yield a deviant output. Rather, only certain <u>types</u> of rules were sensitive to islands. Ross identified two such types: chopping rules and feature-changing rules. For these, islands constitute impenetrable domains. By contrast, copying rules are insensitive to islandhood. I argue for a revision of Ross's taxonomy that crucially relies on the role of agreement (and absence thereof). In a nutshell, agreement is island-sensitive. Absence of agreement (Move under Match)

isn't. By stranding resumptive pronouns, antecedents are able to undergo Move under Match, and thereby void islandhood. I also show that a careful examination of the properties of resumptive pronouns and complementizers enables us to predict when resumptive pronouns will be sensitive to islands. The approach to islandhood developed here is a pluralistic one, but it can be shown to have greater predictive power, and to conform better than alternative approaches to the facts found in natural languages. Further, it is arguably the first movement theory of resumptive chains that accounts for the island insensitivity of most resumptive pronouns.

Chapter 4 expands the data base by looking at a more limited, or marked set of facts involving resumptive elements, and show how these can be accounted for at no cost. In particular, cases of mixed chains, resumptive pronoun fronting, clitic left dislocation, and interacting A-bar dependencies involving resumption are analyzed. Instances of so-called intrusive pronouns (resumption restricted to island contexts) are examined, and formally distinguished from cases of genuine resumption. The chapter ends with a discussion of some implications of the present analysis of resumption for domains like Weak Crossover, parasitic gaps, reconstruction, and asymmetries between interrogative and relative clauses.

Chapter 5 recapitulates the major conclusions of this work.

2. The nature of Resumption

This chapter sets the stage for many phenomena that will play a crucial role in establishing the major claims of this work concerning the nature of chain composition. It does so by focusing on the nature of resumption. At first sight, it may seem paradoxical to look at data where it has been argued that no movement chains are formed in order to pinpoint the nature of chain formation. However, I argue that there are compelling reasons to assume that A-bar movement chains are formed in the domain of resumption.[1] In particular, I provide arguments for

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[1] I will not extend the present analysis to what has often been analyzed as resumptive Head-chains and A-chains, viz. predicate clefting (see (5) in the text) (see Koopman 1983, among many others) and copy-raising (i) (see Ura 1994, 1996, 1998).

(i) Jan sanble [li te renmen Mari] (Haitian creole)

Jan seems he Pst love Mari

'Jan seems he loved Mari'

The main reasons for confining my investigation to A-bar chains are (a) the status of head-chains is unclear in the current framework (see Chomsky 2000, 2001a; Brody 2000; Mahajan 2000); (b) the empirical basis on which theories of resumption under A-movement rests is not as firm as the one which I relied on for the A-bar system. The latter has been subject to intensive research for over 20 years, mainly by specialists on the languages in which the crucial constructions are found. This is not the case in the A-domain. As a matter of fact, scattered

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regarding the antecedent-resumptive pronoun relation in a novel

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examples aside, Ura's work is the only one that attempts a comprehensive survey of the relevant constructions, primarily relying on descriptive works. As emphasized by Zwart 1997b, many instances of copy-raising documented in Ura are amenable to alternative analyses (see also Massam 1985). It is imperative that all such cases be subjected to the appropriate care of experts in those languages where they surface before attempting any extension of the stranding analysis of resumption proposed below. If copy-raising indeed exists, an approach like the present one is bound to be preferable to copying analyses, which would have to explain why an element in a Case-checking position may be attracted to another Case-checking position; or to base-generation analyses, which would have to explain why binding of a pronoun is necessary in this case. (If tenable for copy-raising cases, the present analysis may also extend to cases of hyperraising if Moore 1998 is right that these are instances of null resumptive pronouns.) Conceptually, the situation is thus very similar to that found in the A-bar domain, where standard accounts beg many questions which a stranding analysis of the type developed here does not (see section 2.1). (Incidentally, should an extension of the present analysis to copy-raising turn out to be feasible, it would be neutral as to whether A-movement leaves a copy (see Lasnik 1999c, Ausín 2001 for discussion), as resumptive pronouns are here not taken to be lexicalized copies of moved elements.)

way, as an instance of (sub)extraction.

2.1. Introduction

Resumption, much like do-support, has always figured prominently in accounts that argue for some Last Resort condition on syntactic operations, well before the advent of the Minimalist Program. Thus, as early as 1986, Koopman and Sportiche note (p. 362, 366)

> it is an often made observation that languages seem to adopt
> 'minimalist strategies' as unmarked strategies when
> possible; licensing processes are invoked only when
> necessary

In their terms, the reduplication of the verb seen in (1) (from Vata) is needed to properly govern the trace of the extracted element. If the adjunct is not extracted, no such morphology is possible (2).[2]

(1)   yḖsÓ' n`   dI'dÒ-dI'dÒ sūō   la'

      how   you cut-M-cut-M tree-det wh

      'How did you cut the tree'

(2)   n' dI' sūō   fáfá   (*dI'dÒ-dI'dO')

      you cut tree-det quickly   cut-M-cut-M

---

[2]Here and throughout, I have adopted the orthographic conventions used in the works from which the examples are borrowed, and made no attempt at systematization. In cases where technical limitations prevented me from indicating tones on the relevant elements, tonal information appears here right-adjacent to the element it belongs to.

'I cut the tree quickly'

Similarly, in (3), a subject trace does not obey the ECP,
therefore the trace must be spelled out as a resumptive pronoun.
As (4) shows, no resumptive pronoun is possible in object
position, since the trace of an object is properly governed, and
a resumptive pronoun is disallowed.

(3)   àló *(Ò) nǛ mí la'

        who   he did it wh

        'Who did it?'

(4)   yĪ   Kòfí nǛ (*mí) la'

        what Kofi did it   wh

        'What did Kofi do?'

Likewise, since Verb-fronting would violate the ECP, an overt
copy of the verb must be spelled-out at the tail of the verbal
chain, as in the following so-called predicate cleft example.

(5)   nŪ Kòfí ká   mí nU'

        do Kofi fut-Aux it do

        'Kofi will DO it'

Still before the advent of minimalism, Shlonsky (1992:443) states
that "resumptive pronouns only occur as a Last Resort, when wh-
movement fails to yield a grammatical structure."

Whereas one might have expected resumptive elements to play
an important role in the Minimalist Program, it is fair to say
that this has not been the case. The reason for this is clear.
With respect to the cases just discussed, the operation of
spelling out the trace of movement is considered to be an

operation that applies only as a last resort. The principle that triggers the operation is the ECP. The ECP's main function in the GB-era was to rule out structures failing to meet the requirements of (Proper) Government. While Minimalist desiderata dictated the demise of the ECP and the notion of (proper) government, the facts covered by these appear to be beyond the reach of current minimalist approaches. Resumption as Last Resort can only be embraced once a theory of islands is available. It is the aim of the present work to provide such a theory, and show how resumption fits into the picture.

To reach this goal, I will mainly be concerned with the nature of what Sells 1984 aptly refers to as true resumptive pronouns, as opposed to intrusive pronouns (for some discussion of the latter, see section 4.5.2). Intrusive pronouns are standardly described as instances of morpho-syntactic patchwork that turn a deviant syntactic output into a more acceptable one at PF, as illustrated in (6).[3]

(6)   the man that John wondered whether Mary saw him

There are at least two reasons to believe that an inquiry focusing on intrusive pronouns won't be as fruitful as one dealing with genuine resumptive pronouns. First, informants generally judge sentences with intrusive pronouns as 'better'

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[3]Intrusive pronouns are arguably what Ross 1967 identified. It is important to note that the RPs found in Vata are clearly not intrusive pronouns. As Koopman 1982 originally showed, they are not immune to island effects.

than sentences with illicit gaps, but nevertheless 'feel' that such sentences are still deviant. Given our current understanding, it is unclear how to characterize that improvement. Second, since intrusive pronouns are restricted to island contexts, they do not offer much room to maneuver.

By contrast, true resumptive pronouns (henceforth, RPs) appear to freely alternate with gaps in languages that allow them like Hebrew or Irish, which will often serve as data sources in the present study.

(7)   ha-ʔiš še- raʔiti (ʔoto)   Hebrew

     · the-man that (I)-saw him

     'The man that I saw'

The very fact that we find (apparent) free alternation in (7) is an interesting problem from a minimalist perspective.

In this work, I will develop a movement approach to resumption that treats RPs as stranded elements (more on which in the following sections). It is an open question whether a unified analysis of genuine RPs cross-linguistically is warranted. As Jim McCloskey observes (p.c.), the fact that some RPs are sensitive to islands, while others aren't, suggests that some RPs relate to their antecedents by movement, while some other RPs favor a base-generation analysis. In other words, the various approaches that have been entertained ever since Ross's 1967 Copying rule and Perlmutter's 1972 Shadow Pronoun hypothesis should not be seen as necessarily mutually exclusive. As Sells 1984 and Epstein 1983 observe, the availability of RPs seem to be governed by language-

particular rules. Indeed, there does not seem to be any (obvious) parameter under which RPs fall.

However, there is some evidence against a hybrid theory of resumption. Let me mention some solid cross-linguistic generalizations about RPs (they will be illustrated in detail below). For instance, irrespective of island (in)sensitivity, RPs appear to trigger a specific reading on the antecedent, and to be compatible with D-linked interrogatives only. A second important generalization about RPs is that many properties of resumption can be shown to depend on the complementizer system of the language, and not on properties of the pronouns themselves. Third, a vast majority of the languages that make use of RPs isolate the subject position (either by restricting RPs to that position (Vata), or by banning them from that position (Irish and Hebrew)).

On the whole, I think that the importance of the island data has been overestimated. As I will show below, a unified theory of resumption is attainable. Such a theory, I believe, should be movement-based.

Let me offer two arguments which indicate that the widely accepted analysis of resumption in terms of base-generation (as in Chomsky 1977 and much subsequent and influential work, especially McCloskey 1990, to appear) seems to be on the wrong track (further arguments are given in sections 2.3.3, 4.2, and 4.2.2). It is worth stressing that the arguments I am about to give are based on data from languages where RPs are insensitive

to islands -- situations that on the surface favor a base-generation analysis.

The first argument is based on data from Hebrew (data from Shlonsky 1992; similar facts have been reported for Irish in McCloskey 1979, 1990).

As the example in (8) shows, the RP is insensitive to the Complex NP constraint, otherwise operative in the language (example from Borer 1984a; similar facts have been reported for Irish in McCloskey 1990).[4]

(8)   raʔiti ʔet ha-yeled ʔašer/še-ha-cayad   harag ʔet ha-arie

        saw-I ACC the-child COMP   -the-hunter killed ACC the-lion

        ʔašer/še-radaf   ʔaxarav

        COMP   -chased after-him

        'I saw the child that the hunter killed the lion that chased (him)'

Shlonsky 1992 observes that RPs show principle C effects (Strong Crossover) characteristic of (A-bar) traces. In (9a), where ʔet ha-ʔidiot 'the idiot' is an epithet coreferent with ʔoto 'him,' there is no ban on coreference. In (9b), where a gap has been left as a result of wh-movement, an anaphoric relation with the epithet is impossible, as a consequence of principle C/Strong

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[4]Whenever possible, I will illustrate island insensitivity with RPs by means of strong islands such as the Complex NP Constraint or the Adjunct Condition, as RPs in some languages are sensitive to strong islands only (see section 3.6 for much relevant discussion).

Crossover. The key example is (9c), where an RP is used instead

of a gap. Here the pronoun behaves like the trace in (9b), not

like the pronoun in (9a). As various researchers have observed,

this fact is suggestive of movement.[5]

(9) a. yidaʕ   ʔet ha-ʔidiot še ha more yaxšil   ʔoto

         I-informed ACC the-idiot that the teacher will-flunk him

         'I informed the idiot that the teacher will flunk him'

     b. *Ze   ha baxur še yidaʕti ʔet ha-ʔidiot še   ha

        This is the guy   that I-informed ACC the-idiot that the

        more   yaxšil _

        teacher will-flunk

        'This is the guy that I informed the idiot that the

          teacher will flunk'

     c. *Ze   ha baxur še yidaʕti ʔet ha-ʔidiot še   ha

        This is the guy   that I-informed ACC the-idiot that the

        more   yaxšil   ʔoto

        teacher will-flunk him

On the face of it the facts in (9) are more easily implemented in

a framework that assumes a movement relation between the

antecedent and the RP than in one that assumes base-generation of

---

[5]Another context where a similar conclusion has been drawn

is parasitic gap licensing (see Engdahl 1985). However,

judgements in this domain appear to be delicate (see Sells 1984,

Shlonsky 1992 and Fox 1994 for discussion with special reference

to Hebrew.) I return briefly to the issue of parasitic gaps in

section 4.6.1.

the antecedent.[6] Under a movement-based approach, the antecedent will leave a copy of itself within the relative clause, triggering a Condition C effect in the relevant cases above. By contrast, under a base-generation analysis, all there is within the c-command domain of the epithet in (9c) is a pronoun. The situation is thus identical to that in (9a). Yet (9a) and (9c) have distinct grammatical statuses.

The second argument against a base-generation approach is based on data from Lebanese Arabic discussed in Aoun and Choueiri 1999. Lebanese Arabic has three ways of forming interrogative sentences. A fronting-gap strategy of the English type (10), a resumption strategy (11), and a wh-in-situ strategy (12).

(10) miin ∫əft

    who   saw.2sg

    'Who did you see'

(11) miin ∫əft-o

    who   saw.2sg-him

    'Who did you see'

(12) ∫əft   miin mbeerih

    saw.2.sg who   yesterday

    'Who did you see yesterday'

As is often the case in such situations, not all strategies are

---

[6]Especially if conditions on coreference arise via movement, an idea which Kayne 2001 and Hornstein 2000 have recently revamped. On Cross-Over as a condition on movement, see Postal 1971.

created equal. The gap strategy is sensitive to islands (Complex NP in (13)), whereas the in-situ and resumption strategies aren't ((14)-(15)).

(13) *miin btaʕrfo l-mara yalli ʃeefit ___ b-l-maTʕam
     who know.2pl the-woman that saw.3sgfem in-the-restaurant
     'Who do you know the woman that saw in the restaurant'

(14) btaʕrfo l-mara yalli ʃeefit miin b-l-maTʕam
     know.2pl the-woman that saw.3sgfem who in-the-restaurant

(15) miin btaʕrfo l-mara yalli ʃeefit-o b-l-maTʕam
     who know.2pl the-woman that saw.3sgfem-him in-the-rest.

Aside from island contexts, Aoun and Choueiri note several asymmetries between the gap strategies and the two other strategies. First, only two types of wh-phrases are allowed in the last two strategies: <u>miin</u> 'who' and <u>ʔayya X</u> 'which X' ((16)-(17)). The wh-phrase corresponding to 'what' <u>ʃu</u> is impossible in those contexts (18).

(16) a. miin/ʔayya mmasil ʃəft-o
       who/which actor saw.2sg-him
       'Who/which actor did you see'

    b. ʔayya kteeb ʃtarayt-i
       which book bought.2sg-it
       'Which book did you buy'

(17) a. ʃəft ʔayya mmasil mbeeriħ
       saw.2sg which man yesterday
       'which actor did you see yesterday'

    b. ʃəft miin mbeeriħ

saw.2.sg who yesterday

'Who did you see yesterday'

(18) a. *ʃu   ʃtarayt-i

      what   bought.2sg-it

      'What did you buy'

      b. *ʃtarayte   ʃu   mbeeriħ

         bought.2sg what yesterday

         'What did you buy yesterday'

Aoun and Choueiri note that the dividing line seems to be
provided by the notion of D-linking (Pesetsky 1987). As they show
on the basis of carefully defined contexts, miin and ʔayya X, but
not ʃu, can be D-linked in Lebanese Arabic. (Recall that the D-
linking restriction on resumption in interrogatives is one of the
robust generalizations one finds in the domain of resumption. See
section 2.2.2.2.)

Further, Aoun and Choueiri note that only miin and ʔayya X,
but not ʃu, can occur in a partitive configuration of the type
illustrated in (19).

(19) a. *ʃu   mǝn ha-l-kǝtub

         What of this-the-books

         'What of these books'

      b. ʔayya kteeb mǝn ha-l-kǝtub

         Which book of this-the-books

         'Which one of these books'

      c. miin mǝn ha-l-mmasliin

         who of this-the-actors

'Which one of these actors'

For the time being, the data in (19) corroborate the point just made about D-linking (by drawing on a previously established set of referents, D-linked elements come close to being partitives of sorts: 'one of the X mentioned in the discourse.') However, later, the partitive structure will acquire more significance, as I will argue that operators linked to an RP form a 'big DP' structure reminiscent of the one assigned to partitives in various works (see Uriagereka 1993, 2000 and Raposo and Uriagereka 1995, for example).[7]

The point I want to make on the basis of the Lebanese Arabic data is this. It is crucial to note the symmetry between in-situ wh-phrases and wh-phrases linked to RPs. That both strategies are island-insensitive suggests a non-movement approach: say, base-generation of the wh-phrase in SpecCP in the case of resumption, and unselective binding for in-situ wh-phrases. However, such an approach would lead to the conclusion that the very same elements can be licensed by being bound (in situ) or by binding (resumption). I know of no other element that can be both a binder and a bindee in identical configurations. In addition, a non-movement approach would have to posit two distinct First-Merge mechanisms for the very same elements (either miin and ʔayya X are base-generated in their theta-positions, or they are base-generated in SpecCP). Such a theory would then lose any hope

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[7]In the context of partitivity, see also the discussion of Catalan in note 28.

of regularizing First-Merge operations ("base structures" in a
pre-theoretic sense). In short, the symmetry found in Lebanese
Arabic is mysterious under a base-generation approach. (By
contrast, as we will see later on, a movement analysis captures
the symmetry by saying that the C-node (probe) licensing miin and
?ayya X in situ may be endowed with an EPP-property, which
triggers movement (and concomitant resumption)).[8]

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[8]It is interesting to note the similarity between the
situation in Lebanese Arabic (where fronted material behaves
exactly like in-situ material) and the widely accepted
generalizations about (long-distance) scrambling made in Saito
1989, 1992, 2001. According to Saito, (long-distance) scrambling
of the type found in Japanese is necessarily undone at LF
('radical reconstruction'). In other words, movement behaves as
if it hadn't taken place. The moved elements behave in
essentially the same way as they do when they remain in situ.
Thus, Tada 1990 and Saito 1992, among others, have noted that a
scrambled QP cannot take scope over the matrix QP subject in the
following sentence.

(i) [Daremo-ni]$_i$ dareka-ga [Mary-ga t_i atta to] omotteiru
     everyone-DAT someone-NOM Mary-NOM   met   that thinks

     = for some x, x a person, x thinks that for every y, y a
     person, Mary met y

     ≠ for every y, y a person, there is some x, x a person, such
     that x thinks that Mary met y

For further discussion of scrambling within the general framework

In sum, although the base-generation approach handles island insensitivity straightforwardly, it falls short of explaining important aspects of resumption.

However, the movement approaches currently entertained suffer from serious difficulties too. I have in mind here versions of the RP-as-pronounced-minimal-copy approach (see Pesetsky 1998; see already Ross 1967), which regard RPs as lexicalized (reduced) copies of the moving items.

It is well-known that epithets, not just pronouns, can function as resumptives, as in (20) (from Hebrew).

(20) Ze   ha baxur še   yidaʕti   et Dalit še   ha   more

     this is the guy   that I-informed ACC Dalit that the teacher

     yaxšil   ʔoto/ʔet ha-ʔidiot

     will-flunk him/ACC the idiot

     'This is the guy that I told Dalit that the teacher will

     flunk'

Whereas pronouns may plausibly be regarded as minimal elements, epithets appear to be as 'rich' as their antecedents (if not richer, combining as they do properties of pronouns and R-expressions; see Lasnik 1976, 1989). It won't do to decompose the

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developed here, see Boeckx and Grohmann 2000, and Boeckx 2001c. (These works argue, contra Saito 1985, that scrambling is an instance of (null) resumptive chains, and compare this approach to Bošković and Takahashi's 1998 base-generation analysis. On the relation between scrambling and overt resumption in Japanese, see Ueyama and Hoji 2001.)

epithet into a pronoun + an appositive noun, as Aoun and Choueiri 2001 do (see section 4.5.2). Although this structure may well be correct, it does not make the epithet minimal, which is what 'pronounce-a-copy-as-Last-Resort' analyses take RPs to be. (For an early criticism of this kind, see Kroch 1981.) Resumptive epithets also appear to violate the Inclusiveness Condition (Chomsky 1993), which demands that no new element be introduced in the course of derivation (inserting them at PF will presumably cause a crash, hence be unavailable, as epithets appear to have semantic content which PF cannot deal with. Note a pronoun insertion rule in the syntax, as in Kayne 1984, is also unavailable under Inclusiveness.) Further, as Kayne 2001 notes in a related context, RP-insertion has an acyclic character which one may want to avoid if possible (for general conceptual arguments against acyclic insertion, see Chomsky 2001b). More importantly, if all there is to resumption is a matter of pronunciation, it is not clear why we find semantic restrictions on which elements can be linked to an RP, as we saw above in Lebanese Arabic, and as will be discussed in more detail below.

The third option, explored extensively in work by Demirdache (1991, 1996), following original insights of Chomsky 1977 and Borer 1984a, is to treat RPs as in-situ operators moving at LF. This analysis combines some of the virtues of the base-generation and of the movement analyses, and it could capture the Lebanese Arabic facts nicely (licensing of both RPs and wh-in-situ would reduce to instances of in-situ operators: the RP or the wh-phrase

itself.) The approach to RPs which I will develop below shares with Demirdache's approach the idea that the RP is not a (minimal) copy of the antecedent (rather, it is a distinct syntactic entity -- this is also the case under base-generation analyses), and also the idea (absent from base-generation approaches) that the RP and the antecedent form a unit at some point in the derivation. Under the analysis below, the antecedent and the RP form a unit upon First-Merge, whereas for Demirdache, they do so at LF. The differences between the two approaches are subtle. Treating a resumptive element as an operator seems to be on the wrong track in light of its semantic contribution as a pronoun, discussed below (Browning's 1987 argument that null operators behave as pronouns is based on syntactic, not semantic, arguments). Also, a covert movement approach like Demirdache's appears to predict locality conditions in the realm of resumption stricter than those found in gaps. This is so because there is good evidence that empty operators are not as unbounded in their domain of application as overt operators are (see Stowell 1986, and for minimalist analyses, Bošković 1998a and Takahashi 1997). More straightforward empirical arguments against Demirdache's view exist, but they will be left for later sections, as they appeal to some pervasive but little discussed phenomena, and thus require thorough discussion.

To conclude this section, I have summarized the main approaches to resumption to date. I have argued that some robust generalizations across languages with productive resumptive

strategies suggest that a unified analysis is warranted, despite
the conflicting evidence adduced over the years regarding island
(in)sensitivity. I have argued that the most popular approaches
to resumption, the base-generation analysis and the pronounce-
minimal-copy-as-Last-Resort analysis, face problems which require
an alternative. Likewise, Demirdache's treatment of RPs as in-
situ operators doesn't seem adequate. It will be the task of the
next sections to present an analysis to account for the various
properties of RPs.

2.2. Proposal: Resumption = stranding

2.2.1. Stranding

This section lays out the basic approach to resumption I
will be pursuing here. The central thesis is that RPs are
stranded portions of the moved phrases they 'associate with.' The
analysis of stranding I entertain here is heavily influenced by
Sportiche's 1988 seminal work on Quantifier-Float. Sportiche
regards the floated quantifier <u>all</u> in (21b) not to be the result
of some operation floating the quantifier to the right of its
associate (as was assumed in earlier analyses of the phenomenon),
but rather, as the result of stranding, as depicted in (22).

(21) a. All the students have left

      b. The students have all left

(22) a. NO: [<all> the students] [have [all [left]]]

            |_____^

      b. YES: [the students] [have [[all <the students>] [left]]]

            ^_____|

I will not review the arguments adduced by Sportiche and others in favor of (22b). Rather, I will briefly summarize an extension of Sportiche's analysis that brings us much closer to the realm of resumption.

McCloskey 2000 observes that a variety of Irish English spoken in West Ulster allows quantifier-float with A-bar movement, as in (23), alongside the pied-piping strategy in (24), which is available in most dialects of English.

(23)   what did you get all for Christmas

(24)   what all did you get for Christmas

Following Sportiche 1988, McCloskey takes quantifier float to be the result of stranding, and thus analyzes (25) on a par with (26).

(25)   what did you get [all t] for Christmas

(26)   the boys are [all t] happy

To highlight the parallelism, McCloskey shows that stranding of all under A-bar movement can take place in more than one position (suggesting that movement has taken place successive cyclically), as in (27), as it does under A-movement (28).

(27)   what did John say (all) that Peter ate (all) for breakfast

(28)   the boys (all) must (all) have (all) left

McCloskey takes the internal structure of [wh-X all] to be as in (29).

(29)   QP
           \
           Q'
          / \
      all wh-NP

According to him, the <u>wh</u>-word undergoes movement to SpecQP,
resulting in the surface word order <<u>wh</u>; <u>all</u>> (the obligatoriness
of such a movement may be related to the fact already noted in
Postal (1974:111) that pronouns must appear to the left of
quantified modifiers in English, as in <u>we all</u>/*<u>all we</u>; see
Koopman 1999 for a possible account of this fact). At this stage
(technical details aside), the grammar considers the wh-phrase in
SpecQP or the whole QP as equally close to the target (Comp),
allowing both the stranding derivation (23) and the pied-piping
derivation (24).

Interestingly, Shlonsky 1991 argues on the basis of data
from Semitic that the moving element in the derivation leading to
stranding in (21b) also passes through SpecQP. His evidence is
the 'agreement' morphology that surfaces on the floated
quantifier, which he interprets as an instance of Spec-head
agreement. (A similar claim is made in Merchant 1996 on the basis
of German. I discuss the issue of Spec-head agreement in
stranding environments at length below.)

(30) a. kull-u   <u>t</u>-<u>t</u>ullaab-i   žaaʔ-uu   (Standard Arabic)
          all-Nom the-students-Gen come-Past-3mpl
          'All the students came'

b. <u>t</u>-<u>t</u>ullaab-u   kull-u-hum   žaaʔ-uu

the-students-Nom all-Nom-them come-Past-3mpl

'The students all came'

We thus seem to have a perfect match between stranding of <u>all</u> under A- and A-bar movements. McCloskey's study is important for it provides a clear case of stranding under A-bar movement. Although such a possibility had been documented as early as 1977 in work by Du Plessis,[9] the paucity of clear examples of

---

[9]Other potential instances of stranding under A-bar movement include: stranding of the 'the hell' part in aggressively non-D-linked interrogatives in Hebrew (i) (a fact first observed to my knowledge by Obenauer 1994), 'else' stranding in Child English (ii) (Rosalind Thornton, p.c.), and (in my dialect at least) 'among'-phrase stranding in French (iii).

(i)   ma (laʔazazel) amar jon (la'azazel) še   mary raʔata (laʔazazel)

        what the devil said jon   that Mary saw

        'What the hell did Jon say that Mary saw'

(ii) what do you want else to eat?

(iii) qui (d'entre nous) crois-tu ?(d'entre nous) que Jean a dit

      who   among   us   believe-you   that J. has said

      ?(d'entre nous) que Pierre va   appeler (d'entre nous)

                    that Pierre will call

      'Which one of is do you believe that Jean said that Pierre will call?'

I leave detailed investigation of these phenomena for future research.

stranding under A-bar movement had led several researchers (see, e.g., Déprez 1990) to devise theories to exclude stranding under A-bar movement.

In light of McCloskey's study, I take stranding under A-bar movement to be an option allowed by Universal Grammar, and leave aside the question of why it appears to be so limited. I want to note, however, that the availability of stranding under A-movement -- taken for granted by most researchers -- remains poorly understood. Torrego's 1996 comparative study of Spanish, English, and French, shows that for as yet unclear reasons, some languages are more liberal than others in this domain. (Note that if I am right that resumption is an instance of stranding under A-bar movement, we find massive stranding under A-bar movement in natural languages.)

Once the option of stranding under A-bar movement is available, it can, so I will argue, be put to good use in the realm of resumption. In a nutshell, I propose that resumptive chains arise from a big-DP structure like (31), where the complement of D is attracted, and D stranded.

(31)   DP

             \

               D'

             / \

           D {wh/Op}-NP
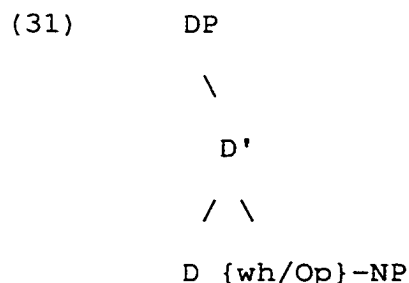
I follow Postal 1966, Raposo 1973, and much subsequent work in regarding pronouns and (definite) determiners to be one and the

same (abstract) 'D'-element. I assume that the morphological

component spells out a D as a determiner if its complement is

non-null, but as a pronoun otherwise (see Elbourne 1999 for novel

arguments in favor of this approach). As Postal's insight has

received strong support and wide acceptance over the years, I do

not feel compelled to justify it here, although the analysis of

RPs developed in the following sections may be regarded as yet

another argument for treating pronouns and determiners alike.[10]

---

[10]The view that RPs are determiners/pronouns allows one to

straightforwardly capture the distribution of resumptive pronouns

in Brazilian Portuguese (my description relies heavily on Grolla

2000). Brazilian Portuguese (BP) allows RPs in direct object

positions.

(i)   a menina que eu vi (ela) ontem na festa

       the girl that I saw her yesterday at party

       'The girl that I saw yesterday at the party'

As (ii) shows, RPs in BP may go missing even in island contexts

such as the Complex NP constraint, with no effect on

grammaticality.

(ii)   esse livro eu conheço uma menina que já   leu (ele) dez

       this book I   now   a   girl   that already read it ten

       vesez

       times

       'This book I know a girl who already read (it) ten times'

I follow Grolla 2000 in interpreting the apparent gap in (ii) as

an instance of a null RP. Under our proposal, the possibility of

null RPs in BP would follow directly from the fact that definite determiners in BP may be null. (This idea is similar to that used in Raposo 1998 to account for the existence of null objects in Portuguese).

The possibility of null resumptive PPs, as in (iii), would again follow from our hypothesis, once the fact that prepositions are often conflated with determiners in BP,·as in many other languages (see van Riemsdijk 1998), is taken into account. (That prepositions cannot take an empty RP would presumably follow from the theory of pro-licensing. For a similar phenomenon in Kikuyu, see Nevins 2001.)

(iii) a   menina que   eu falei (com   ela) ontem

        the girl   that I   talk   with her   yesterday

        'The girl that I talk to yesterday'

Likewise, the fact that null subject RPs are restricted to embedded clauses (iv), and cannot appear within complex NPs (v), mirrors the fact that subject pro in BP is restricted to embedded contexts immediately adjacent to the clause where pro finds its antecedent (vi) (see Ferreira 2000 for data and a possible account of this restriction).

(iv) a   Maria assistiu o filme que a   crítica disse que

        the Maria watched the movie that the critique said that

        (ele) é muito violento

        it   is too   violent

        'Maria watched the movie that the critique said is too

The general thesis, then, is that the antecedent of an RP is at First-Merge its complement. As Koji Sugisaki points out (p.c.), this analysis of A-bar binding, as resumption has sometimes been called, shares the spirit of recent proposals made by Kayne 2000b, 2001 for A-binding (see also Zwart 2000). Kayne argues that much insight can be gained into the nature of binding relations if we take the binder and the bindee to start off as one constituent that is split up in the course of the derivation by movement processes.[11] I hope to convince the reader that the

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     violent'

(v) esse menino a   Maria não conhece as cidades que *(ele)

     this boy   the Maria not know   the cities that he

     visitou

     visited

     'This boy Maria does not know the cities that he visited'

(vi) a. *falou   com a   Maria

     spoke.3sg with the Maria

     'S/he spoke to Maria'

    b. O Pedro   disse que falou com a   Maria

     The Pedro said that spoke with the Maria

     'Pedro$_i$ said that he$_{i/*j}$ talked to Maria'

[11]The idea that doubling underlies anaphoric relations was also explored in Uriagereka 1997 and López-Díaz and Quintana 1996. (Thanks to Juan Uriagereka, p.c., for bringing these references to my attention.)

same holds of A-bar binding.

Having stated the core proposal I will defend here, let me enumerate some expectations that the stranding analysis brings with it, and show that to a large extent those expectations are borne out.

2.2.2. Ramifications

2.2.2.1. Successive cyclic steps

One of the first expectations that come to mind under the stranding analysis of RP is that, just as in other contexts of stranding, resumptive material should be able to appear in various sites along the path of A-bar movement. (Recall (27)-(28).) That the prediction is borne out is shown by the following data from Hebrew (taken from Sells 1984:92-93.)

(32) a. ha-ʔiš   še   ʔani xošev še   ʔamarta   še   sara   katva

       The-man that I   think that said-you   that Sarah wrote

       <u>ʔalav</u>   šir

       about-him poem

    b. ha-ʔiš   še ʔani xošev še ʔamarta še <u>ʔalav</u> sara katva šir

    c. ha-ʔiš   še ʔani xošev še <u>ʔalav</u> ʔamarta še sara katva šir

    d. ha-ʔiš   še <u>ʔalav</u> ʔani xošev še ʔamarta še sara katva šir

    e. ha-ʔiš   <u>ʔalav</u> ʔani xošev še ʔamarta še sara katva šir

    'The man that I think that you said that Sarah wrote a poem

    about (him)'

Demirdache 1991 discusses the data in (32), and takes them as evidence for her proposal that the RP is an operator. Typically, the operator undergoes movement at LF, but the examples in (32b-

e) show that movement may be overt. Although not a problem in a

GB-framework of the type assumed by Demirdache ("Affect α"),

optional pied-piping of the type just illustrated needs to be

addressed in a minimalist framework. I will do so in section 4.2.

I want to note, though, that the problem of optionality we are

facing here is not peculiar to resumption, but rather, extends to

all instances of (optional) pied-piping (think of optional

preposition stranding in English, optional clausal pied-piping in

Basque, optional pied-piping in _combien_-extraction in French,

etc.). The problem surely extends to all cases of (optional)

stranding of the Sportiche/McCloskey-type. Be that as it may, the

data in (32) highlights the parallelism between resumption and

more familiar instances of stranding.

2.2.2.2. D-linked wh-phrases

A second, and, I think, more significant ramification of the

present proposal is that the big-DP structure in (31) is

identical to the structure Rullmann and Beck 1998 provide for D-

linked wh-phrases (given in (33)). (For a related proposal, based

on syntactic considerations, see Oka 1993, 1995.)

(33)   DP

        /   \

    "the"   NP

           / \

        which book

On independent, purely semantic grounds pertaining to how

presupposition works in interrogatives involving D-linked wh-

phrases, Rullmann and Beck argue that D-linked wh-phrases are headed by the null counterpart of the definite determiner (which readily accounts for the more definite/specific character of D-linked interrogative words). (See also Fox 2000b:7 and Rizzi 2000 for related arguments, and alternative mechanisms to capture the same core facts.)

Before expanding on this similarity, let me note that a number of languages realize the determiner postulated in (33) overtly. Thus, Albanian places a (suffixal) definite determiner in contexts like (34) (datum from Kalluli 1999). (See also Archaic Dutch <u>hetwelk</u> 'the-which' and Bavarian <u>an wäichan</u> 'the which(one).')

(34) cil-ët   libra (i)   solli   Ana?

Which-the books   them bought Ana

'Which books did Ana buy?'

Likewise, (Brazilian and European) Portuguese places an overt definite determiner (<u>o</u>) in front of <u>quê</u> ('what') when the latter receives a D-linked interpretation (which it does when it stays in situ; see Ambar 2001), as Cristina Schmitt originally pointed out to me.

(35) A   Maria viu *quê/o   quê

the Maria saw what/the what

'What/which thing did Maria see?'

A related fact is found in French, which disallows the weak wh-pronoun <u>que</u> 'what' in in-situ contexts (which Boeckx 2000a, Boeckx , Stateva and Stepanov (in press) show trigger a more

specific interpretation) and requires the morphologically richer pronoun <u>quoi</u>, or (more transparently) <u>qui</u> + the demonstrative <u>ça</u>.

(36) Marie a   vu   *que/quoi/qui ça

     Marie has seen what/what/who that

     '{What/which thing}/{who/which} person did Marie see?'

Coming back to resumption, recall the generalization mentioned in the previous section concerning RP and D-linked wh-phrases. As originally noted by Doron 1982, to the extent that resumptives are found in interrogative contexts, they are restricted to D-linked environments (recall Aoun and Choueiri's 1999 observation concerning Lebanese Arabic; see also Nevins's 2001 characterization of Kikuyu RPs, and the connection below between D-linking and clitic doubling discussed in Steriade 1980 and Dobrovie-Sorin 1990 for Romanian, and taken up in sections 2.2.2.4 and 2.3.4).[12] Consider (37).

(37) a. eyze   student nifgašta ito

     Which student you-met him

     'Which student did you meet'

   b. *mi   nifgašta ito

---

[12]Doron based her observation on Hebrew, but I haven't been able to find a language where this generalization is violated. Certainly, all the facts reported in reference works are consistent with it even in languages where the restriction has not been noted previously. For related observations in the realm of clitic doubling, see Gutiérrez-Rexach 1999, where the whole range of possible 'doubles' (antecedents) is discussed in detail.

Who you-met   with-him

'Who did you meet with'

(c. im mi nifgašta

With who you-met   )

The restriction falls out naturally from the proposed structure

in (31), as a RP is a D-head taking a wh-phrase as complement,

which is the structural definition of a D-linked wh-word in

Rullmann and Beck 1998.

In this context, it is worth mentioning Sharvit's 1999

revival of Doron's 1982 observation that when a trace in a

relative clause is c-commanded by a quantified expression, the

sentence is ambiguous between a 'single-individual' and a

'multiple-individual' interpretation. Consider (38).

(38) ha-iša   še   kol   gever hizmin hodeta lo

the-woman that every man   invited thanked to-him

a. the woman every man invited thanked him

b. for every man x, the woman that x invited thanked x

If an RP is used in the same environment, as in (39), the

sentence ceases to be ambiguous (at least, as Sharvit notes, when

the sentence is uttered out of the blue). The only available

reading is the single-individual reading.

(39) ha-iša   še   kol   gever hizmin ota hodeta   lo

the-woman that every man   invited her thanked to-him

a. the woman every man invited thanked him

b. *for every man x, the woman that x invited thanked x

Doron's observation is consistent with Sells's 1984 claim that in

languages with true RPs, the latter do not function merely as blockers of island violations. (As a matter of fact, Sells relies in part on Doron's observations to support his claim.) Sharvit provides extensive arguments for semantic/pragmatic differences induced by the use of RPs in Hebrew.

Fox 1994 contains an additional piece of evidence concerning the relation between RP and specificity (although he himself does not connect the two). For reasons that do not matter for our present purposes, Fox analyzes the Hebrew direct object RP oto as the combination of the accusative marker et and the bare pronoun hu. If Fox is correct, his claim corroborates the idea that RPs force a specific interpretation, as the object marker et is known to force a specific reading on the object (see, among others, Borer 1984b).

It is also significant that in many languages that use RPs in interrogatives (Irish, McCloskey 1990; Palauan, Georgopoulos 1991), questions typically take the form of a cleft sentence. Interestingly, Percus 1997 persuasively argues for the presence of a concealed definite description in clefts, to account for several semantic properties of the latter, including their exhaustive and presuppositional import, the very properties that were crucial to Rullmann and Beck in implementing their proposal. Thus, according to Percus, "it is α that has property P" translates as "the x that has property P is α."

Consider in this light facts from Edo (data from Baker 1999; similar facts are reported for Igbo in Goldsmith 1981). In Edo,

wh-fronting obligatorily takes the form of a cleft/relative-type structure, as shown in (40), and is characterized by the presence of an RP (Baker provides ample evidence that d<u>è</u> does not form a constituent with the following word (person, thing, etc.), much like in relative clauses the determiner does not appear to select NP following it, as is clear from the contrast between *<u>the Paris</u> and <u>the Paris that I knew as a boy</u>; see Kayne 1994 and references therein). (Note, incidentally, that Edo is unlike many languages in allowing local subject RPs. In this respect, Edo behaves on a par with Vata. See section 3.4.3 for discussion.)

(40) a. Dè <u>ò</u>mwán nè   ó dé èbé

         Q person that he buy book

         'Who bought a book'

    b. Dè <u>ò</u>mwán nè   Òzó há!é <u>é</u>rè íghó

         Q person that Ozo pay him money

         'Who did Ozo pay money to'

    c. Dè èmwìn nè   Òzó há!é Úyì rè

         Q thing that Ozo pay Uyi it

         'What did Ozo pay to Uyi'

    d. Dè <u>ò</u>mwán nè   Òzó d<u>é</u> èbé <u>é</u>rè

         Q person that Ozo buy book his

         'Whose book did Ozo buy'

In sum, I have provided several arguments to show that resumptive elements appear in well-defined semantic environments, a fact that can be captured by the structure in (31), a variant of the structures that have been used independently to characterize the

contexts discussed here.

2.2.2.3. Uninflected complementizers

A third observation worth making at this point is that a stranding analysis of resumption embedded in a raising approach to relative clauses (as proposed in Vergnaud 1974 and Kayne 1994, whose specifics I will assume here) would amount to a derivation like the one sketched in (41)-(43). (Target: "the book that I read it"; irrelevant intermediate steps omitted. For ease of exposition, I am ignoring the fact that strictly speaking the determiner is inserted only after movement of the head of the relative clause, in accordance with the strict cycle.)

(41) $[_{DP}$ D/the $[_{CP}$ [that [I T^0 $[_{VP}$ read [D [book]]]]]]]

(42) $[_{DP}$ D/the $[_{CP}$ [book]$_i$ [that [I T^0 $[_{VP}$ read $[\underline{t}_i'$ [D $\underline{t}_i$]]]]]]]]

(43) $[_{DP}$ D/the [book]$_i$ $[_{CP}$ $\underline{t}_i$ [that [I T^0 $[_{VP}$ read $[\underline{t}_i'$ [D $\underline{t}_i$]]]]]]]]

The important thing to note in this derivation is the fact that a bare NP raises (as opposed to a full DP). The raising of a bare NP in (41)-(43) is to be related to the raising of a bare NP in the derivation of <u>that</u>-relatives adopted in Kayne 1994 (44)-(46).

(44) $[_{DP}$ D/the $[_{CP}$ [that [I T^0 $[_{VP}$ read [book]]]]]]

(45) $[_{DP}$ D/the $[_{CP}$ [book]$_i$ [that [I T^0 $[_{VP}$ read $[\underline{t}_i]$]]]]]]

(46) $[_{DP}$ D/the [book]$_i$ $[_{CP}$ $\underline{t}_i$ [that [I T^0 $[_{VP}$ read $[\underline{t}_i]$]]]]]]

Bare-NP-raising is to be contrasted with the raising of a full DP in relative clauses introduced by a relative pronoun (47)-(49).

(47) $[_{DP}$ D/the $[_{CP}$ $[C^0$ [I T^0 $[_{VP}$ read $[_{DP}$ which book]]]]]]

(48) $[_{DP}$ D/the $[_{CP}$ [which book]$_i$ $[C^0$ [I T^0 $[_{VP}$ read $[\underline{t}_i]$]]]]]]

(49) $[_{DP}$ D/the [book]$_j$ $[_{CP}$ [which $\underline{t}_j]_i$ $[C^0$ [I T^0 $[_{VP}$ read $[\underline{t}_i]$]]]]]]

The parallelism between (41)-(43) and (44)-(46) is significant because, as noted above, there is a strong tendency for languages to use an RP in _that_-relatives as opposed to wh-pronoun-relatives. This fact is illustrated here from Polish (data from Szczegielniak 2001).[13]

(50)   chłopiec co   go widziałeś poszedł do domu

       boy   that him saw   went   to home

       'The boy that you saw went home'

(51)   *chłopiec którego go widziałeś poszedł do domu

       boy   who   him saw   went   to home

       'The boy who you saw went home'

I hasten to add that it is not true that the Big-DP structure in (31) is incompatible with the derivation assumed by Kayne for wh-relatives. As can be seen in (47), Kayne assumes that _which_ is the head of DP, whereas for me it is a null D head taking the _which_-phrase as its complement. Once the structure in (47) is revised to accommodate (31), nothing bars a derivation like the one in (52)-(54).

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[13]See, among others, Lowenstamm 1977 on _voz_ in Yiddish, van Riemsdijk 1989 on _wo_ in Swiss German, Browne 1986 and Goodluck and Stojanović 1996 on Serbo-Croatian _što_, Fassi-Fehri 1982 on Standard Arabic _llaδi_.

Interestingly, Labelle 1996 reports that the stage at which French children (unlike adult speakers) make relatively productive use of overt RPs contains only uninflected complementizers.

(52) [$_{DP}$ D/the [$_{CP}$ [C^0 [I T^0 [$_{VP}$ read [$_{DP}$ D [which book]]]]]]]

(53) [$_{DP}$ D/the [$_{CP}$ [which book]$_i$ [C^0 [I T^0 [$_{VP}$ read [t_i' D [t_i]]]]]]]]

(54) [$_{DP}$ D/the [book]$_j$ [$_{CP}$ [which t_j]$_i$ [C^0 [I T^0 [$_{VP}$ read [t_i' D

[t_i]]]]]]]

Although potentially problematic, given the robust generalization
about resumption and uninflected complementizers noted above, I
think that the derivation just sketched should be made available,
as some languages allow RPs in wh-relatives. Vata is one such
case (data from Koopman 1982).[14]

(55) a. kɔ̰ mɔ̄mɔ̰ *(ɔ̀) lē ɓɔ' sa'ká

man REL he eat REL rice

'The man who is eating the rice'

b. sa'ká māma̰ kɔ̰ lē ɓɔ' (*má)

rice REL man eat REL it

---

[14]The case of Vata is special in many respects. First, as
already noted in the context of Edo, unlike many of the languages
examined here, which disallow subject RPs, Vata restricts RPs to
subject positions. Further, even if I accept Koopman's
characterization, it is not clear that the reduplicated form
mɔ̄mɔ̰ is to be treated as a relative pronoun (in my terms, an
inflected complementizer): how does reduplication come about? Why
does it take place? Note also that an invariant relative form ɓɔ'
cooccurs with the relative pronoun. Finally, note that Yoruba is
like Vata in confining RPs to subject positions, but unlike Vata
in employing an invariant relative complementizer (tí) (see
Carstens 1985:60f.).

'The rice which the man is eating'

Albanian is another language where an RP occurs with a relative pronoun. (Data from Kalluli 1999; similar facts hold for Greek as well, see Alexiadou and Anagnostopoulou 2000a.)[15]

(56) lexova një libër të cil-in *(e) mora në bibliotekë

      read-I a   book agr which-the it got-I in library

      'I read a book which I got from the library'

The Vata and Albanian facts indicate that a more precise characterization of uninflected complementizer is needed to capture the generalization discussed in the context of the parallelism between (41)-(43) and (44)-(46), which will be done

---

[15]As in the case of Vata, the situation in Albanian is not crystal clear. In Albanian (and in Greek), direct object RP clitics are restricted to certain types of antecedents (indefinite or predicative). Albanian disallows an RP clitic with the uninflected complementizer që in (i), but allows it in case the antecedent is a predicate of sorts. (In that case, an RP is optional with që, but obligatory with a which-relative.)

(i)   këta janë libra-t   që (i)/të   cilët *(i)   solli   Ana

      these are books-the that them/agr which   them brought Ana

      'These are the books that Ana brought'

The role of të in which-relatives, a morpheme that Kalluli glosses as 'agr' is far from clear. This morpheme is lacking in interrogative contexts, which is reminiscent of the fact that many uninflected complementizers are restricted to relativization contexts.

after the technical details of attraction in the presence of a resumptive pronoun have been worked out (see chapter 3). For now all the reader should bear in mind is the parallelism that emerges from a stranding analysis of RP and the raising analysis of relative clauses.

2.2.2.4. Clitic doubling

The Big-DP structure in (31) also bears obvious similarity with the representation proposed for clitic-doubling by Kayne 1972, Torrego 1986, Uriagereka 1988, 1995, and many others.

To accommodate doubling structures like (57) (from Galician), Torrego and Uriagereka assume that the clitic and its double form a constituent, as in (58).

(57) vimo-lo   a el

saw.we-him A him

'We saw him'

(58)   DP

         / \

Double   D'

         /   \

      clitic   <u>pro</u>

Cecchetto 2000 (see also Belletti 1999) provides arguments for a simplication of (58) in terms of (59), according to which the double does not occupy the specifier position of the big DP structure, but rather starts off as a complement (replacing <u>pro</u>).

(59) DP

      \

    D'

   / \

clitic   double

Cecchetto's refinement of the Torrego/Uriagereka proposal makes the First-Merge structure of clitic doubling virtually identical to the one given in (31) for resumption.

The similarity between clitic doubling and resumption goes well beyond the formal level. At the empirical level, Steriade 1980 and Dobrovie-Sorin 1990 have shown that a clitic doubling structure underlies some relative and interrogative structures in Romanian. Consider the following. (Pe is the Romanian equivalent to Spanish a, which precedes objects supporting a definite/specific reading (see Torrego 1998). Pe, like a, is the marker that is associated with doubles in clitic doubling structures.)

(60) cartea   pe care   am   citit-o

      the book PE which I.have read-it

      'The book that I read'

(61) Pe care (bãiat) l-ai   vãzut

      PE which boy   him-have.you seen

      'Which one (which boy) did you see?'

Dobrovie-Sorin notes that the clitic-doubling structure is

incompatible with a simplex wh-word like <u>ce</u> 'what.'[16]

(62) Ce   (roman) l-ai   citit

      what novel   it-have.you   read

      'What (novel) did you read?'

Dobrovie-Sorin goes on to note that the contrast between <u>care</u> 'which' and <u>ce</u> 'what' is not an isolated fact in the language. Thus, with wh-phrases like <u>cîti</u> 'how many,' a doubling structure is optional, but its presence or absence correlates with an important semantic contrast.[17] In Dobrovie-Sorin's words, "with pied-piped wh-phrases the distribution of doubling clitics depends on the definiteness of the wh-moved constituent." (p. 353)

That clitic doubling triggers definite/specific readings on its double has often been noted (for a precise characterization

---

[16]Dobrovie-Sorin (1990:352:4) observes that in literary Romanian, a clitic doubling structure is allowed with <u>cine</u> 'who', as in (i).

(i)   Pe cine l-a   muşcat

      PE who him-has.he bitten

      'Who has he bitten?'

The reader may recall that an extension from <u>which X</u> to <u>who</u> is also found in Lebanese Arabic. (See also Pesetsky 1987, who observes that simplex wh-word may sometimes receive a D-linked interpretation.)

[17]The contrast parallels the one found in the realm of past participle agreement in French discussed in section 2.5.

of the semantic effects, see Anagnostopoulou 1999,
Anagnostopoulou and Giannakidou 1995, and especially Gutiérrez-Rexach 1999). It is clearly reminiscent of Doron's observations concerning resumption in Hebrew. It is therefore welcome to see that the structures in (31) and (59) converge.

The connection between resumption and clitic doubling seems to have been anticipated by Kayne, who observes that "(in some languages) resumptive pronoun relatives result from the usual raising to SpecCP, with the input being a clitic-doubling structure" (Kayne 1994, 165 n. 73). We will see below that peculiar agreement facts reinforce the connection between the two phenomena.

Before closing this section on clitic doubling and its relation to resumption, I want to note that Dobrovie-Sorin argues (p. 353f.) that the clitic found in (60)-(61) is not a resumptive pronoun (or a "shadow pronoun" as Steriade, I think, correctly analyzed it). Her sole argument against resumption is based on the fact that the presence of a clitic in (63) does not improve the status of extraction out of a Complex-NP island.

(63)   *omul   pe care   cunosc femeia   care __ l-a întîlnit __ a

        the man PE which I.know the woman which   him met   A

        venit ieri

        came   yesterday

        'The man that I know the woman that met (him) yesterday'

However, Dobrovie-Sorin's argument is not compelling. As I said at the outset, cases have been documented where resumption fails

to rescue island violations. In fact, Romanian appears to be part of a larger pattern, found in Greek (Alexiadou and Anagnostopoulou 2000a), and possibly some varieties of Arabic (Demirdache 1991), where resumption by a clitic (characterized in the works just cited as Clitic left-dislocation; following Cinque's 1990 taxonomy) is sensitive to strong, but insensitive to weak islands. Witness the following wh-island case from Romanian (Dobrovie-Sorin 1990:354 n.8).[18]

(64) cartea   asta pe care   nu ştiu   cui m-ai   rugat

    the book this PE which not I.know whom me-you.have asked

    să-i   spun   s-o   cumpere

    that-him I.tell that-it buy

    'The book that I don't know to whom you asked me if I told

    him to buy'

Pending an analysis of how the weak vs. strong island contrast is to be captured, I ask the reader to treat the clitic found in (60)-(61) as an RP. What the reader should focus on here is the similarities between clitic doubling and resumption, which a structure like (31) accommodates straightforwardly.

2.2.2.5. A note on the absence of true adjunct RPs

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[18]The point I am making is moot in Romanian, which show no wh-island effect even in the absence of resumption. But this is not so for other languages, see section 3.6.2. I have used Romanian here as the connection with clitic doubling and resumption is relativiely well established in the literature on the language.

Let me conclude this section with a promissory note concerning the general absence of 'adverbial' resumptives (noted by Chomsky 1982, Koster 1987, Cinque 1990, among others).[19,20] By adverbial

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[19]Carstens 1985 discusses facts from Yoruba, where adjunct extraction (focus movement) is correlated with the presence of what she calls 'expletives' (ti, fi, and se).

(i)   Báwo ni   Rèmí ti máa parí   ìsé yìí

      How Foc Remi TI Fut finish work this

      'How will Remi finish this work'

Carstens categorizes such expletives as preverbs. Whatever their nature, there is good reason to believe that they are not RPs. (ii) shows that multiple 'expletives' occur in the case of long-distance extraction, and need not match in form, which strongly suggests that they do not form a chain.

(ii   Báwo ni   Bísí ti so   pé   Bólá sé wa   okò

      how   Foc Bisi TI say that Bola SE drive car

      'How did Bisi say that Bola drives'

[20]McCloskey to appear observes that adjunct extraction in Irish cooccurs with complementizer aN, which is the complementizer used in the presence of RPs. (See also Duffield 1995.)

(i)   sin a   fáth   a-r   fhaág sé an baile

      that the reason aN-Past left he home

      'That's why he left home'

(ii) sin an   dóigh a bhfuil sé

      that the way   aN is   it

resumptives, I mean RPs linked to 'true' (reason) adjuncts, not
quasi-adjuncts like when (RP: then), where (RP: there), and (more
controversially) low manner adverbials of the type discussed in
Tsai 1999 (how/X way; RP: (archaic English) thus[21]). I will argue
below that stranding (i.e., resumption) takes place due to a PUC
violation that requires overt Case/ϕ-feature checking and overt
Operator movement (a PUC violation). The fact that RPs surface in
the context of ϕ-feature checking leads us to expect that there
won't be any genuine adjunct RPs, as (true) adjuncts never
participate in ϕ-feature checking.[22] Note that, to the best of my

---

'That's the way it is'

However, the use of aN in this case need not force us to appeal
to the presence of an adjunct resumptive (McCloskey does not
appeal to one). In section 3.4.4, I relate the fact that true
adjuncts are found with uninflected complementizers to the fact
that adjuncts in general do not affect inflectional elements
(i.e., they do not trigger agreement).

[21]I owe this suggestion to Norbert Hornstein (p.c.).

[22]For much relevant discussion, see Law (1991:183). The
generalization that adjuncts never participate in ϕ-feature
checking has sometimes been disputed (see Vinokurova 1999,
brought to my attention by Richard Larson (p.c.)), but the data
are far from clear, fraught as they are with serious interfering
factors. I haven't been able to find any case where a reason
adverbial corresponding to why triggers agreement.

The only case that comes close to true-adjunct agreement is

knowledge, no case of true adjunct clitic doubling has been reported in the literature, which, if true, corroborates the point made in the previous subsection.

2.2.3. Summary

In sum, I have sketched the general approach to resumption that I will pursue in this work. I claim that RPs are (definite) determiner heads stranded under A-bar movement, mimicking the derivation given by McCloskey 2000 for Q-Float under A-bar movement, itself inspired by Sportiche's 1988 analysis of Q-Float under A-movement. I have shown that such an approach appears to correlate with the structures independently motivated by various researchers for D-linked wh-phrases, clitic-doubling, and that-relatives. The big-DP structure in (31) also makes interesting and correct predictions concerning the appearance of RPs in intermediate landing sites, and, more tentatively, the restriction of RPs to arguments. That such phenomena appear to be correlated at the typological level provides rather strong initial support for the hypothesis advanced here.

---

the pattern of verb reduplication found in Vata discussed in Koopman and Sportiche 1986, and mentioned at the beginning of this chapter. As the reader may recall, (only true) adjunct extraction correlates with a reduplicated verb form. However, as Law (1991:186f.) points out, it is not at all clear that reduplication is to be treated as a form of agreement (or resumption for that matter). (If it were genuine agreement, why can't agreement be triggered by an adjunct in situ?)

2.3. Non-agreement, Resumption, and (sub)extraction

Although the stranding analysis appears to make interesting connections, it surely begs many questions. The first one that comes to mind is how this movement approach accounts for the fact that RPs are island insensitive in many languages? At this point, I do not think we have covered enough ground to render that problem tractable. What I would like to do instead is focus on a narrower issue which we will see is immediately related to the issue of islandhood, but in a way which makes it possible for me to introduce crucial properties without requiring intricate technical discussion.

The issue I have in mind is twofold, and can be best described by representing the stranding derivation for resumption adopted here, as in (65).

(65)   DP

     ^   /\

     |___^ D'

       | / \

       | D   wh

       | | |

       | RP |

       |_____|
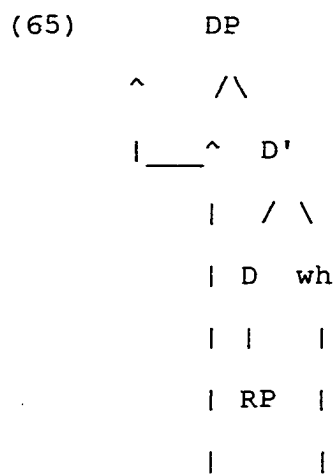
As illustrated in (65), a resumptive chain is formed by movement of the complement of D proceeding through the specifier of DP (a reflex of successive cyclicity/Shortest Move). Such a derivation raises at least two questions. First, why is movement of a

specifier (SpecDP) allowed? Second, why is movement out of DP licit at all?

We know independently that several languages ban movement of material in SpecDP, a ban traditionally referred to as the Left-Branch Condition, following Ross's 1967 terminology. An example of this constraint is given in (66), and Ross's LBC formulation in (67).

(66) *[whose]$_i$ did you see [t_i books]

(67) Left-branch condition

No NP which is the leftmost constituent of a larger NP can be reordered out of this NP by a transformational rule. (p. 127)

We also know since Chomsky 1973 that extraction out of definite nominals yields a deviant output. Witness (68).

(68) *who$_i$ did you see [$_{DP}$ the pictures of t_i]

Movement in (65) appears to violate both constraints, and yet, if I am correct, the output is non-deviant. In the absence of a theory of the Definiteness island, I suggest we delay discussion of the apparent conflict between (65) and (68) to chapter 3, where islands are examined at length. (Note that the cases in (65) and (68) are not identical: extraction in (65) targets the complement of D, while in (68), it targets the complement of the (PP-)complement of D.) By contrast, a discussion of the LBC can be shown to uncover some important generalizations found in the realm of subextraction.

2.3.1. The Left-Branch Condition

As already recognized by Ross himself, the left-branch condition is perhaps the cross-linguistically least pervasive of all islands he discovered. Many languages, especially those that have rather free word order, readily allow left-branch extractions. There also exist so-called mixed languages (such as German) where extraction patterns vary according to the syntactic category of the extractee (DP vs. PP) and according to the syntactic position of the extractee within the DP. As the present study deals only with NP/DP-extraction, I will henceforth concentrate on LBC effects found in the realm of possessor raising.[23]

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[23]I will thus say nothing about adjective extraction. Ora Matushansky (p.c.) has brought to my attention the fact that in Hungarian, Case alternations on adjectives do not seem to improve the status of adjective extraction out of nominals, whereas, as we will see, they do affect possessor extraction. That adjectives behave in a way that is not obviously predicted by the account of the LBC I will put forth here is not surprising. The syntax of adjectives, their locations within the NP, and the featural associations they take part in remain very obscure. Any attempt to extend the view of the LBC defended here will have to await new findings in the realm of the syntax of adjectives.

(Željko Bošković (p.c.) observes that the fact that extracting possessors in Serbo-Croatian exhibit agreement is not necessarily problematic for the present account as the type of agreement possessors manifest is 'adjectival.')

Several interesting approaches to the Left-Branch condition (hereafter LBC) have been devised. Corver 1990 contains what is arguably the most detailed analysis of the left-branch condition within the Government-Binding framework.[24] Corver argues that the

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[24]A related approach is pursued independently in Uriagereka (1988; 1993). Uriagereka proposes that the locus of parametrization concerning the LBC resides in the morphological status of the D-head. The gist of his proposal is that the morphological status of the D (null vs. overt) determines the richness of D in a language. In simplified terms, the 'richer' the D, the more of a barrier it constitutes. Presumably, D is richer in languages where it is morphologically realized than in languages where it is null. (Uriagereka also notes the relevance of the Slavic facts discussed in (69)-(72)).

However, despite its initial appeal, Uriagereka's rich-D hypothesis appears to suffer from the same problems that Alexiadou and Fanselow 2000 and Bobaljik 2000 have brought to light with respect to "rich-agreement hypotheses," which correlate rich morphology with core syntactic properties (in their cases, agreement morphology and Verb-raising to Infl.) As is well-known, there is a tendency for verb-raising languages to exhibit rich morphology. But despite repeated attempts (see Rohrbacher 1999 and references therein), it has been surprisingly difficult to define what is meant by 'rich' morphology. Further, there exist languages where verbs raise to Infl despite the fact that their inflectional morphology is virtually identical to (if

parametrization of the LBC follows from the interaction of the ECP (on which I will say nothing here) and the categorial status of noun phrases (DP vs. NP). Following Borer's 1984b influential proposal that parameters be restricted to "inflectional rules" (see also Fukui 1986), Corver assumes that parametric variation is tied to the lexical vs. functional distinction. In particular, a core aspect of his proposal is that the lack of LBC effects is a direct result of the absence of a determiner layer in conjunction with the ECP.[25]

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not 'poorer' than) what we find related languages/dialects which lack verb raising (the discussion of the Scandinavian landscape in Bobaljik 2000 is very revealing in this respect.) In a broader context, Bobaljik suggests that parameters based on 'morphological richness' are to be seen with skepticism (see also Snyder 1995). Indeed, recent theories of morphology like Distributed Morphology (Halle and Marantz 1993) treat the pieces of inflection in terms of late (post-Spell-Out) insertion. If such theories are correct, morphology -- rich or poor -- cannot influence syntax (it may at best reflect syntactic structures). In short, in the absence of a precise definition of what 'rich' means, it is not clear what predictions the theory makes.

[25]It is important to emphasize the fact that for Corver the relevant contrast is absence vs. presence of a determiner layer, and not, as in Uriagereka 1988, rich vs. poor. Corver thus does not run afoul of the fact that there exist languages where LBC effects are detected despite the fact that such languages never

A strong piece of evidence in favor of Corver's proposal comes from Slavic languages. Whereas most Slavic languages lack an overt determiner and do not obey the left-branch condition, Bulgarian is one of the few Slavic languages that have an overt determiner. Crucially, Bulgarian shows LBC effects. The core contrast is illustrated here from Czech (which lacks an overt D) and Bulgarian. (Czech data from Corver 1992.)

(69) Marie mluvila s   velmi velkým mužem   (Czech)

      Marie spoke   with very big   man

      'Marie spoke with a/the very big man'

---

show any instance of any overt determiner. One such language is Pashto (data from Roberts 2000:119). Snyder (1995:113 n.4) cites Khmer as another relevant example.

(i)   a. taa de   tsha   kitab pe ashpazkhana kee we lwest

         you poss who-obl book in kitchen   in Perf read

         'Whose book did you read in the kitchen'

      b. de   tsha   kitab taa pe ashpazkhana kee we lwest

      c. *de   tsha taa kitab pe ashpazkhana kee we lwest

Snyder notes that Khmer (the same is true of Pashto) is a strictly head-final language, and suggests that the head-parameter may have an effect on subextraction (Mahajan 1992:514 note 7) makes a similar suggestion). Although it is not clear how to capture the role of directionality on extraction, Gavruseva 2000 shows that SVO languages are equally problematic for an analysis like Corver's (or Uriagereka's). See the Hungarian facts discussed below.

(70)   Jakou by   Jan dal [t̲ knížku] Markovi   (Czech)

    which would Jan give   book   to-Marek

    'Which book would Jan give to Marek'

(71) a. kupil e edna kniga   (Bulgarian)

      bought is a   book

      'He bought a book'

    b. kupil e knigata

      bought is book-the

      'He bought the book'

(72) a. koja kniga e kupil Ivan   (Bulgarian)

      Which book is bought Ivan

      'Which book did Ivan buy?'

    b. *koja e kupil Ivan kniga

Corver's proposal also receives support from data internal to
Chamorro. Consider the following contrast. (Data from Chung
1998:282, 286.)

(73) Hayi un-ladatdi [patgon-ña t̲]

    who agr-scold   child-agr

    'Whose child had you scolded?'

(74) *hayi un-li'i' [i   gä'-ña ga'lagu t̲]

    who   agr-see   the pet-agr dog

    'Whose dog did you see?'

Chung characterizes the contrast as being the result of the fact
that in (74) an overt determiner is present, while it is null in
(73). Corver predicts the distinction, if we take D in (73) not
to be null, but absent altogether. (For additional supporting

data from Tzotzil and other languages, see Gavruseva 2000.)

However, despite strong initial support, the presence vs. absence of a determiner layer fails to capture the extraction facts found in Hungarian, for instance. As observed in Szabolcsi's 1984 influential study, Hungarian -- a language with an overt D -- allows for possessor extraction, but imposes a Case requirement on the possessor: only dative possessors, not nominative possessors, can extract. (Idan Landau (p.c.) points out that typically only dative elements may undergo possessor raising, as he has shown for Hebrew and French in Landau 1999). The core contrast is shown in (75).

(75) a. Péter-nek csak Mari látta [t a   kalap-já-t]

         Peter-Dat only Mari saw   the hat-poss.3sg.Acc

      b. *Peter   czak Mari látta [t a   kalap-já-t]

         Peter-Nom only Mari saw   the hat-poss.3sg.Acc

         'As for Peter, only Mari saw his hat'

In the next section, I will show that an understanding of the Case alternations in (75) is crucial to uncovering the nature of resumption, which as we will see later on also involves Case/agreement mismatches.

To conclude this section, let me emphasize the relevance of the LBC for an account of resumption. As we just saw, Bulgarian shows LBC effects. Importantly, Bulgarian also makes productive use of RPs (see (76)).

(76) tova e deteto   deto go vidjah včera

     this is child-the that him saw   yesterday

'This is the child that I saw yesterday'

According to my proposal resumptive chains are derived by movement of the antecedent through the specifier position of the DP headed by the RP. If nothing else is said, I predict (76) to be of the same status as (72b). Since this is contrary to facts, a proper analysis of resumption requires an understanding of LBC effects, if the line I want to pursue is on the right track.

2.3.2. Non-agreement and subextraction

The approach to the LBC I will develop may be regarded as an extension of Gavruseva 2000. Gavruseva's core data come from Hungarian, which we saw are problematic for Corver's otherwise very successful proposal. Gavruseva's insight is that possessor extraction parallels subject extraction in the sentential domain, which reinforces the idea that DPs and CPs have much functional architecture in common. For Gavruseva, as far as I can tell, the core idea is that much like subject extraction has to proceed through SpecCP on its way to its final landing site, so must the possessor pass through SpecDP on its way out. Successful extraction depends on properties of D, much like successful subject extraction depends on properties of C (think of that-t effects). In this light, it is tempting to relate the fact that subject extraction is possible when C is null (taking this to mean that C is absent, as in Bošković 1996, 1997), much like possessor extraction tends to be possible when D is absent. But as stated above, the correlation is just a tendency. Further, if Rizzi 1990 is right in taking null C to be the agreeing

complementizer, it is surprising to find nominative (i.e., agreeing) possessors incapable of subextraction, as in (75b).)

I will not provide any detailed summary of Gavruseva's approach, as her technical apparatus is too different from mine, and would thus lead me too far astray. What I intend to do now is show that when the spirit of her analysis is followed through, the parallel between possessor extraction and subject extraction is correct.

Let me first reinforce the parallelism between possessor extraction and subject extraction by reporting the following generalizations from Richards (1997: chapter 4).

Richards notes that languages resort to up to four different strategies to allow for subject extraction:

- non-agreement (which covers languages like Northern Italian dialects, Selayarese, Berber, Chamorro, Halkomelem, Jakaltek, K'ichee, Kinande, Palauan, Turkish, and Yimas)

- restrictions on the form of the complementizer of the clause immediately containing the subject (think of English that-t effect; French que/qui alternation)

- clausal pied-piping (Quechua, e.g.; see Hermon 1985)

- Resumption (Vata; Yoruba)

Significantly, the very same strategies are used in the domain of possessor extraction:

- non-agreement (Hungarian, if what follows is on the right track)

- restrictions on the morphology of the determiner (Chamorro, e.g.)

- pied-piping ([whose book] did you see?)

- Resumption (possibly corresponding to cases like who did you see 's book?, allowed in various dialects of English, as Jim McCloskey points out (p.c.); see also Drury 1999:189-190. Resumptive possessive pronouns are found in numerous languages.)

We thus find a perfect match between strategies found in the nominal and sentential domains when it comes to extraction. (We will see below that non-agreement and resumption are really two sides of the same coin. I have kept them separate here as the relationship between the two hasn't been made transparent yet.)

The core idea that I will defend is that 'agreeing' possessors cannot extract, much like 'agreeing' subjects cannot extract (the role of agreement will be made precise in chapter 3). That will lead me to place possessor extraction within a larger context, where extraction is correlated with the absence of agreement, a correlation which once understood becomes central to the relation between resumption and islandhood, as I show in the next section, and much more precisely in chapter 3.

To substantiate the claim just made, let me draw an analogy between the contrast in (75a) and the familiar contrast in (77)-(78) from German.

(77) a. Ich habe die Kuchen   gegessen

       I   have the cakes.Acc.pl eaten

'I ate the cakes'

b. Die Kuchen   wurden/*wurde   gegessen

The cakes.Nom.pl became.3pl/3.sg eaten

'The cakes were eaten'

(78) a. Ich have den Kindern   geholfen

I   have the children.Dat.pl helped

'I helped the children'

b. Den Kindern   wurde/*wurden geholfen

The children.Dat.pl became.3sg/3pl helped

'The children were helped'

As is well-known, when structurally Case-marked elements and
inherently Case-marked elements are subject to the same operation
(in this case, passivization), inherently Case-marked elements
fail to trigger agreement, while structurally Case-marked
elements do. The contrast is even clearer in Icelandic, where
inherently Case-marked, so-called Quirky subjects, act
unambiguously as subjects.[26] While nominative subjects trigger
agreement on the finite verb and on participles, dative subjects
don't. (Data from Sigurðsson 1992.)

(79) Við   kusum   stelpuna

We.Nom.1pl elected.1pl girl.Acc

'We elected the girl'

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[26]I here set aside the proposal made in Boeckx 1999, 2000a
(see also Boeckx and Niinuma 2001) that Quirky subjects trigger
agreement. For present purposes, I use agreement in a literal
sense: morphological agreement on the verb.

(80) Þær   virðast <u>t''</u>   hafa verið <u>t'</u>   kosnar <u>t</u>

They.Nom.3pl seem.3pl   have been   elected.Nom.3pl

'They seem to have been elected'

(81) Stelpunum   var   hjálpað

The girls.Dat.pl.fem was.3sg helped.neuter.sg

'The girls were helped'

(82) Þeim   virðist <u>t''</u>   hafa verið <u>t'</u> hjálpað   <u>t</u>

Them.Dat.3pl seems3.sg   have been   helped.neuter.sg

'They seem to have been helped'

Let us then adopt the idea that nominative forms are agreeing forms, but dative forms aren't.[27] Applied to (75), that means that agreeing possessors cannot extract, while non-agreeing possessors

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[27]As hinted at in the previous note, this is probably a gross characterization, but one that suffices for our present purposes.

Den Dikken 1999 discusses the range of possessor agreement in the Hungarian NP in excruciating details. Needless to say, the text formulation that nominative possessors agree, but dative possessors don't, is an idealization of the facts, but one which turns out to be a reflection of the truth. Setting aside for now patterns of partial agreement with nominative possessors, the following generalization seems to hold: when agreement with dative possessors surface, there is good reason to believe, as Den Dikken argues, that a null nominative element doubling the dative possessor is present, and controls the agreement on the possessee.

can do so. (Although this may not be reflected in (75), Den Dikken 1999 documents numerous cases where nominative possessors trigger agreement inside the noun phrase, but dative possessors fail to do so.)

As Richard Kayne has reminded me (p.c.), the intuition that agreement plays a role in LB-extractions is an old one. Thus, it has often been pointed out that the impossibility of combien-extraction in Italian ((84)) may be related to the fact that the Italian equivalent of combien agrees in φ-features with its N complement, whereas French uses an invariant preposition ((83)).[28]

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[28]Catalan behaves like Italian in the relevant respect, requiring agreement (and pied-piping), or the use of a PP in the case of 'splitting.' (Thanks to Paco Ordoñez for providing the examples, and discussing them with me. Thanks also to Richard Kayne for telling me to look at Catalan, which in many respects is a cross between French and Italian when it comes to the distribution of de/di-phrases.)

(i)   a. quants   llibres has   comprat
         how.many books   have.you bought
         'How many books did you buy'

      b. *quants   has comprat llibres

(ii   quants   n'has   comprat de llibres
         how.many NE.have.you bought   of books
         'How many books did you buy?'

What is interesting about Catalan is the presence of n(e) cliticization in the case of splitting. As is well-known, ne in

(83) combien Marie a-t-elle écrit [t̲ de livres]   (French)

how many Marie did she write   of books

'How many books did Marie write'

(84) *quanti abbia scritto [t̲ libri] Maria   (Italian)

That 'splitting' (i.e., stranding) is made possible by the

presence of an invariant form such as a preposition may be

further illustrated by the well-known was für/wat voor split

attested in German and Dutch, respectively.

(85) was hast du für Romane gelesen   (German)

what have you for novels read

'What novels did you read?'

(86) what hebt jij voor romans gelezen   (Dutch)

what have you for novels read

'What novels did you read?'

The same generalization is clearly at work for a paradigm from

Italian discussed by Moro (2000:51). As he notes, Italian allows

(in fact, forces) splitting in some cases like (87a).

(87) a. quanto sono   alti

How   are.they old.3pl

'How old are they?'

b. *?Quanto alti sono?

Italian disallows splitting in (88), but renders it licit in some

cases (89).

Romance is associated with a partitive interpretation, which

accords well with the generalization reached above concerning

Lebanese Arabic, for instance.

(88) a. *quali hai   letto libri

          Which have.you read   books

          'Which books did you read?'

      b. quali libri hai letto

(89) cosa/quali hai   letto di libri

      what/which have.you   read of books

      'Which books did you read?'

As Moro notes (p. 60), the relevant factor appears to be the

presence of a preposition (89), or the use of an invariant (3rd

singular neuter) form quanto (87a). (In case the extracted form

agrees with an element inside the extraction site -- quanti and

libri, vs. quanto and alti -- splitting/stranding is blocked.)

All the cases just discussed illustrate the role of

agreement in extraction possibilities. In all of them, the

absence of agreement is manifested inside the extraction site

and/or on the extractor. Call this local non-agreement. What I

would like to show now is that there is another relevant instance

of non-agreement that correlates with extraction, which I will

refer to as distant non-agreement. This type of non-agreement is

perhaps less obvious, but arguably more pervasive in the domain

of resumption (see the next section). It refers to the fact that

an extractee shows no sign of agreement with any element on its

extraction path. Distant non-agreement is illustrated here from

French. Unlike regular subject extraction, which triggers the que

-> qui alternation (which, following a long tradition, I take to

be a reflex of agreement) (90), extraction from a subject fails

to affect the complementizer's morphology (91).[29]

(90) combien de journaux crois-tu qui/*que publieront cela

    how many of newspapers think-you that   will-publish that

    'How many newspapers do you think will publish that'

(91) combien crois-tu que/*qui [t de torpilles] ont coulé le T.

    how many think-you that   of torpedoes have sunk the T.

    'How many torpedoes do you think sank the T.'

It is important to bear in mind that 'local' and 'distant' non-agreement effects are taxonomic devices only. A common mechanism which I will examine in depth in chapter 3 underlies them both. My only goal at this point is establish the relevant phenomena.

2.3.3. Non-agreement and resumption

In this section I show that non-agreement (both local and distant) is found in the realm of resumption. To the extent that they are correctly analyzed, the data presented here provide rather strong support for the stranding view on resumption argued for here, as it shows that constraints independently attested in

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[29]A similar contrast is attested in West Flemish (data from Haegeman 2001), which otherwise shows a que -> qui (da -> die) rule (Bennis and Haegeman 1984).

(i) dat is dienen vent da/die ier gisteren geweest is

    that is the man   that/die here yesterday been   is

    that is the man who was here yesterday'

(ii) dat is dienen vent dan/*dien zen uzen gisteren verkocht zyn

    that is the   man that/die his houses yesterday sold   are

    'That is the man that sold his houses yesterday'

extraction from noun phrases (LBC-obviations) are replicated in the realm of resumption. This follows immediately if a big DP structure like (31) underlies resumptive chains.

The most pervasive phenomenon of distant non-agreement under resumption has already been mentioned above. It is the generalization that in relative clauses an <u>uninflected</u> (/invariant) complementizer surfaces in the presence of an RP. The celebrated complementizer alternation found in Irish discussed at length in McCloskey 1990, to appear is a good illustration of this generalization. (In section 4.1.1, I return to more complicated patterns of complementizer choice in Irish discussed in detail in McCloskey to appear. For now I keep to the basic alternation. For detailed argumentation that <u>aL</u>, and its equivalent <u>a</u> in (literary) Welsh, is an agreeing complementizer, see Harlow 1981. See also chapter 3.)[30]

(92) a. an   fear aL bhuail tú   (Irish)

         The man C struck you

         'The man that you struck'

    b. an   fear aN bhuail tú é

         The man C struck you him

The textbook description of the complementizer alternation in

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[30]Incidentally, I take <u>aN</u> and <u>aL</u> to be genuine complementizers. That assumption has sometimes been contested in the specialized literature (see, e.g., Duffield 1995, who argue that <u>aL</u> and <u>aN</u> occupy different syntactic positions), but it seems uncontroversial in light of McCloskey's 2001 arguments.

Modern Irish is as follows: the presence of an RP correlates with a set of morpho-phonological properties for which McCloskey used the cover aN. Absence of an RP is also associated with a series of morpho-phonological properties which are subsumed under the symbol aL. (aN and aL don't exist as such in the language. They are symbols for clusters of morpho-phonological properties, mainly Nasalization vs. Lenition induced by C.)

Example (92b) shows no sign of local non-agreement, for reasons that plausibly have to do with the fact that RPs are pronouns, which tend to have intrinsic ϕ-features (witness the much-discussed cases of we linguists). Nevertheless, instances of local non-agreement are found in the language. Consider (93) (from McCloskey to appear), where a 3rd person RP is used for a non-3rd person antecedent.[31]

(93) A   Alec, tusa a   bhfuil an Béarla   aige

     hey Alec you aN is   the English at-him

     'Hey Alec you that know(s) English'

In a similar vein, Willis (2000: 569) notes that despite normative pressure against this pattern in contemporary Welsh, 'agreement' mismatches of the type reported for Irish have a long history in Welsh, going back to Middle Welsh. Consider (94), from Middle Welsh.

(94) ...peidyav a   wnaeth a   'r abertheu   yd oed yn

       stop-VN PRT did   with the sacrifices REL was Prog

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[31]Željko Bošković (p.c.) informs me that non-3rd person resumptive are impossible in similar contexts in Serbo-Croatian.

y   wneuthur

3sm-Gen do-VN

'...he stopped the sacrifices that he was making ...'

Willis further notes that agreement in this context remains

optional in Colloquial Welsh today, and to a certain extent even

in literary Welsh, as the example in (95) demonstrates.

(95) ond gyda hyn, wele ddarn o dywarchen y   bu   Rachel

      but with that lo   piece of turf   REL was-Perf Rachel

      yn   balu   'r bore   hwnnw yn   hefdan at ei   ben

      Prog dig-VN the morning that Prog fly-VN at 3sm-Gen head

      'But with this, lo and behold, a piece of turf that Rachel

      had been digging that morning came flying towards his head'

In (95) the antecedent tywarchen 'turf' is feminine, hence the

object agreement clitic in the relative clause would be expected

to be feminine ei, resulting in aspirate mutation on the verb,

hence phalu. The soft mutation on balu suggests that a masculine

object agreement clitic has been deleted phonologically.

Another clear case of local non-agreement is provided by

Adger and Ramchand 2000 from Scottish Gaelic. (I take for granted

the standard assumption among Celticists that inflected

prepositions (also called 'pronominal prepositions') only agree

with pronouns, not with full NPs. This leads me to assume the

presence of a resumptive pro in the cases at hand.)[32] As can be

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[32]Similar facts may hold for Colloquial Welsh as described

in Willis (2000:557f). Willis reports the existence of

preposition stranding under A-bar movement, as in (i).

(i)   %cymraeg yw 'r iaith   rôn   i 'n   siarad   mwen

      Welsh   is the language REL+was I Prog speak-VN in-ø

      'Welsh is the language I was talking in'

As Willis observes, (i) cannot involve any RP, as the preposition

mwen is not inflected, and would thus fail to license RP pro.

Further, mwen is compatible only with indefinite objects (which

is at variance with the observation of Doron reported above that

RPs induce specific readings.) In situations where the

preposition may take a definite object, the situation in

Colloquial Welsh is more complex. Either a fully inflected

preposition (indicative of an RP pro), or an overt RP, or a zero

inflected preposition (P-stranding).

(ii   pa   lyfrau wyt ti n'   chwilio amdanym (nhw)

      which books   are you Prog look-VN for-3p   (them)

      'Which books are you looking for'

(iii) pa   lyfrau wyt ti n'   chwilio am

      which books   are you Prog look-VN for-ø

For unclear reasons, a preposition with default inflection is

impossible (iv). However, Willis notes (p. 558 note 10) that some

speakers accept the use of the stem of the inflected form, with

no inflection (v), which may be likened to default inflection,

and thereby to the Scottish Gaelic case. However, it is clear

from Willis's discussion that the situation in Colloquial Welsh

is extremely complex, and merits more attention than I can devote

to it here.

seen in (96)-(97), the preposition bears default masculine
morphology, and not the otherwise expected feminine morphology.

(96) dè   a'mhàileid   a chuir thu am   peann ann

    which the bag-Fem C put   you the pen   in-3-Masc

    'Which bag did you put the pen in'

(97) *dè   a'mhàileid   a chuir thu am peann innte

    which the bag-Fem C put   you the pen   in-3-Fem

Likewise,[33] Demirdache (1991:46) reports data from Standard
Arabic, where the Case of the wh-word fails to match that of the
RP. (Case mismatch is, of course, fairly common in relative
clauses (this is clearer in languages like Serbo-Croatian where
case morphology is overt), where typically the head of the
relative clause receives a Case from the higher verb different
from the one its 'trace' receives inside the relative clause
(think of the man (Nom) that Mary saw (him-Acc) left yesterday),
hence the significance of the interrogative sentence noted by
Demirdache. For related discussion, see section 4.6.4.)

(iv) *pa   lyfrau wyt ti n'   chwilio amdano

      which books   are you Prog look-VN for-3sm

(v) pa lyfrau wyt ti n' chwilio amdan

[33]Instances of non-agreement may be more widespread than one
might think. Thus, Koopman and Sportiche 1983 note that the
subject resumptive Ò in Vata bears a different tone from other
pronouns in the language (low tone instead of the regular middle
high tone). It is tempting to analyze this tone difference as an
instance of local non-agreement.

(98) [ʔayy-u/-*a rajulin]   raʔayta-hu

which-Nom/-Acc man-Gen saw-you-him(Acc)

'Which man did you see?'

In light of the data just mentioned, it is clear that the phenomenon of non-agreement under resumption is pervasive, as it is in the domain of LB-extractions (and, as I will show in chapter 3, in the domain of 'difficult' extraction more generally). Such a parallelism is expected under a stranding analysis of resumption like the one defended here. By contrast, it is totally unexpected under either a base-generation approach or a spell-out-a-minimal-copy analysis. Consider the base-generation approach. According to it, antecedents of RPs are merged in their surface positions, and relate to RPs via binding. That we find φ-mismatch in a binding situation is surprising to say the least. No such mismatch is reported in the domain of A-binding.[34] Thus, contrast the gender mismatch in Scottish Gaelic above (97)-(98) with the following case.

(99) The girl washed *himself/herself

Similarly, under a pronounce-a-minimal-copy analysis, non-agreement is unexpected, as copies, by definition, have identical

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[34]Kayne's (2001:34 note 28) examples (i) might be relevant, as pointed out to me by Željko Bošković (p.c.).

(i)   a. if someone buys themself a new car ...

       b. ?we each bought ourself a different kind of car

Pending further developments of the movement/stranding approach to Condition A, I will leave such cases unexplored here.

φ-features. If they didn't, checking/elimination of features by the highest copy would not necessarily eliminate illegible features in the other copies of the chain. (Note also that if feature mismatch were possible among copies of the 'same' lexical item, it is not clear what one would expect in the realm of reconstruction. If features need not match among copies, it is not obvious that capturing reconstruction effects via interpretation of lower copies is possible.)

The pervasive character of non-agreement may thus be regarded already as one of the central conclusions of our study of the nature of resumption, a conclusion that falls out immediately from the point of view of a stranding approach (I return to the issue of agreement and Q-Float in section 2.4).

Note, incidentally, that even without going into the technical details underlying non-agreement, one can already safely conclude that successive cyclic (A-bar) movement cannot be φ-feature-driven, contrary to what has sometimes been suggested (see, e.g., Hornstein 2000:118f.). If this were the case, it would be hard to reconcile it with the distant non-agreement facts documented here. By contrast, no conflict arises if we take the view proposed in chapter 1 that successive cyclic steps are taken as a result of an overarching requirement of narrow syntax that demands that chain links be as short as possible. Uncovering the precise syntactic mechanism behind non-agreement and its effects will be the task of chapter 3.

2.3.4. Non-agreement and clitic doubling

As discussed above, there is an obvious connection between the Big-DP structure underlying resumption (31) and the structure assumed for clitic doubling in works by Kayne, Torrego, Uriagereka, Cecchetto, and many others. That we are able to find instances of non-agreement with clitic doubling strengthens the parallelism we established earlier.

Clear instances of non-agreement have sometimes been reported in the literature. Instances of local non-agreement are attested in Neapolitan (data from Ledgeway 2000:24). As the examples (101) show, non-3rd person doubles may be associated with a 3rd person clitic.

(100)   a. me (n)ce   abbetuaje   a te

           me him-Dat accustom.past.1sg A you

           'I got used to you'

     b. me n'   allicordo   a te

           me him-Dat remember.pres.1sg A you

           'I remember you'

Similar facts seem to hold in Milanese, for which the following instance is reported in Kayne (2000a:136).[35]

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[35]The optional Case-mismatch found in various instances of left-dislocation in German may be part of the same phenomenon (for recent valuable discussion, see Grohmann 2000, and various chapters in Anagnostopoulou, van Riemsdijk, and Zwarts 1996).

(i)   Der/Den   Frosch, den/ihn   hat die Prinzessin

     The.Nom/Acc frog   the-Acc/it-Acc has the Princess.Nom

     geküsst

(101)　　　el me véd　nun　　　　　(Milanese)

　　　　　he me sees us

　　　　　'He sees us'

Number mismatch is also found in varieties of Spanish, as

documented in Gutiérrez-Rexach (1999:344 n.33).

(102)　　　no le　　　tiene　miedo a la　balas

　　　　　not CL.dat.sg has.he fear　A the bullets.pl

　　　　　'He does not fear the bullets'

That clitic doubling is more prevalent with datives than with

accusatives (see Kayne 2000a: chapter 8 and references therein)

may be related to the fact that instances of possessor raising

are often found with dative elements.[36] A related observation is

that many instances of Quirky datives (dative experiencers),

which, as is known from the literature on Icelandic, do not

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　　　　kissed

　　　　'The frog, the princess kissed it.'

[36]In this context, let me mention Pollock's (1983:97)

observation that dative clitic resumptives in French relatives,

though marginal, are more readily available than accusative RPs.

Contrast (i)-(ii).

(i)　　??voila l'homme que je lui ai　donné un livre

　　　　　Here　the-man that I him have given a　book

　　　　　'Here is the man who I gave a book to'

(ii)　?*voila l'homme que je l'ai　　vu

　　　　　Here　the-man that I him.have seen

　　　　　'Here is the man that I saw'

trigger agreement, are obligatorily doubled in Bulgarian (103; from Franks and King 2000:251) and Albanian (104; from Kalluli 1999:19).

(103)   mene   me   e jad

          Me.Acc me.Acc is angry

          'I am angry'

(104)   Jan-it   *(i)   mungojnë dhjetë libra

          Jan-the.Dat him.Dat miss.they ten   books.Nom

          'Jan is missing ten books'

Although harder to find (due to the clause-boundedness of clitic doubling), instances of 'distant' (non-DP-internal) non-agreement are attested, as in the following example from Paduan (reported in Kayne 2000a:157 n. 45).

(105)   el me ga visto/??vista mi

          He me ha seen3sg/1sg   me

          'He saw me'

So far, it appears that various instances of non-agreement are found in the realm of clitic doubling. But I would like to claim that non-agreement under clitic-doubling is even more pervasive. In particular, I want to treat "Kayne's generalization," according to which the doubling NP must be headed by a Case-marker, as an instance of non-agreement. The Spanish example in (106) illustrates this generalization. (That is not to say that the role of a in Spanish is limited to doubling contexts.)

(106)   lo   he   visto *(a) Juan

          him have seen   A   Juan

'I saw Juan'

It is plausible to interpret the obligatory presence of the Case marker a in (106) as a case of non-agreement. (The standard interpretation of Kayne's generalization is that in doubling structures, the clitic checks Case, and leaves the doubling element Caseless, hence the need for a Case marker to allow the double to satisfy the Case Filter.) Recall that distant non-agreement was characterized above as the inability on the part of the moving element to trigger agreement with any element on its way to its final landing site. Somewhat pre-theoretically, one can thus regard distant non-agreement as ϕ-inertness/inactivity. Now the latter is precisely what characterizes prepositions (elements like a-phrases).

As is well-known, Kayne's generalization fails to extend to instances of clitic doubling in languages like Bulgarian, Macedonian, Greek, and Albanian (among others). In such languages, the doubling element is a bare DP. The situation found in the Balkan languages resembles the situation in French, where a strong pronoun in structurally Case-marked positions (i.e., in which nominative and accusative Cases are assigned) doubles a clitic. In such cases the doubling element is not headed by a Case marker of any sort.[37]

(107)   Moi j'aime la chimie   (French)

         me I like the chemistry

---

[37]Why doubling in French is limited to strong pronouns is an important fact whose nature at the moment eludes me.

'I like chemistry'

Significantly, there is good evidence that the strong pronoun double in (107) does not behave like a standard Case-marked argument. As documented in detail in Kayne (2000a: chapter 9), strong pronouns are unable to check Case/φ-features if they are not accompanied by a clitic pronoun. Here is Kayne's statement of the facts.

(108)   pronominal arguments that are structurally [C]ase-marked [note omitted – CB] in French must be doubled by a clitic (Kayne 2000a: 165)

Thus, (107) with an undoubled strong pronoun is out.

(109)   *moi aime la chimie

Although Kayne does not interpret (108) this way, there is an obvious connection between (108) and Kayne's celebrated generalization. What (108) says is that strong pronouns cannot check (structural) Case/φ-features. Put differently, they have inactive φ-features, and function very much like inherent Case-marked arguments in German, Icelandic, and other languages. (Viewed in this light, it is misleading to call them structurally Case-marked elements, as Kayne does.) From this perspective, doubling strong pronouns are identical to doubling PPs in Spanish: both have inactive φ-features (inherent Case). In this context, note that Alexiadou and Anagnostopolou 2000b provide evidence that in many respects doubling elements in Greek behave as adjuncts (recall that adjuncts have inert φ-features) (for additional references concerning doubling elements and adjuncts,

see Bošković 2001a:187). Their conclusion is that clitics in Greek (and, by extension, languages patterning like Greek) are displaced φ-features of the doubles. Another way of looking at the phenomenon (since I do not assume feature-movement) is to say that doubles in Greek do not check φ-features: another instance of non-agreement.

In sum, I have brought to light many cases of clitic doubling where non-agreement is observed. Overall, the attested patterns reinforces the parallelism established between clitic doubling and resumption in section 2.2.2.4.

2.4. A note on Quantifier Float

In this section, I would like to return briefly to the nature of Quantifier Float. As will be recalled, I argue that resumptive chains are formed in a way parallel to Q-float chains (stranding under A/A-bar movement). There is, however, an important difference between the two instances of stranding. As I have shown in the case of resumption, no agreement relation underlies the link between the RP and its antecedent. In many cases, it is even possible to find explicit φ-feature mismatch between the two. As Marcel Den Dikken has brought to my attention, this is arguably not the case in Q-Float contexts.[38]

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[38]Kayne (2000a:181) reports the following minimal pair from French (originally discussed by N. Ruwet).

(i)   a. ces   laiderons   essaieront toutes/*tous de séduire

           These ugly-women will-try   all-Fem/-Masc to seduce

           Antoine

Floated quantifiers typically agree with their antecedents in Case and φ-features (person features aside, which tend to be excluded from non-finite predicates for reasons that are not completely clear).[39] Consider the following example from Icelandic.

(110)   Strákunum   leiddist öllum   í skóla

           The.boys.dat.pl bored   all.dat.pl in school

           'The boys were all bored in school'

Likewise, no effect of what I dubbed distant non-agreement is

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           Antoine

           'These ugly women will all try to seduce Antoine'

     b. tous/*toutes ces laiderons essaieront de séduire Antoine

As (i) shows, gender mismatch between the raised element and the floated quantifier may result in the stranding derivation, but not in the case where the quantifier is pied-piped. As the example is relatively marginal, I do not know how much importance one should attribute to it. At the moment, I conclude that no effect of non-agreement is found in the realm of quantifier float.

[39]Nahuatl nominal predicates bear person features, but I suspect that this is the result of a finite auxiliary being affixed to the nominal predicate. However, more careful examination is required in this domain. (Thanks to Ken Hale for help with the Nahuatl data, and for discussion of additional potential examples of non-finite predicates bearing person features.)

found in the realm of Q-Float. The moving element which in a Sportiche-style derivation undergoes subextraction typically has active φ-features, triggering agreement on the finite verb and intermediate predicates.[40] Consider French.

(111)　　les étudiantes　　　　ont été　envoyées　　　toutes

the students.fem.pl have been sent.fem.pl all.fem.pl

en chine

to China

'The students have all been sent to China'

The state of affairs we are facing should not be seen as a problem for the general approach developed here. In fact, from

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[40]I suspect that the conclusion holds for Q-Float under A-bar movement. However, the prediction cannot be tested easily, as the only uncontroversial case of stranding under A-bar movement to date is the Irish English dialect discussed in McCloskey 2000 (but see note 9). Unfortunately, West Ulster Irish English lacks overt past participle agreement, or agreement on the floated quantifier. Of potential relevance is the example in (i) reported by McCloskey (p. 78), where the raised wh-subject fails to trigger plural agreement.

(i)　Who was throwing stones all around Butchers' Gate

However, care is needed before any conclusion is drawn from (i), as some English dialects of Northern Ireland have optional subject verb agreement, allowing cases like (ii) (see Henry 1995 for discussion).

(ii) the children really likes pizza

one perspective, which I will briefly sketch here, the agreement asymmetry between Q-float and resumption is even expected.

Despite its undeniable appeal, Sportiche's analysis of Q-Float in terms of stranding has never been able to account for why (in English) <u>all</u> cannot be stranded in the most deeply embedded, thematic position of a derived subject in a passive sentence like (112).[41]

(112)   *the carpets were dusted all for two hours

Sportiche's explanation for the impossibility of (112) -- that there is no postverbal trace in regular passives in English -- weakens the spirit of his analysis considerably.

To capture (112), Bošković (in press) suggests an alternative approach to quantifier float. Bošković assumes the fundamental correctness of Sportiche's insight that Quantifier Floating is related to movement (as opposed to the approach advocated by Bobaljik 1995, 1998 and references therein, which treats floated quantifiers as sentential adverbs). However, unlike Sportiche, Bošković does not assume that the quantifier and its antecedent form a constituent upon First Merge. According to him, (stranded) quantifiers are excluded from thematic positions (which he takes to follow from a requirement on theta-role assignment, possibly related to Chomsky's 1986b ban on

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[41]Q-Floating the most deeply embedded position of a derived subject in passives appears to be possible in French. However, Bošković (in press) provides good arguments to regard such cases as instances of 'extraposition' (/right-dislocation).

adjunction to arguments, assuming that floated quantifiers are adjuncts).[42] For Bošković, the Floated quantifier and its antecedent combine upon movement of the antecedent outside the thematic domain (combination may take place in any position targeted by the moving element, that is, in any intermediate landing site).

Such an analysis is able to capture the badness of (112) straightforwardly. Apparent instances of Q-Float in theta-positions like (113a), must, according to Bošković, be reanalyzed as positions in distinct functional projections (113b).

(113)   a. the children$_i$ have [$_{VP}$ [all $\underline{t}_i$] eaten]

          b. the children$_i$ have [$_{XP}$ [all $\underline{t}'_i$] [$_{VP}$ $\underline{t}_i$ eaten]]

What is important for our purposes is that under Bošković's analysis, the floated quantifier does not head the whole QP at the point of attraction (contrary to the structure most commonly

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[42]Although Bošković 2001b adopts Takahashi's 1994 view on successive cyclic movement, he does not address the problem raised by Quantifier Float for such a view. Recall that according to the latter, successive cyclic movement takes place 'in one fell swoop,' which prevents insertion of all in intermediate sites while movement, more accurately Form Chain, takes place. If Takahashi's view is adopted, we seem to be forced to say that all-insertion takes place after the movement chain is formed. What is crucial here is to disallow acyclic insertion of all into the theta-position. Several possibilities to achieve this come to mind. I will not explore them here.

associated with Q-stranding in the literature, given in (114);

see Shlonsky 1991, Merchant 1996, McCloskey 2000). Put

differently, Q-Floating is not an instance of subextraction.

(114)   QP

```
     ^    /\
  |___^   Q'
    |  / \
    | all NP
    |____|
```
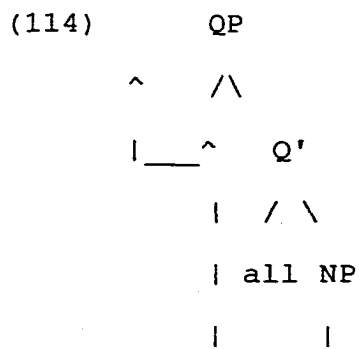
The denial of a subextraction structure in the case of Q-Float

begs the question of what happens to the evidence Shlonsky 1991

provided based on agreement for movement of NP through SpecQP.

(Data in (30), repeated here as (115)).

(115)   a. kull-u t-tullaab-i   žaaʔ-uu

            All-Nom the-students-Gen come-Past-3mpl

            'All the students came'

            b. t-tullaab-u   kull-u-**hum**   žaaʔ-uu

            the-students-Nom all-Nom-them come-Past-3mpl

            'The students all came'

Interestingly, Benmamoun 1999 has provided compelling evidence

that what Shlonsky 1991 took as an agreement marker resulting

from a Spec-head configuration within DP/QP in (115b), is a

clitic, and fails to support the stranding approach. According to

Benmamoun, when considered carefully, the Arabic data demand the

assignment of two different structures for the DP-Q/Q-DP orders.

In particular, Benmamoun argues for an analysis that treats the

floated quantifier as an adjunct of sorts (not as a constituent with its antecedent upon First Merge), very much in the spirit of Boškovič's analysis. (Benmamoun shows that the clitic that surfaces on the floated quantifier also shows up on adjuncts in a variety of contexts in Arabic.)

Once Boškovič's refinement of Sportiche's analysis is taken into account, the agreement asymmetry between Q-Float and resumption falls into place. Assuming that the structure underlying resumption is as in (116) (a subextraction configuration), we expect anti-agreement effects, for reasons having to do with Left-Branch effects discussed above, and extended in chapter 3.

```
(116)       DP

       ^    /\

      |___^  D'

       |  / \

       | D  wh

       | |   |

       | RP  |

       |_____|
```
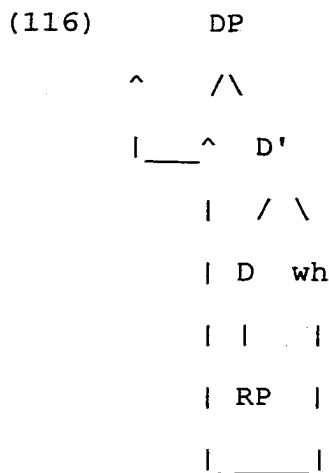
By contrast, if Boškovič is right in denying the structure in (114) for Q-Float, no subextraction takes place in this case, and therefore no effect of non-agreement is expected. As a matter of fact, the asymmetry at stake here becomes principled under Boškovič's proposal that Q-stranding is disallowed in theta-positions due to a requirement on theta-marking. The stranded

element in (116) is a determiner, which, unlike Q-elements, is
allowed in thematic positions (Longobardi 1994 even suggests that
D is needed to turn an NP-predicate into an argument).

In sum, the fact that no effect of non-agreement is found in
the domain of Q-float does not undermine the present analysis of
resumption in terms of stranding. If anything, it is reinforced
in light of Bošković's proposal.

2.5. A note on Wh-agreement

If the generalization put forth here in the domain of
resumption/subextraction is correct, one expects not to be able
to find any instance of so-called wh-agreement when resumptives
are present. (Wh-agreement is precisely what led Hornstein 2000
and others to claim that intermediate steps of long-distance wh-
movement are φ-feature driven.) The fact of the matter is that
such cases are found in at least one language. In Palauan, the
irrealis morphology that shows up on the verbs along the A-bar
extraction path cooccurs with a resumptive (117b). (Data from
Georgopoulos 1991:105-106.)

(117)   a. ng-te'a   a l-oumera   a resensi   el
            who   IR-3-believe teachers   C

            d-omdasu   e ng-mo er a siabal
            IR-1p-think C R-go   P   Japan

            'Who do the teachers believe that we think will go
            to Japan'

        b. ng-ngera a 'om-dilu   el lo-ngiil   er ngak el bo
            CL-what   IR-2-said C IR-3-wait P me   C IR-fut

ku-ruul   er ngii

IR-1s-do P   it

'What did you say that they were waiting for me to

do'

On the other hand, Chamorro, another language where wh-movement

conditions the morphology of the verbs that separate the operator

from the variable, is reported in Chung 1998 to lack resumptives.

For Chamorro, then, the correlation resumption/non-agreement

seems to hold.

Before analyzing the potential relevance of (117), it may be

useful to briefly summarize what is meant by wh-agreement in

languages like Chamorro and Palauan. Wh-agreement refers to a

process of morphological marking on verbs (and/or

complementizers) conditioned by overt wh-movement.[43] In many

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[43]That only overt wh-movement triggers agreement is

illustrated here on the basis of Moore. (Moore has apparent

optional wh-fronting; data from Haïk 1990. See Georgopoulos 1991

for similar facts from Paluan, where wh-fronting is also

optional.)

(i)   A Bil ri-A-lame/*ri-a

Bila   ate-it-R(ealis)/ate-it-IR(realis)

"Bila ate it"

(ii) Ãnda (n) ri-a/*ri-a-lame

who   ate-it-IR/ate-it-R

"Who ate it?"

(iii)a Pok yã-a/*yã   ãnda zaame

cases, an irrealis mood marker surfaces on the verb in the presence of a raised wh-phrase. However, as has been emphasized by Chung and Georgopoulos 1988, Georgopoulos 1991, and Chung 1998, wh-agreement is conditioned indirectly by wh-movement. That is, although wh-movement induces a morphological change on intermediate verbs, the morphological pieces it affects do not reflect any direct relation with the wh-phrase. Instead, they reflect a distinct agreement/Case-relation holding between the verbs and the intermediate complementizers. Thus, wh-agreement is locally conditioned, either by the variable (on the verb closest to the gap) or by the CP-argument(s) (containing the CP) containing the gap, as schematized in (118) (taken from Chung 1998; '<->' symbolizes the (wh-)agreement relations; details

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     Poko   see-R/see-IR who yesterday

     "Who did Poko see yesterday?"

The only examples of wh-agreement triggered by wh-in-situ is the deletion of downstep in Kikuyu (Clements 1984) and the special verbal morphology found in Sinhala (Kishimoto 1992). As Watanabe (2000b:5) observes, the two cases are anomalous in other respects, which casts doubt on their constituting genuine counterexamples to the otherwise robust generalization that wh-agreement is triggered only by overt movement. Thus, Kikuyu has an additional tone-related wh-agreement phenomenon which conforms to the 'overt movement' generalization. As to Sinhala, the special verbal morphology at issue alternates with a Q-particle which can attach to the verb in certain contexts.

omitted).

(118)   CP
            / \
      WH$_i$ IP
           /   \
        Infl <-> CP
             /   \
          Infl <-> CP
               /   \
            Infl <-> t$_i$
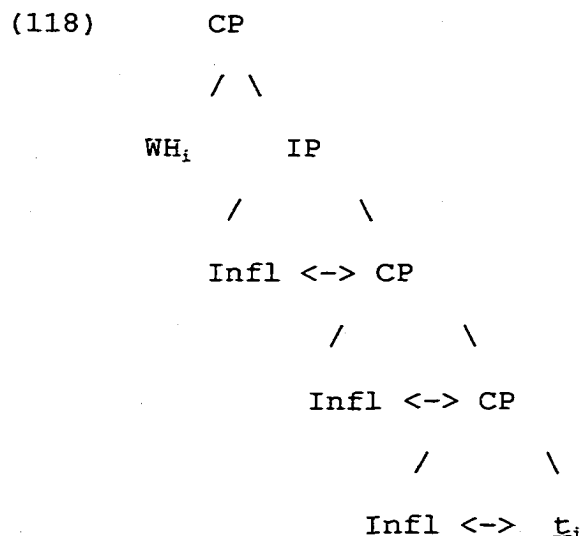
Put differently, it is not the case that the moving element

agrees with the verbs along its path (as depicted in (119), where

the wh-phrase is shown to agree with the Is located along the

movement path). Instead, wh-movement forces a peculiar pattern of

agreement holding of intermediate verbs and the CP arguments they

select for (and assign Case to), as in (118).

(119)   *CP
             /\
      WH$_i$ IP
      | /   \
      | Infl   XP
      |_ ^   /   \
      | Infl   XP
      |_____^   /   \
                  Infl <-> t
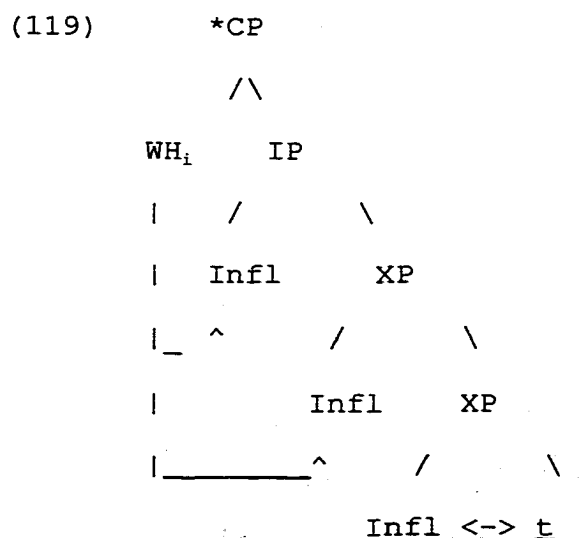
Once the indirect character of wh-agreement is taken into

account, it becomes less obvious to determine to what extent
(117b) constitutes a counterexample to the robust non-agreement
generalization discussed above. Note, incidentally, that although
the tendency to find uninflected complementizers in the presence
of a resumptive chain is widespread, one does find cases of wh-
complementizers in relative clauses containing an RP (recall the
observation in section 2.2.2.3). Palauan may be another instance
of this pattern. As a matter of fact, we will see in sections
3.6.2 and 3.6.3 that when inflected complementizer forms are
found in the context of resumption, RPs are sensitive to (some)
islands. Interestingly, Georgopoulos 1991 argues that the
presence of an RP in an adjunct clause does not rescue extraction
from an adjunct condition violation. In doing so, Georgopoulos
departs from her (1985) account, where she argued that RPs do
rescue adjunct condition violations in Palauan. Consider (120a).

(120)   a. *a Sandii a liluut el mei a Costa er a u'ei er a

                 Sandii 3s-again L come Costa P before

          kungede'edu' er ngii

          IR-1s-Im-talk P her

          'Sandi, Costa came before I talked to (her)'

          b. [til'a el buk] a u'ei   er a 'om-'iu-ii __,

               this L book   before   IR-2-pf-read-3s

          e besk-ak   a ole'es-em

            IR-2-pf-give-1s   pencil-2s

          'This book, before you read, give me your pencil'

Georgopoulos 1991 argues at some length that the only good cases

of extraction like (120b) are best analyzed as movement inside the adjunct, and concludes that extraction out of adjuncts is uniformly ungrammatical in Palauan, even in the presence of an RP.[44]

Be that as it may, the point I want to make in this section is that the nature of wh-agreement as agreement is not clear.[45] As

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[44]Georgopoulos (1991:80ff.) documents cases of successful extraction out of Complex NP/relative clauses, and sentential subjects, which generally pattern with adjuncts in yielding robust strong island effects. I return briefly to the puzzling divide found in Palauan in section 3.6.2.

[45]As Jim McCloskey points out (p.c.), the use of 'agreement' in this case is very different from the featural variability one observes in typical instances subject verb agreement, where the featural content of the subject matters (he$_\alpha$ thinks$_\alpha$/they$_\beta$ think$_\beta$). Wh-agreement of the Palauan-type looks very different from the one found in Kinande (one of the instances of agreement in COMP discussed by Rizzi 1990, from whom the data in (i) are taken), where the class of the complementizer matches that of the wh-phrase in its specifier.

(i) a. IyondI y0   Kambale alangIra

        who.1 that.1 Kambale saw

        'Who did Kambale see'

     b. aBahI Bo   Kambale alangIra

        who.2 that.2 Kambale saw

     c. EkIhI ky0   Kambale alangIra

a matter of fact, it is not at all clear whether all instances of wh-agreement should receive a uniform treatment. As Haïk 1990 has shown, languages differ as to the extent to which they manifest wh-agreement. While some languages show instances of wh-agreement only on matrix INFL, other languages show instances of wh-agreement only on the INFL of the clause from where extraction took place, and yet other languages show instances of wh-agreement in intermediate positions. I thus concur with Finer (1997:690 n. 16) that it is not clear to what degree all of these patterns are basically the same phenomenon, or are even related.

Nevertheless, there does appear to be some information to be gained from an analysis of 'wh-agreement' in relation to resumptive strategies. I will attempt to uncover some patterns in the following paragraph, but the reader should bear in mind that the issue may turn out to be tangential to the core proposal made in this study once the nature of wh-agreement is better understood.

The Palauan case of wh-agreement in the presence of a

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what.7 that.7 Kambale saw

'What did Kambale see'

d. EBIhI ByO   Kambale alangIra

what.8 that.8 Kambale saw

Although I sympathize with McCloskey, I nevertheless think that agreement should be seen as a much more abstract process than exact feature-sharing, closer to notions like 'contextual feature variability' or 'featural dependency.'

resumptive turns out not to be shared by other languages. Tuller 1985 reports data from Hausa, where an embedded INFL fails to bear irrealis morphology (otherwise licensed by wh-extraction) in the presence of a resumptive. (Clements 1984 contains examples from Kikuyu that show a similar influence of a resumptive pronoun on wh-agreement.)

(121)   ga   mutaanen [da [ceewa sun/*suka   ga sarkii]]

          here's people   that that 3pCOMPL-R/3pIR see emir

          yaa baa   ni maamaakii

          3ms give me surprise

          'Here are the people who the fact that they saw the

          emir surprised me'

Hausa thus behaves as expected, if we take wh-agreement to be a genuine instance of (however indirect) φ-agreement.

The present theory may be able to provide some insight into other instances of wh-agreement which to the best of my knowledge have not been discussed in the light of resumption.[46]

Take the case of past participle agreement in French. Refining Kayne's 1989 description of the facts, Obenauer 1994, Déprez 1998, and Rizzi 2000 have emphasized the fact that

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[46]Whether the suggestions made in the following paragraphs extend to other instances of 'optional' markers of successive cyclicity such as subject-auxiliary inversion in Spanish (Torrego 1984) or subject pronoun selection in Ewe (Collins 1993, 1997) is left for future research. (For evidence that inversion in Spanish is influenced by D-linking, see Ausín and Martí 2001.)

agreement with wh-phrases is tied to the 'referential' or 'specific' character of the moving element. Contrast the possibility of agreement in (122) and the impossibility of it in (123).

(122)   combien de fautes Jean a-t-il fait(es)

         how many of mistakes Jean has-he make-3.fem.pl

         'How many mistakes did Jean make'

(123)   combien de fautes en plus Jean a-t-il fait(*es)

         how many of mistakes more Jean has-he make-3.fem.pl

         'How many more mistakes did Jean make'

The above works take the contrast to result from the fact that the _combien_-phrase in (122) can be specific, but not the one in (123). Recall now Doron's observation that RPs force a specific reading on their antecedent. Relating the two sets of facts would lead us to conclude that agreement on the past participle is triggered, not by the wh-phrase itself, but by a resumptive _pro_ associated with the specific/D-linked wh-phrase. We know from past participle agreement with clitics that pronouns can trigger agree with participles (_il l'a vu-e_ 'he her has seen-AGR'), so it is possible for (resumptive) _pro_ to do so. The idea that past participle agreement is triggered by a pronoun explains why past participle is restricted to the participle most closely associated with the Case assigner of the wh-phrase (_pro_, like other pronominal objects never much beyond the latter), which is an outstanding problem for analyses of past-participle agreement as a reflex of successive cyclic steps, as originally noted by

Philip Branigan and Dominique Sportiche.

(124)   combien de fautes   Jean a-t-il dit(*es) que Paul

          how many of mistakes Jean has-he said-AGR that Paul

          a   fait(es)

          has made-AGR

          'How many mistakes did Jean say that Paul made'

The present proposal may also explain why the presence of past-
participle agreement improves island violations, as in the
following adjunct island case (although judgements are subtle).[47]

(125)   a. *quelles filles Jean est-il parti après que Pierre

             which   girls Jean is-he left after that Pierre

             a   vu t

             has seen

             'Which girls did Jean leave after Pierre saw'

          b. ?*quelles filles Jean est-il parti après que Pierre

             a vues t

If correct, the analysis of French presented here further
complicates the picture in correlating <u>presence</u> of "wh-agreement"
with presence of an RP. However, such complication may well be
needed regardless. In a very detailed study of wh-extraction in
Selayarese Finer 1997 argues that lack of agreement on a verb and
null complementizer are restricted to extraction environments.
Agreement morphology on the verb and overt complementizers
surface when resumptive <u>pro</u>'s are used. Consider the following

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[47]Thanks to Željko Bošković (p.c.) for pointing out the
relevance of island sensitivity in the present context.

set of examples.

(126)   la-ʔalle-i doeʔ-iñjo i Basoʔ

            3-take-3   money-the h Basoʔ

            'Basoʔ took the money'

(127)   ku-isseʔ-*(i) *(kuko) la-ʔalle-i doeʔ-iñjo i Basoʔ

            1s-know-3   COMP 3-take-3 money-the h Basoʔ

            'I know that Basoʔ took the money'

(128)   apa mu-isseʔ la-ʔalle __ i Basoʔ

            what 2fam-know 3-take   h Basoʔ

            'What do you know that Basoʔ took?'

(129)   apa mu-isseʔ muko la-ʔalle-i <u>pro</u> i Basoʔ

            what 2fam-know that 3-take-3 (pro) h Basoʔ

            'What do you know that Basoʔ took?'

(126) shows a basic sentence from Selayarese, a VOS language that indicates subject agreement as a prefix on the verb, and object agreement on a suffix. (127) shows that the complementizer in obligatory in embedded declaratives. So is the agreement between the matrix verb and the CP argument (see Finer 1997 for details). (128) shows that all (object) agreement suffixes and the complementizer must be absent in the case of extraction. (129) shows that in the presence of a resumptive, object agreement is present on the embedded verb and the complementizer is present as well. (Finer notes that in all cases object agreement on the matrix verb cannot be present, a fact he takes as evidence for some movement even in the context of resumption, a claim I revisit in the context of 'mixed chain' patterns in section

4.1.2.) The picture that emerges in Selayarese is strongly reminiscent of the French past participle agreement paradigm.[48] In fact, the parallelism can be strengthened once we capitalize on an observation made by Finer (who, however, does not exploit it.) Object agreement suffixes in Selayarese are present only if the object is definite (/specific). When indefinite, the object does not trigger any agreement (in such cases, subject agreement surfaces as a suffix, and an intransitivizer is used as a prefix, for reasons having to do with the ergativity of the language). Witness (130).

(130)   (a)ng-alle-kang doe?

           int-take-1pl   money

           'We took (some) money'

Just as in French, object agreement is restricted to specific (/definite; D-linked) objects. That agreement surfaces when an RP is used is not at all surprising, given the specific character

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[48]There is one irrelevant difference: in sentences with more than one degree of embedding in Selayarese all object agreement suffixes (except the topmost one) and all complementizers must be overt in the case of resumption. In French past participle agreement is restricted to the clause out of which extraction took place. The difference is expected, as intermediate object agreement on the verb in Selayarese is triggered by the CP argument it takes. CP-arguments in French do not trigger agreement, hence the absence of intermediate "wh"-induced agreement.

carried by the RP. In sum, the French and Selayarese data show
that what looks like wh-agreement is actually triggered by the
RP, whereas the Hausa data show that wh-agreement fails in the
presence of an RP. While paradoxical at first, this state of
affairs makes sense once "wh-agreement" ceases to be treated in a
uniform manner. (Note, though, that each instance of wh-agreement
still tells us something about the pattern of extraction.)

To conclude this brief and no doubt incomplete discussion of
wh-agreement, I would like to note that the present theory may
shed a new light on the influence of referentiality on wh-
agreement in Chamorro discussed in detail in Chung 1994, 1998. As
Chung observes, when the operator is 'referential' (D-linked),
the effects of wh-agreement need not show up on predicates along
the extraction path (except on the predicate of the clause from
which movement originates). (Datum from Chung 1998:248.)

(131)   hafa na patti gi atumobit malägu'   hao

           what L part Loc car   agr.want you

           [u-ma-fa'maolik ___]

           WH[nom].agr-Pass-fix

           'Which part of the car do you want to be fixed'

By contrast, when the operator is "nonreferential," then, the
effects of wh-agreement must be manifested on every predicate
along the extraction path. (Datum from Chung 1998:249.)

(132)   hafa malago'-ña   si Magdalena [pära

           what WH[obl].want.agr   Magdalena Fut

           ta-chuli' ___]

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WH[obl].agr.bring
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'What does Magdalena want us to bring'

Chung interprets these facts in light of Cinque's 1990 proposal that 'referential' (D-linked) operators need not move successive cyclically.[49] I have, however, argued that base-generation analyses suffer from various problems, and that extraction from a resumptive DP may yield equally adequate, if not superior results. Under an approach like the present one, the Chamorro facts in (131)-(132) may be interpreted in an obvious way: as an instance of non-agreement under resumption (restricted to specific contexts). Chamorro would then be the mirror image of French/Selayarese. That would also imply that Chamorro has (null) resumptives. (Chung 1998 reports the non-existence of <u>overt</u> resumptives.)[50] Whether the conclusion is tenable will have to

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[49]I here abstract away from the issue of what it means for an operator to be 'referential.' Operators are not referring expressions. They are associated with a variable, whose range of values they determine. Each instance of the variable is a referring expression, but the operator itself has no reference. Frampton 1999 shows, based in part on arguments due to Irene Heim, that referentiality, or D-linking might not be the right notion. Rather, what seems to be relevant is whether or not the trace (/copy) left by movement can be assigned an individual reading. I refer the reader to Frampton's detailed discussion.

[50]The non-existence of overt resumptives in Chamorro is elusive, given the similarity of wh-agreement with, say, Palauan.

await future research.

2.6. Conclusion

The core proposal of the present chapter is that RPs form a constituent with their antecedents upon First Merge. Resumptive chains are the results of stranding (subextraction) under A-bar movement. I have shown that the Big-DP structure proposed in (31) makes interesting and correct predictions in various domains pertaining to the interpretive consequences of resumption, the relation between resumption and clitic doubling, extraction and non-agreement. It is worth stressing that no alternative analysis of resumption is able to make such predictions. In particular, the fact that we find restrictions on resumptive chains that are very similar to those found in the realm of possessor extraction strongly suggests that the present analysis is on the right track.

However, the issue is part of a bigger problem, viz. what is the nature of the "Resumptive parameter"? It is interesting to note that unlike Palauan, Chamorro lacks wh-agreement markers in the case of topicalization (topics, being more referential, often associate with RPs). Possibly relevant is the fact that Palauan has robust agreement with definite/specific objects, while the facts are much less clear in Chamorro (Sandra Chung, p.c., informs me that only some dialects show instances of object agreement). Future research, it is hoped, will illuminate this important aspect of cross-linguistic variation.

3. On the nature of extraction

Chapter 2 was concerned mainly with laying out the groundwork for much of the present study. I hope to have convinced the reader that there is much to be gained by taking RPs as stranded elements. In this chapter I concentrate on defining as precisely as possible how resumptive chains are formed.

As we will see shortly, such a definition will necessitate a theory of extraction, i.e., of well-formed chains. In the absence of such a theory, a movement approach to RP faces a serious problem due to the fact that RPs in many (though, not all) languages are island-insensitive. At a very general level, the question we will be asking ourselves in the present chapter is, How can movement violate islands?

3.1. Preliminaries

The answer I will suggest is (important details aside) pretty much the one Ross gave in his 1967 dissertation, which established the notion of island on the agenda of linguistic theory. For Ross, movement was unbounded. Crossing an island in and of itself did not suffice to yield a deviant output. Rather, only certain _types_ of rules were sensitive to islands. Ross identified two such types: chopping rules and feature-changing rules. For them, islands constitute impenetrable domains. By contrast, copying rules are said to be insensitive to islandhood. (Interestingly enough, the copying rule that Ross discusses is resumption.)

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3.1.1. Shortest

Since Ross's study, many theories of islands have been developed, but it is fair to say that in the context of the minimalist program the very notion of island is hard to capture.[1] Since there doesn't seem to be any natural notion of 'barrier,' opaque domain, and the like, I will assume the hypothesis in (1).

(1)   movement is potentially unbounded

Clearly, movement cannot take place freely. There must be a 'deficiency' that must be eliminated by the establishment of a Probe-Goal relation. As already stated in chapter 1, a Probe-Goal relation minimally consists of a Matching Pair (P,G) which is the Shortest matching pair that can be established. I understand Shortest in such a way that it subsumes cases previously captured by the A-over-A condition (Chomsky 1964b) and by Relativized Minimality (Rizzi 1990), two very natural locality conditions (for an attempt to unify the two conditions, see Fukui 1997). Thus, a Probe α enters into a relation with a Goal β if there is no Goal γ that meets the requirement(s) of α (i.e., that matches α), and γ either asymmetrically c-commands β or dominates β. The two illicit situations are schematized in (2).

(2)   a. $[\alpha \ldots [\ldots \gamma \ldots [\ldots \beta \ldots]]]$ (γ c-commands β)

b. $[\alpha \ldots [_\gamma \ldots \beta \ldots]]$ (γ dominates β)

Once the Shortest matching pair has been established, the Probe-

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[1]Despite repeated attempts; among which, Takahashi 1994, Agbayani 1998, Ochi 1999a,b, Nunes and Uriagereka 2000, and Starke 2001.

Goal relation may or may not induce Agree between P and G. In the case of overt movement, G is remerged into the specifier of P (for XP-movement, on which I am concentrating here). Crucially, the present work departs from Chomsky 2000, 2001a,b in claiming that Remerger ('Move'/EPP-satisfaction) need not be preceded by Agree. Matching suffices. The consequences of this departure will be explored in this chapter and the next. When Remerger takes place, G is required to adjoin to each maximal head on its way to P ('Minimize Chain Links'), which gives rise to successive cyclic movement (see chapter 1).

Unfortunately, however natural, the (possibly unifiable) conditions in (2) are not sufficient to capture the locality constraints found in natural languages. As Rizzi (1990:1) himself noted, "the minimality principle [Relativized Minimality - CB] is a <u>partial</u> characterization of the locality conditions on movement" (emphasis mine).

As was clear to Rizzi, and as should be clear from the repeated attempts to offer comprehensive theories of islands based solely on versions of Relativized Minimality (an obvious move in the Minimalist Program, given the naturalness of Relativized Minimality), Relativized Minimality (or the A-over-A principle) has nothing to say about some of the most robust island effects such as the adjunct condition, which descriptively speaking bans any (overt) extraction out of adjuncts (see (3)).

(3)   *which girl$_i$ did John arrive [$_{Adjunct}$ after Bill kissed $\underline{t}_i$]

In addition, it has never been clear how the very same principle

(Relativized Minimality) may give rise to sharp distinctions in degrees of deviance among cases like (4) through (7).

(4) **Bill seems that it was told t that Mary is coming

(5) *What did who buy?

(6) *?what did John wonder how Mary cooked

(7) ??what did John wonder how to cook

(3) is a standard superraising example. (4) is a superiority violation. (6) and (7) are wh-island cases, differing only with respect to the temporal specification of the embedded clause. Standard accounts of such cases appeal to Relativized Minimality, ignoring the asymmetries among them. Perhaps surprisingly, when the latter are taken into consideration, the classic case of Relativized Minimality violation (6) is said not to fall within Rizzi's principle (see Uriagereka 1999a:440), or else Rizzi's principle is restricted to (6) and is said not to cover cases like (4) (see Ausín 2000, 2001).

In this chapter, I will take seriously the various components defining a Probe-Goal relation and show how a theory of locality can be defined upon them. The conclusion that will emerge from the discussion is that the notion of possible extraction domain cannot be defined. Nor should we impose conditions on extraction _per se_. This is so because the constraints on extraction are reflexes of constraints on agreement. In the absence of agreement (i.e., when Agree is not part of the Probe-Goal relation), 'islands' vanish. More accurately, they don't emerge.

3.1.2. Agreement

Various facts in chapter 2 show that agreement, or absence thereof should figure in any account of extraction. We have seen that in the case of possessor extraction (LBC), non-agreement correlates with extractability. Likewise, in the realm of resumption per se, complementizer alternations suggest that the role of agreement is central. To see this clearly, recall the standard observation that in Irish the complementizer is aL if a gap is left by movement (9), but aN if movement results in a resumptive chain (10). That complementizer selection is tied to movement is clear from the fact that if no movement takes place, gur (or one of its phonological variants) is used (8).

(8)   Dúirt sé gur bhuiail tú é

       said he that struck you him

       'He said that you struck him'

(9)   an   fear aL bhuail tú

       The man   C struck you

       'The man that you struck'

(10)   an   fear aN bhuail tú é

       The man   C struck you him

       'The man that you struck (him)'

The term 'agreeing complementizer' may be a residue of the fact that (9) is standardly analyzed in terms of movement, and (10) in terms of base-generation. In parallel with facts noted in Chamorro and elsewhere (see section 2.5), markers of (successive cyclic) movement were regarded as signs of (wh-) agreement. If

that is what is meant by agreeing complementizer, that notion should not be available here, given that I analyze resumption in terms of movement. But I want to suggest that there is a sense in which aL is a truly agreeing complementizer, and aN isn't. To see this, consider the following facts.

(11) an t-ainm a hinnseadh dúinn a bhí __ ar an áit

      the name   aL was-told to-us aL was   on the place

      'The name that we were told was on the place'

(12) cúpla   muireara a bhféadfá   a rá go rabhadar bocht

      couple household aN you-could say GO were   poor

      'A few household that you could say were poor'

(11) and (12) are longer versions of (9) and (10), but they reveal something which (9) and (10) could not show. As can be seen in (11), one finds a series of aL complementizers all the way down to the extraction site. By contrast, in (12), one finds only one aN, in topmost position, followed by go (an allomorph of the complementizer we find in (8)). It is this asymmetry between aN and aL that I will capitalize on to argue that aL is an agreeing complementizer. In a nutshell, I will take the asymmetry to suggest that (topmost/Probe) aL agrees with the lower copy of the wh-moved element and in so doing values all complementizers all the way down to the extraction site.[2] I will take this

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[2]I will remain agnostic as to whether agreement targets all positions, but surfaces only on some, due to rules of phonological exponence, or whether agreement targets specific sites (perhaps among the A/A-bar divide), and not others. I

valuation to be an instance of (abstract) agreement.

The distinction between aN and aL under the present analysis is analogous to the one found in the A-domain. Consider (13)-(14).

(13) Il est arrivé   trois hommes   (French)

      It is   arrived.sg three men

      'There arrived three men'

(14) Það   voru skrifaðar þrjár bækur   (Icelandic)

      There were written.pl three books

      'There were three books written'

In the French sentence in (13), the associate NP (trois hommes) fails to trigger (φ-)agreement on the finite verb, and also on the past participle. In the Icelandic sentence in (14), the associate NP (þrjár bækur) triggers (φ-)agreement on both the finite verb and the past participle. One way of stating the difference between (13) and (14) is to say that when there is an Agree relation between the Probe (finite verb) and the Goal (associate NP), the values of the probe are 'copied' onto the verbal element within the c-command domain of the Probe (on how

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haven't been able to find any decisive argument one way or the other, and as far as I can see, nothing crucial hinges on the exact analysis of complementizer harmony (although the phenomenon of complementizer harmony itself is central, as it is here taken to signal an Agree relation between the Probe and the Goal). For related discussion, see Chomsky 2001a and Frampton and Gutmann 2000, Hiraiwa in preparation.

to analyze such 'copying,' see Chomsky 2001a, and Frampton and Gutmann 2000, Hiraiwa in preparation).[3] Thus analyzed, (14) mirrors the situation in (11), and (13) that in (12). It is in that sense that aL, but not aN, is an agreeing complementizer.

As the notion of complementizer agreement is developed, we will see a pattern emerging that suggests the following: resumptive chains formed by a non-agreeing complementizer are insensitive to (both weak and strong) islands. Resumptive chains formed by an agreeing complementizer are subject to (at least strong) islands. In other words, the emergence of islands will be

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[3]Sentences like (13) and (14) have been at the core of research in the minimalist program, and the nature of agreement in such cases is still hotly debated. As such, it may be dangerous to rely on them to analyze (11) and (12). For instance, it may be that the past participle in (13) 'agrees' with the finite verb (both bear 'default' 3rd person singular morphology). This would be unlike (12), where the topmost complementizer (aN) is clearly distinct from the lower complementizer (go). I will not try to defend the idea that the past participle in (13) does not agree with the finite verb in the way that it does in (14). I hope that the reader can go beyond the controversial character of the examples at hand, and grasp the analogy I am trying to establish. (As should be obvious from the term 'analogy,' should the examples in (13) and (14) require an analysis different from the one offered in the text, the analysis of (11) and (12) given here would not necessarily be affected.)

tied to the presence of agreement.

To illustrate the role of agreement, let me contrast Irish and Scottish Gaelic. As McCloskey (1979: 29ff.) shows, Irish aN-relatives are immune to island effects, which are otherwise robust in the language. Consider the following Complex NP cases (15)-(16). (Examples from Sells 1984:200-201.)

(15) *an fear a phóg   mé an bhean a phós __ __

The man aL kissed I the woman aL married

'The man that I kissed the woman that married'

(16) an fear a bpóg   mé an bhean a phós __ é

the man aN kissed I the woman aL married him

'The man that I kissed the woman that married (him)'

The case of Irish contrasts with that of Scottish Gaelic, where strong island effects are detected with RPs, as in the following adjunct island case (17b) (17a illustrates the gap strategy). (Data from Adger and Ramchand 2000.)

(17) a. *dè an t-òran nach eil duine sam bith ag èisdeachd ri

which song   C-rel/neg is   anyone   listening   to

Iain ged   a tha e ga a'seinn

Iain although C is he singing

'which song isn't anyone listening to Iain even though he is singing'

b. *dè an t-òran nach eil duine sam bith ag èisdeachd ri

which song   C-rel/neg is   anyone   listening   to

Iain ged   a tha e ga sheinn

Iain although C is he singing it

'Which song isn't anyone listening to Iain even though

he is singing it'

By contrast, weak island effects (wh-island) disappear in the

context of resumption.

(18) a. *siud am boireanach nach eil fhios   agam   ciamar a

that the woman   not be knowledge at-me how   C

phòsadh   duine sam bith

marry-cond. anyone

'That's the woman who I don't know how anyone could

marry'

  b. siud am boireanach nach eil fhios   agam   ciamar a

that the woman   not   be knowledge at-me how   C

phòsadh   duine sam bith i

marry-cond. anyone   her

'That's the woman who I don't know how anyone could

marry her'

The crucial fact about Scottish Gaelic is that, unlike Irish, it

does not show any complementizer alternation in the realm of

resumption, forcing a series of a-complementizers to appear

(which I take, following Adger and Ramchand, to mean that

Scottish Gaelic a is the equivalent of Irish aL). The same

contrast between weak and strong islands is found in Greek

(Alexiadou and Anagnostopoulou 2000a), Romanian[4] (Dobrovie-Sorin

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[4]Although recall from chapter 2 that Romanian lacks wh-

island effects quite generally. It is here grouped with Scottish

Gaelic and Greek on the basis of the similarity it bears with the

1990) -- languages that do show inflected (wh-) complementizers in the context of resumption. (There is a third group of languages, including Vata and Serbo-Croatian, for which both weak and strong islands are felt in the presence of RPs. I come back to them in section 3.6.3.)

Although we still lack an account of why agreement should play the role it appears to do in the context of islandhood, I take the above facts to strongly suggest that the connection between agreement and islandhood is an important one.

As a matter of fact, the effect of agreement on extraction has already been recognized in previous works, albeit in a very different light, and much less emphatically than in the present chapter. Thus, in a number of languages which mark subject agreement on the verb, either the marker is dropped or it is replaced by a default marker when the subject undergoes focus movement (including wh-extraction). For instance, Finer 1994 observes that in Selayarese the subject clitic is dropped when the subject is focused, and is replaced by an intransitivizer. Compare (19) and (20). (If an intransitivizer appears, no object clitic can be realized on the verb, so $\underline{i}$ in (20) would be the appropriate subject clitic.)

(19) la-alle-i   doe iñjo i   Baso
      SCL-take.PST-OCL the money the Baso
      'Baso took the money'

(20) i BASO   (a)ng-alle-i   doe iñjo

latter (more on which in section 3.6.2).

the Baso INT-take.PST-SCL the money

'It was Baso who took some money'

Likewise, as originally noted by Brandi and Cording 1989, in Fioretino and Trentino subject clitics, which cannot otherwise be omitted (21), must be dropped, and replaced by an impersonal clitic when the subject is focused and appears post-verbally (22),[5] or is wh-moved (23). (Data from Fiorentino, adapted from Brandi and Cordin 1989:121-122; 124-125.)

(21) La Maria l' è venuta

the Maria she is come

'Maria came'

(22) gli è venuto la Maria

it is come   the Maria

'Maria came'

(23) a. quante   ragazze gli è venuto con te

How-many girls   it is come   with you

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[5]Non-agreement with post-verbal subjects is a wide-spread phenomenon. For further examples, see Costa 2001 (for Colloquial European Portuguese), and Rigau 1991, 1994 (for Catalan). For further discussion of the interaction of subject-agreement, post-verbal subject, and subject wh-movement, see Kenstowicz 1989, Kinyalolo 1991, and, from a broader perspective, Ouhalla 1993, Watanabe 1996, Richards 1997, and Samek-Lodovici 2000.

Hermon 1985 observes that impossibility of post-verbal subjects in embedded clauses Quechua correlates with that-t effect (although pro-drop is possible in such contexts.)

'How many girls came with you'

    b. *quante   ragazze le   sono venute con   te

       How-many girls   they are   come   with you

Brandi and Cordin take the facts in (23) to support the idea that
subjects extract from their post-verbal positions. This idea is
put to good use in Rizzi 1982 to account for the absence of <u>that-
t</u> effects in Italian.[6]

(24) chi hai detto che __ e partito?

     Who has said that   is left

    'Who did he say that left'

In the context of Government-and-Binding, Rizzi 1982 took this
fact as evidence that subject extraction across C_{that} was possible
from a properly governed (VP-internal) position. However, in
light of the LBC facts discussed in section 1, an alternative
approach suggests itself, viz. non-agreement eases extraction.
That non-agreement correlates with post-verbal subject position
is an interesting fact in itself. But in a framework like the
Minimalist Program which does not appeal to any form of proper
government, non-agreement (as opposed to structural position)
appears to be the only relevant factor.

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[6]It is worth pointing out that a subject clitic surfaces in
Modenese in the equivalent of (24) (example from Safir 1986:339;
attributed to Maria Rita Manzini.)

(i)   che   ragas di-t   che *(a) chiama?

    which boys say-you that CL class

    'Which boys did you say call?'

Let us now proceed to cases of subextraction distinct from the LBC discussed in chapter 2, and show that here too agreement appears to play a role.

Consider the case of Basque. Extraction out of objects in Basque is as bad as extraction out of subjects in English. (Data from Uriagereka 1998:395)

(25) *nori buruzko sortu zitusten aurreko asteko istiluek

who about-of create scandals last week scandals

zurrumurruak?

rumors

'Who have last week's scandals caused [rumors about t]'

One possible explanation for this state of affairs is to say that Basque objects are raised, and hence become opaque domains, by some version of Huang's 1982 Condition on Extraction Domain (CED), or via Takahashi's 1994 chain uniformity (see Ormazabal, Uriagereka, and Uribe-Etxebarria 1994 for an approach to Basque extraction very similar to Takahashi 1994). But note that Basque objects stand out in another respect: they trigger overt agreement on the verb. Could it be that extraction is disallowed out of agreeing DPs?

In short, it appears that agreement and extraction are intertwined in a way which I think has not been explored in a systematic way. The goal of the present chapter is, in part, to remedy this fact.

3.2. The Case of Wh-phrases

In what follows I will argue that the connection between

agreement and extraction should be related to a more familiar problem in the context of the minimalist program: that of Case-checking under wh-movement (here and elsewhere, I use Case as a cover for Case/agreement checking). When and how is Case checked by the moving wh-phrase?

The issue is less innocuous than it appears. Thus, we can no longer simply say, as did Kayne 1989, Ura 1993, and others, that a wh-phrase checks Case by moving through some specifier position on its way to its final landing site, as depicted in (26).

(26) [what$_i$ does John [$_{AGR_O}$ [like <what$_i$>]]]

As Chomsky 1995 and subsequent work has shown, there is massive evidence that Case (and agreement) can be checked without categorial movement. As a matter of fact, Chomsky has emphasized over the years the conclusion that overt Movement is triggered by an EPP-property (or, equivalently, the strength of some feature F; see chapter 1). Why should a Case feature on a Case-checking head be necessarily strong in the context of overt wh-movement? As Uriagereka (1999a:431) observes, the question is even more acute once we take into consideration the fact that in the vast majority of cases of A-movement, an element is 'frozen' upon moving to the specifier position of its case-assigner (e.g., *John seems [t is happy]). The evidence for such a freezing effect has led Chomsky (2000:123) to claim that

"it is structural Case that enables the closest goal G to select P(G) to satisfy the EPP by Merge. Thus, if structural

Case has already been checked (deleted), the phrase P(G) is "frozen in place," <u>unable to move further to satisfy the EPP in a higher position</u>." (emphasis mine).

Note, now, that such a condition like the one just described has the effect of freezing wh-phrases in their Case-related EPP positions. Several possibilities around the problem have been pursued in the context of the minimalist program, none of them fully satisfactorily.[7] Uriagereka (1999:431) lists at least two possibilities which languages might resort to in order to meet all relevant checking requirements. One consists in raising the Case checker (say, AGRo) to C^0, thereby allowing for all-at-once checking (Case checking in COMP was first suggested in Kayne 1984). The other is split the feature bags into Case and Operator features, and allow distinct probes to target specific features without affecting others. Again, the proposals run afoul of some minimalist tenets. Thus, the first option suggested by Uriagereka is problematic for current conceptions of the syntactic cycle, especially for the Virus theory of strong features, which demands immediate checking of a strong feature upon its introduction into the phrase marker (see (18), chapter 1). The second option is at

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[7]Most of Chomsky's arguments rely on a global notion of economy, which is at odds with other minimalist desiderata, as Collins 1997 as argued. Some of them, like Bošković's (1997:4.4.2.1), which capitalizes on feature movement out of copies, clearly have undesirable consequences for the notions of chain, checking, cycle, etc.

odds with Chomsky's (1995:265) claim that feature-movement automatically pied-pipes the whole feature bundle. However, given that Chomsky does not offer any empirical argument in favor of his position, it is not clear that feature scattering is unavailable.[8] But I think that Uriagereka's second proposal suffers from a more serious techinical objection: the problems associated with feature movement,[9] which led Chomsky 2000 to

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[8]Chomsky speculates that the ban on feature-scattering may be a PF-output condition. This ban may be reinterpreted in the present context as follows. A strong occurrence (S-OCC) demands the presence of a complete feature set, as only the latter can be defined as a category (categories are standardly taken to be feature bundles). If an S-OCC demands a category (in its specifier) -- the EPP property -- it follows that the whole feature bag is required to raise, and may not be subsequently split. (That will entail that for splitting of α to take place, α must be "complex enough," in a sense that I make precise below.)

[9]I will not go into these problems here. The most serious one is how to define a feature chain and the related notion of categorial deficiency. In a copy theory of movement, it is not clear how a category becomes deficient once a feature has been copied onto another element. If the copy theory is assumed (and it seems to be the null hypothesis), the category never loses any of its features via feature movement. Further, if feature chains reduce to head-chains (as Chomsky 1995 claims), feature-movement inherits all the problems of head-movement that led several

dispense with it in favor of Agree. In an Agree-based framework, there does not seem to be any natural way of restating feature-scattering processes like the one Uriagereka appeals to. Finally, Uriagereka's feature scattering seems too general. It suggests that category splitting will be available for any wh-phrases. However, as I have shown in chapter 2, resumption (which I argue corresponds to the splitting of a big DP) is restricted to D-linked wh-phrases only.

Nevertheless, I think that Uriagereka's proposals can be cashed out in a natural way once we are willing to dispense with a strictly derivational framework like the one he assumes (essentially that of Uriagereka 1999b), and to adopt a more refined structure for (at least some) wh-phrases along the lines proposed in chapter 2.

3.3. On chains that are too strong

The problem that I just formulated has already been addressed in a somewhat different light by Richards 1997. Examining a wide range of apparently unrelated phenomena, Richards formulates a condition on what constitutes a legitimate chain at the interface. His first principle is given in (27).

(27) PF must receive unambiguous instructions about which part of a chain to pronounce

Richards argues that (27) must be understood in conjunction with the principle in (28).

(28) a strong feature instructs PF to pronounce the copy in a

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researchers to doubt the existence of the latter.

chain with which it is in a feature checking relation. Richards notes that (27) and (28) impose certain restrictions on the possible operations which can be performed in overt syntax. (From now on, I will focus on 'overt' movement, the only relevant domain in the case of resumption.) In particular, the conditions just stated render illegitimate any chain containing more than one 'strong' positions. However, when carefully considered, (27) and (28) do not constrain operations within narrow syntax. They only constrain their outputs. As such, they are to be seen as Interface Conditions, possibly subsumed under Full Interpretation.[10] In chapter 1, I proposed a Principle of Unambiguous Chain (PUC) that demands that Chains be defined unambiguously. A chain is unambiguous if it contains at most one

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[10]Thus stated, the whole approach I am defending seems to rely on an Output Filter, which is at odds to what seems to be the more desirable option of 'Crash-Proof Syntax' recently developed by Frampton and Gutmann 1999, 2001. (Frampton and Gutmann distinguish between Output Filters and (Derivational) Constraints. Rejecting the former, they investigate the possibility of designing a model of syntactic computation which ensures that there be no Crash. Whatever option is taken, there will always be a further option leading to convergence. Although I will not frame the discussion to follow in their terms (in particular, I will often use the sloppy phrase 'PUC violation'), a restatement of what I say here in terms of Crash Proof syntax can easily be done.

strong occurrence (S-OCC; i.e. EPP-position.) The approach to successive cyclicity formulated in chapter 1 reduces the application of the PUC considerably. Current views on successive cyclic movement hold that intermediate links are formed "strictly cyclically" (as soon as the relevant tree portion is formed), driven by EPP-properties. If that were the case, any instance of successive cyclic movement would violate the PUC, if the EPP-property is understood in terms of occurrence (see Chomsky 2001a:40). But, if successive links are formed as part of the operation raising α to the specifier of its ultimate landing site, as discussed in chapter 1, chains will typically contain only one EPP-checking position, and thus be unambiguous.

There are two cases where the PUC is directly relevant. One is raising from a Case checking position to another Case checking position ('hyperraising'). The other is the issue discussed above: wh-movement of an argument which must satisfy the EPP-property of its Case checking site before landing into SpecCP (if the Case of the wh-phrase is weak, the PUC is irrelevant, as the chain formed by overt A-bar movement in this case will only contain one S-OCC). Hyperraising cases like (29) are standardly taken to be impossible (but see Ura 1994, 1996, 1998 for cases of 'hyperraising.' However, see my cautionary note in chapter 2 note 1.)

(29) *John$_i$ seems [$\underline{t_i}'$ is [$\underline{t_i}$ clever]]

$$(CH(\underline{John}) = \{T_{seem}{}^*, T_{is}{}^*, Adj_{clever}\})$$

The fact that hyperraising gives rise to a deviant output is

evidence for the PUC. But the PUC appears to rule out non-deviant outputs like (30).

(30) [$_{CP}$ who$_i$ [$_{TP}$ $\underline{t_i}'$ [$_{VP}$ $\underline{t_i}$ left]]]   (CH($\underline{who}$) = {C*,T*,V})

Assuming that $\underline{who}$ has raised from SpecTP to SpecCP (satisfying two EPP-properties), its chain is defined as {C*,T*,V}. The chain is clearly ambiguous in the above sense. We thus face a problem. One could try to deny that short subject questions involve movement from SpecIP to SpecCP, perhaps a reflex of a general ban on vacuous movement (as in Chomsky 1986b).[11] But the problem is

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[11]The ban on vacuous movement is problematic, as it should rule out subject raising in English from Spec$\underline{v}$P to SpecIP, given that absence of main V-raising renders such movement vacuous, which is clearly undesirable empirically. Further, there are at least two pieces of evidence that suggest that subjects do raise to SpecCP in contexts like (30).

David Pesetsky has observed (class lectures, MIT, Fall 1999) that if his 1987 generalization that the aggressively non-D-linking phrase $\underline{the\ hell}$ indicates movement to SpecCP (contrast (i)-(ii)), then subject wh-phrases move to the C-domain, as they combine with $\underline{the\ hell}$ ((iii)).

(i)   what the hell did you see?

(ii)   *what did you give to who the hell?

(iii)   who the hell bought a book?

Also, Howard Lasnik has observed that subject wh-phrases can appear in (matrix) sluicing contexts. If sluicing is IP-deletion (the standard view; see Lasnik 1999b; Merchant 1999), then

more general. The PUC rules out (31), where <u>who</u> has clearly moved

into two strong positions.

(31) $[_{CP}$ who$_i$ do $[_{IP}$ you $[_{VP}$ think $[_{IP}$ <u>t$_i$</u>' $[_{VP}$ <u>t$_i$</u> left]]]]]

   $(CH(\underline{who}) = \{C^*, I^*, V\})$

To rule in such sentences, I will develop a twofold solution that

will turn out to have wide repercussions in the realm of A-bar

chains and chain composition more generally. I will assume that

an ambiguous chain may be turned into an unambiguous in one of

the following two ways. (Here and below, I sloppily refer to a

disambiguation of chains. The reader should bear in mind that the

syntactic ways of rendering a chain unambiguous are indenpendent

of the PUC, which is an interface condition. See note 10.) One

way consists in establishing an Agree relation between S-OCCs.

That is, Agree may turn what would be a deviant output at the

interface like $\{\alpha^*, \beta^*, \gamma\}$ into a non-deviant one like $\{(\alpha, \beta)^*, \gamma\}$.

The latter instructs the interface to treat α and β as a unit,

and to pronounce the relevant element ε as a sister of α. The

other way of avoiding a PUC violation is for the element ε to be

complex so that part of it may satisfy the EPP-requirement of α,

and another part the EPP-requirement of β. Such splitting exists,

under the guise of stranding, which I argued at length in chapter

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subject wh-phrases at least can appear in SpecCP, given the

grammaticality of (iv). (The null hypothesis would then be that

they always do.)

(iv) A: Someone left

   B: (I wonder) who $[_{IP}$ ~~t left~~]?

2 underlies familiar instances of resumption. Thus, suppose that ε is complex, and consists of (π,δ). If π checks the EPP-requirement of β, and δ the EPP-requirement of α, then, we have two chains CH(π) = (β*,γ) and CH(δ) = (α*,π), neither of which is ambiguous. For such splitting to take place, it is imperative that there be no EPP-property holding of π and satisfied by δ. If there were, CH(δ) would be ambiguous, and chain-splitting (i.e., stranding) of no avail to meet the PUC.

If I am correct, Agree among EPP-holders or stranding must be involved any time an element must satisfy two (or more) EPP-requirements. The Agree-option is not readily available in the realm of A-movement of the standard sort, for reasons that are reasonably clear: the EPP-holders to be related by Agree are typically featurally identical (say, two finite T's). There is thus no sense in which one can probe the other. Contrast this with a typical probe-goal relation: finite T with [-interpretable] φ-features finds a matching DP with interpretable φ-features. In terms of interpretability, the probe-goal relation is asymmetric. This cannot be the case if Agree related two identical elements like, say, two finite T's. They would not complement each other.

Stranding thus seems to be the only option available if an A-chain fails to satisfy the PUC. The cases discussed by Ura 1994, 1996, 1998 under the rubric of copy-raising (here illustrated from Haitian) arguably correspond to this scenario. Consider (32), with the derivation in (33) (some details, such as

successive movement steps omitted).

(32) Jan sanble [li te renmen Mari]

    Jan seems   he Pst love   Mari

    'Jan seems he loved Mari'

(33) Jan$_i$ sanble [[$_{DP}$ [$_D$ li] $\underline{t}_i$]$_j$ te [$\underline{t}_j$ renmen Mari]]

As (33) illustrates, two chains are formed, each containing one

strong position only, in accordance with the PUC (CH$_{li}$ =

{T$_{te}$*;V$_{renmen}$}; CH$_{Jan}$ = {T$_{sanble}$*;li}). In the absence of resumption,

movement of $\underline{Jan}$ from embedded SpecTP to matrix SpecTP would

violate the PUC (the hypothetical chain would be CH$_{Jan}$ =

{T$_{sanble}$*;T$_{te}$*;V$_{renmen}$}).

Interestingly, in situations where one of the A-type EPP-

holders is φ-deficient in a sense which the other EPP holder

isn't (i.e., when there is an asymmetry between the two EPP-

holders), hyperraising appears to be possible, as seems to be the

case with raising out of subjunctive complements (see Alexiadou

and Anagnostopolou 1998, Uchibori 2000, and Uriagereka 2001b on

the defective character of subjunctive T). Consider the following

example from Greek (taken from Alexiadou and Anagnostopoulou

1998), and the corresponding derivation in (35).

(34) ta pedhia$_i$ dhen fenonte   na $\underline{t}_i$ doulevoun

    the children not seem.3.pl SUBJ   work.Pres

    'The children do not seem to work'

(35) ta pedhia$_i$ dhen fenonte [na $\underline{t'}_i$ T^0$_{Subj}$ [$_{VP}$ $\underline{t}_i$ doulevoun]]

    CH$_{[ta\ pedhia]}$ = {T$_{fenonte}$*;T$_{Subj/defect}$*;V} -> {($_{Agree}$ T$_{fenonte}$;T$_{Subj}$)*;V}

As (35) schematizes, the Agree relation between matrix and

embedded T, made possible by the defective character of T_{subj}, turns a PUC-violating chain into one containing only one (composite) S-OCC.

In the realm of A-bar movement, I will provide substantial evidence that both Agree and Stranding are available. The two options, however, do not have the same properties. In particular, as I will show, the Agree option is much more limited, inheriting standard constraints on agreement (inability to reach into adjuncts, inert to inherent Case, etc.). The splitting (/stranding) option is constrained in a different way. For a chain to be split, the element α must be "complex enough." The minimal complexity required here is that α be a phrase that is not at the same time an X^0 and an XP (recall that the latter possibility is allowed within Bare Phrase Structure; see Chomsky 1995). Put differently, α must be branching. (If α weren't "complex enough", multiple checking would require feature scattering, and thus feature movement, which I take to be unavailable.) It should be clear that the requirement that α be complex enough to be split ensures that resumption will only be available for elements that are complex enough (D-linked wh-phrases as opposed to simplex wh-phrases).[12]

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[12]Thus conceived, resumptive chains pose an interesting question: In the absence of an Agree relation between the Case-checking site and the moving wh-phrase, what happens to the Case of the moving element? How is it checked? (Note that this question is not unique to the present analysis. All base-

generation analyses must face it too.)

The question is settled if we assume that the relevant Case feature is found on D, not on the NP complement, as has often been suggested. If so, no Case checking is required of the moving wh-phrase. Alternatively, one may adopt the more radical claim that the Case requirement of the moving element need not be checked (as Chomsky 2000:123 suggested). Kayne (2000:165f.) points out that gapping may offer some evidence for this claim if we adopt Johnson's 1994 analysis. (See also Lin 2000.)

Johnson suggests that a sentence like (i) is derived by Across-The-Board movement of the verb, with the second conjunct lacking a T-layer, as represented in (ii). (I simplify the labels in (ii) somewhat, and departs from Johnson's claim that the verb ATB-moves to T^0, which seems to be problematic in the case of English main verbs.)

(i)   John reads Plato, and Mary Aristotle

(ii) $[_{IP}$ John$_i$ Infl $[_{XP}$ $[_{X'}$ reads$_j$ $[_{VP}$ $\underline{t}_i$ $[_{v'}$ $\underline{t}_j$ Plato$]]$, and $[_{VP}$ Mary

      $[_{v'}$ $\underline{t}_j$ Aristotle$]]]]]$

As noted by Kayne, in the absence of a T-layer in its domain, the subject in the second conjunct plausibly lacks Case. Yet the sentence in (i) is grammatical. So absence of Case on the NP in the second conjunct does not lead to a Case filter violation, which suggests that Chomsky's 2000 conjecture that for checking purposes what is primary is not structural Case itself but the ϕ-features of the head (T/$\underline{v}$) the argument interacts with. Put

It also follows from the Agree option that we will see a feature-sharing relation among heads if resumption (splitting) is not the option that happens to be chosen to meet the PUC. That will stand us in good stead when it comes to the contrast noted in (11)-(12) above.

On a more general level, the PUC allows us to capture the long-standing intuition that resumption is a Last Resort operation. In the present context, resumption is a Last Resort way of forming unambiguous chains. Note the a in "a Last Resort way." As the data from Irish, Hebrew, and other languages show, resumption is but one option of forming A-bar chains in various contexts. As such, we would not want to say that this is the only option available. Such a statement is only true in contexts where

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differently, failure to check Case on <u>Mary</u> does not lead to a crash (the features of Infl are checked against those of <u>John</u>). Under this approach, what matters is what Howard Lasnik dubbed the Inverse Case Filter (the requirement that the {(Case/)φ-} features of the probe be checked). (For extensive discussion of the inverse Case Filter, see Bošković 1997, Martin 1999, and Boeckx 2001a.)

A closely related proposal is made by Frampton and Gutmann 2000, 2001, who take Case to be assigned in the PF-component, and as such to be absent from syntactic computations.

Choosing among the three alternatives listed here goes beyond the scope of this study. Each view has some merits, but also faces difficulties which require thorough discussion.

Agree is not available (for instance, strong islands, as we will see below). Within domains accessible to Agree, languages (assuming that they have the relevant elements) may resort to either Agree or Splitting/resumption (depending on which features one finds on the probe upon selection from the lexicon). I take it to be a welcome feature of the present theory that it enables us to capture the fact that resumption is _an_ option, but one that is needed to meet Interface Conditions (i.e., it is a Last Resort option).

Briefly summarizing, standard (i.e., unambiguous) chains are formed by direct Agree (Agree between the Probe and the Goal). Ambiguous chains are 'disambiguated' via indirect Agree (Agree among S-OCCs) or splitting of checking tasks (resumption).

3.4. **The basic cases**

Having introduced the basic mechanisms of chain formation, let me now proceed to show how they work. I trust the reader will have gathered by now that it is a consequence of the present theory that resumption will only be used in contexts where more than one EPP-feature has to be satisfied. As I said above, this is the case in situations where the A-bar moving element must move through an A-position with an EPP property. If I am right, all elements linked to an RP must also be associated with a strong Case checking head. This is a very strong claim, but one which appears to be met.

3.4.1. **Prepositional objects**

Take the case of prepositional objects. It is (often

tacitly) assumed that the Case of prepositions (P-Case) is strong. Assume that is true. In line with the assumptions of chapter 1, which equate strength and EPP, one may hypothesize that objects of prepositions (necessarily) raise to some specifier position (say, SpecAGRp), followed by movement of the preposition to some still higher position, as schematized in (36).

(36) $[_{XP} P_j [_{AGRp} NP_i [_P \underline{t}_j \underline{t}_i]]]$

Such an analysis has been proposed for at least some prepositional objects in Watanabe 1993, Koopman 1996, 1999, Bošković 2001a, and could be incorporated here straightforwardly. Alternatively, one could treat the Case of prepositions as inherent, and say that inherent Case is a feature that automatically turns the complement of P into an S-OCC. Treating the Case of prepositions as inherent makes an interesting prediction. While most languages disallow movement out of PPs (P-stranding), English (and a handful of other languages) allows it. Following a line of research initiated by Hornstein and Weinberg 1981 and Kayne 1983, one may reinterpret this parametric difference as saying that P-Case is structural in English, but inherent in other languages. This distinction has important consequences for A-bar chain formation, assuming that inherent Case does not participate in ϕ-feature sharing (see the discussion of possessor extraction in chapter 2.) If P-Case is strong (if P is necessarily P* for its complement), and furthermore inherent, no Agree chain will be able to be

established between P* and any higher S-OCC (say C*). P-stranding will be unavailable. By contrast, Agree will be possible if P-Case is structural. The P-stranding option just described is schematized in (37).

```
         |---------------------------|
(37)   [ [C* [ ... [PP P* NP]]]]    (P* = structural Case)
         |___Agree___|
```

The fact that (perhaps all) languages using genuine resumption lack P-stranding and make extensive use of RPs functioning as objects of prepositions can be interpreted as support for the way chains are assumed to be formed in the present theory. If lack of P-stranding means inherent Case, and unavailability of Agree, the only way to meet the PUC is via stranding. This is illustrated in (38). (Here and throughout, I use the term 'Match' to mean 'pure Match' (i.e., Match in the absence of Agree). Srictly speaking, Match is involved in both 'pure Match' and in 'Agree' relations.)

```
         |---------Match---------------|
(38)   [ [C* [ ... [PP P*     [D [NP]]]]]]  (P* = structural Case)
                 |Agree_|
```

Alternatively, the S-OCC nature of P* and the problem it poses for the PUC may be by-passed if the whole PP, as opposed to P's complement, enters into a Probe-Goal relation with C*. In that case, no chain violating the PUC will be formed, as schematized in (39).

```
(39)   [ [C* [ ...     [PP P* NP]]    (P* = inherent Case)
                 |___Agree___|
```

a. $CH_{NP} = \{P*\}$

b. $CH_{PP} = \{C*\}$

The option just sketched corresponds to the well-known pied-piping strategy. I confess not to have a good grasp of all the factors involved in pied-piping. In particular, it is not clear to me how the relevant operator feature contained in the complement of P comes to be 'shared' by the whole PP. But that is arguably a more general problem regarding pied-piping, and I will not attempt to solve it here. However, it may be interesting to note, with van Riemsdijk (1994:340), that both pied-piping (and here I include clausal pied-piping) and resumption are more common in relative clauses than in questions.[13] That both strategies arise as alternative ways to meet the PUC is encouraging from the perspective of the present theory, which

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[13]This seems to be the general pattern (see Browning 1987). However, Uriagereka (1988:96) observes the opposite tendency in Galician. As (i)-(ii) illustrate, pied-piping appears to be more restricted in relative clauses than in questions.

(i)   contos   sobre de quén me vas   contar

       stories about of who me go.you tell

       'Stories about whom are you going to tell me?'

(ii) *farruco é o   home contos sobre de quén che hei   contar

       Farruco is the man stories about of who that have-I tell

       'Farruco is the man stories about who I will tell'

The nature of the relevant parametric variation is far from clear.

regards pied-piping ('Agree' (with PP)) and resumption (stranding) as two sides of the same coin (formation of well-formed chains).

3.4.2. Bare objects

Turning to direct objects, the hypothesis that resumption arises as a Last Resort strategy to meet the PUC leads me to conclude that all objects resumed by a pronoun are required to meet an EPP-property prior to that found on the final C-probe. Put in slightly different terms, I am led to conclude that all those objects undergo object shift, or some related process.[14] It is worth recalling at this point that resumption is associated with specificity, D-linking, and definiteness, notions that have also been associated with Object Shift (see especially Diesing 1997; Diesing and Jelinek 1995). More to the point, an operation like Object Shift has been independently documented in languages where resumption is productive: Irish (Bobaljik and Carnie 1996); Hebrew and several varieties of Arabic (Shlonsky 1997), Welsh (Koopman 1999), Serbo-Croatian (Bošković 1997, 2001a, Stjepanović 1999), Greek (Alexiadou and Anagnostopolou 1997), Palauan (Georgopoulos 1991), and more generally languages that have resumptive clitics. It is indeed a robust fact about languages that pronouns and definite elements appear higher in the

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[14]To put it differently (using terminology that will be introduced shortly), I predict that no language should combine the following properties: a non-agreeing complementizer, obligatory object shift, and no RP.

structure than indefinite ones.

The point I am making is best illustrated on the basis of an example. I will use data from Colloquial Czech, relying on Toman's 1998 description. Unlike Standard Czech, Colloquial Czech introduces relative clauses by use of an invariant complementizer (co), in addition to the standard wh-pronoun strategy. When the invariant form is used, resumption is possible in well defined contexts. The basic facts appear in (40)-(41).

(40) a. muž kterému nikdo nevěří   (Standard Czech)

        man to-whom nobody not.believes

        'The man who nobody believes'

     b. chlap, kerýmu nikdo nevěří   (Coll. Czech)

        man   to-whom nobody not.believes

(41) chalp, co   mu   nikdo nevěří

     man   that to-him nobody not.believes

     'The man that nobody believes (him)'

As in Irish, Hebrew, and many other languages, RPs are insensitive to both strong and weak islands in Czech. Witness (42)-(43). (Corresponding sentences with wh-pronouns and no RPs are ungrammatical.)

(42) to   je ten chlap , co ted' nevím,   jesli   sme   mu

     this is the guy   C now I.not.know whether aux.1 him.Dat

     nedali   dva lístky

     we.not.gave two tickets

     'This is the guy that I now don't know whether we didn't give him two tickets'

(43) to je ta ženská co sem ti   dal ten časopis co v

    this is the woman C aux.1 you.Dat gave the magazine C in

    něm byla její fotka

    it was her picture

    'This is the woman I gave you the magazine that had her

    picture in it'

Toman observes that relativization of an indirect object (dative, genitive, and instrumental) requires the presence of a pronominal clitic in co-relatives.[15] Animate objects also require (or very strongly prefer) the presence of an RP, as originally noted by Browne 1986 for Serbo-Croatian (see also Goodluck and Stojanović 1996). Contrast (44) and (45). (No such contrast is attested for subjects, to which I return below.)

(44) to je ta kniha co vidě __ na stole

    this is the paper C they.saw on table

    'This is the paper that they saw on the table'

(45) to je ten chlap co ho viděli v tramvaji

    this is the guy   C him saw   in streetcar

    'This is the guy that I saw him in the streetcar'

It is significant that we find an animacy requirement on direct object RPs. As is well-known, various languages mark certain

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[15]Recall Pollock's observation reported in chapter 2 note 36 that dative clitic resumptives in French relatives, though marginal, are more readily available than accusative RPs. More generally, clitic doubling configurations are more common with datives than with accusatives.

direct objects with a 'dative-like' adposition. (Recall in this context Fox's 1994 proposal mentioned in chapter 2 to analyze the Hebrew direct object RP <u>oto</u> as the combination of the accusative marker <u>et</u> and the bare pronoun <u>hu</u>.) Enç 1991 provides evidence that objects in Turkish appear in different positions, depending on whether they are specific or not, as shown in (46)-(47).

(46) Ali bir kitab-i̵ aldi̵

     Ali one book-Acc bought

     'a book is such that Ali bought it'

(47) Ali bir kitap aldi̵

     Ali one book bought

     'Ali bought some book or other'

Likewise, Mohanan 1990 and Mahajan 1992 observe that in Hindi some direct objects may be associated with the dative postposition <u>ko</u>.

(48) ilaa-ne bacce-ko ut̲ʰaayaa

     Illa   child-KO lift

     'Illa lifted the child'

Similarly, in Spanish, direct objects may be preceded by the dative-marker <u>a</u>.

(49) Ana levantó a un niño

     Ana lifted A a child

     'Ana lifted a child'

As Torrego 1998 observes, <u>a</u>-marking of objects in Spanish is by no means arbitrary. In particular, it is found in contexts of clitic doubling, specific objects, telic readings of predicates,

agentive subjects, affected objects, and animate objects (see also Brugè and Brugger 1996 for valuable discussion). The latter property, which is relevant in the context of the Czech data above, is illustrated in (50).

(50) a. compraron   a un testigo

      they.bought A a witness

      'They bought a witness'

    b. compraron   (*a) una casa

      they.bought   A   a   house

      'They bought a house'

To capture the various restrictions just noted, Torrego proposes that objects marked by $\underline{a}$ raise overtly to Spec$\underline{v}$P. In other words, they undergo Object Shift. Likewise, Mahajan 1992 argues that $\underline{ko}$-marked objects undergo overt Object Shift, and so does Ençç on the basis of Turkish data. Such proposals lend support to the present approach to resumption, which requires overt Object Raising (EPP-satisfaction) for resumption to be a Last Resort operation. I stress that overt Object Raising is a necessary, but by no means a sufficient condition for resumption.[16] As we will see below,

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[16]To take an obvious example of a language exhibiting Object Shift, Icelandic, nothing I have said so far predicts the existence of RPs in the language (such a prediction becomes possible only when the properties of the complementizer system are identified.) Smidts (1988:161) documents some cases which may be regarded as instances of resumption, as in (i).

(i) þessi hringur, Ólafur hefur lofað   Maríu honum

resumption also requires a Matching (as opposed to an Agreeing) complementizer. Thus, it is possible for languages to show overt object shift, and yet show no sign of object RPs. The prediction, then, is that in such languages, an Agree-chain between C and (say) AGRo will have to be established, subject to various island effects, as we will see shortly.

3.4.3. Subjects

With a few exceptions, the discussion so far has centered on RPs found in internal argument positions. Subject RPs were left out of the picture. There is a good reason for this: many languages prohibit RPs in subject positions. The following examples from Irish, Welsh, Hebrew, and Palestinian Arabic illustrate this ban.

(51) a. *an fear a raibh sé breoite   (Irish)

       the man aN was   he ill

       'The man that was ill'

   b. *y   dyn a welodd ef fi   (Welsh)

       the man C saw   he me

       'The man who saw me'

   c. *ha-ʔiš še- hu ʔohev ʔet Rina   (Hebrew)

       the man that he loves ACC Rina

       'The man who saw Rina'

   d. *I-bint   ʔilli hiy raayha al beet (Palestinian Arabic)

       The girl that she going to house

---

       this ring   Olaf   has   promised Mary   it

       'This ring, Olaf has promised it to Mary'

'The girl that is going to house'

The subject restriction on RP has attracted a lot of attention in the literature (see especially Aoun and Li 1990, Borer 1984a, and McCloskey 1990). An account based on a version of the Avoid Pronoun Principle (Chomsky 1981) is very tempting. Many of the languages under discussion are _pro_-drop languages, and would therefore favor null _pro_s over _overt_ subject RPs. If that were the case, there would be nothing to explain under the present theory. In particular, there would be no need for an anti-locality principle of the type proposed in McCloskey 1990, Borer 1984a, and Aoun and Li 1990, which prevents a pronoun from being A-bar bound if its antecedent is too close (in the most immediate SpecCP).

However, despite its initial appeal, an account relying on pro-drop is to be rejected on various grounds. First, the languages under discussion are not uniformly _pro_-drop. In particular, as noted by Borer 1984a, languages like Hebrew impose severe (person, tense) restrictions on when _pro_-drop is allowed, and yet the ban on subject RPs is quite general in the language. (Borer also observes that _pro_-drop is generally optional, and thus departs from the obligatoriness of a subject gap here, but that may be a Montalbetti effect (Montalbetti 1984), which demands _pro_ to be used as a bound pronoun whenever possible.)[17]

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[17]One also finds cases of _pro_-drop languages that do allow for subject RPs. Suñer 1998 reports the following case from (Latin American) Spanish.

A second, and more compelling reason for rejecting a pro-drop account is that the ban on subject RPs is lifted in several contexts. In particular, the ban is inert in long distance cases, as the following example from Irish (from McCloskey 1990) illustrates. (A similar fact obtains in Hebrew, as originally noted by Doron 1982; see also Borer 1984a.)

(52) an fear ar dhúirt mé go dtiocfadh sé

     the man C said   I C would-come he

     'The man that I said he would come'

Hebrew offers another context where a subject RP is allowed.[18] If

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(i)   conozco a un tipo que él me aconseja a mí

     know   A a guy that he me advises to me

     'I know a guy who advises me'

However, Suñer does not say whether él is contrastively focused or not. (I was unable to check as none of my informants accepted (i).) If it is, we might be dealing here with an intrusive, not a genuine resumptive pronoun.

[18]McCloskey 1990 provides a third context in which subject RPs are allowed in Irish: coordinated structures.

(i)   duine ar bith a mbeadh   sé féin agus Tom mór   le-n a

     anyone   C would-be he EMPH and Tom great with each

     chéile

     other

     'Anybody that he and Tom would be very fond of one another'

An Agree-based account of the highest subject restriction on resumption would be able to capture the exceptional character of

Coordinated subjects. Here the extractee is only part of the element triggering agreement on Infl, which means that C does not exclusively agree with it by agreeing with Infl. However, as the morphology of the pronoun indicates, we seem to be dealing here with a strong/focused form of the pronoun, which I suspect is not a genuine RP, but rather an intrusive pronoun. (See section 4.5.2 for further discussion.) The intrusive character of the RP in this case suggests that more than constraints on Agree is needed to capture Coordinate Structure Constraint effects.

Yael Sharvit (p.c.) informs me that a stressed pronoun can be used in a similar circumstance in Hebrew. In that case, she feels that the pronoun is used solely to avoid a bad structure. In her terms, "one sees what the sentence means, but nonetheless one feels there is something wrong with it." Sharvit's reaction is similar to that of many English speakers judging sentences containing RPs (see Kroch 1981:126). Although intrinsically 'ungrammatical,' they clearly are useful in the contexts of violations in which they are used.

A similar state of affairs is found in Czech. As the reader will recall from the previous subsection, Czech distinguished between animate and inanimate objects when it comes to resumption. No such distinction is found with subjects, which, be they animate or not, resist resumption. According to Toman 1998, the only instance of subject RPs are found in conjuncts (ii), or if subjects are focused (iii).

an object is topicalized in between the subject position and COMP, a subject RP becomes possible. Consider (53). (Similar data are attested in Irish, too (Jim McCloskey, p.c.).)

(53) a. Ha-yaled še (*hu) ʔohev rak et dalit

       The-boy that he loves only ACC dalit

       'The boy that loves only Dalit'

    b. Ha-yaled še [rak et dalit] hu ʔohev

Before examining such cases in more detail, let me note that RPs are found within subjects, no matter how local their antecedents

---

(ii) to je ten chlap, co von a Karel hráli proti nám

    this is the guy C he and Karel played against us

    'This is the guy that he and Karel played against us.'

(iii) to je ten chlap, co any von (sám) nevěděl co

    this is the guy C not-even he himself knew what

    a jak

    and how

    'This is the guy that not even he himself knew what to do'

Notice again that, as in the Irish example in (i), a reinforcer like 'himself' is used in (iii), which I take to be a signal of intrusion as opposed to genuine resumption.

I will say nothing here about the Coordinate Structure Constraint. I refer the reader to Lin 2001, who relies on Fox (2000a:50) to account for why one finds less robust effects of the Coordinate Structure Constraint with A-movement. See also Bošković and Franks 2000, Munn 1993, and Postal 1998 for relevant discussion.

are. Witness the following example from Irish (McCloskey 1990).

(54) an   ghirseach a bhfuil a   máthaur breoite

      the girl   C is   her mother   ill

      'The girl whose mother is ill'

RPs in SpecDP arguably fall within the range of cases of

inherently Case-marked objects discussed in 3.4.1. (See Chomsky

1986a on DP-internal Case and inherent Case.) They will therefore

not concern us here.

To capture the lack of local subject RPs, McCloskey 1990

develops an account based on the intuition that subject

resumptives may not be too close to their antecedents.[19] The crux

of the matter lies in defining a natural notion of closeness. The

issue was less central in 1990, but it becomes quite significant

in the context of minimalism, where one wants to avoid as much as

possible reference to arbitrary notions like government.

McCloskey defined closeness in terms of Chomsky's 1986b notion of

Complete Functional Complex, whose definition one need not go

into here. More important is the similarity between the A-bar

Disjointness requirement and Sells's 1984 proposal (building on

work by Keach 1980 on Swahili relatives) stated in (55).

(55) an operator cannot bind a pronoun in a position assigned

      Case by that occurrence of INFL that is most closely

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[19]McCloskey's account appears to conflict with Grohmann's

2000 Anti-locality principle, which requires the pronunciation of

two members of a given chain if movement targets positions that

are too close to one another.

associated with the operator.

The statement in (55) captures the basic intuition that McCloskey has, but does not appeal to any notion of government or complete functional complex. Instead, it makes reference to feature assignment. By doing so, (55) brings us closer to the account I would like to develop here concerning the ban on subject RPs. But (55) does not solve the problem, as it is not clear what is meant by "close association." It is this that I will now try to make clear.

The literature is replete with accounts that establish some intimate relationship between T^0 (/INFL) and C^0. In many languages, one finds elements in SpecIP affecting the morphology of complementizers. A clear instance of this comes from 'complementizer' agreement facts found in several West Germanic varieties (see Bayer 1984, Haegeman 1992, Zwart 1993, 1997a among many others.) Consider the following paradigm from West Flemish (56).

(56) a. k weten dan-k (ik) goan weggoan

　　　I know　that-I I　go　leave

　　　'I know that I'm going to leave'

　　b. k weten dan-j (gie) goat wegoan　　('that-you')

　　c. k weten dan-se (zie) goat wegoan　　('that-she')

　　d. k weten dan-tje (jij) goat wegoan　　('that-he')

　　e. k weten dan-t (tet) goat wegoan　　('that-it')

　　f. k weten dan-me (wunder) goat wegoan　('that-we')

　　g. k weten dan-j (gunder) goat wegoan　('that-you.pl')

h. k weten dan-ze (zunder) goat wegoan ('that-they')

i. k weten da-t   Marie goa-t

   I know   that-3sg Marie go-3sg

   'I know that Marie is leaving'

j. k weten da-n   Marie en   Jan goa-n

   I know   that-3pl Marie and Jan go-3pl

   'I know that Marie and Jan are leaving'

On the basis of these and related facts, Law 1991 proposes we treat complementizers of the that-type as expletives replaced at LF by their INFL associates (along the lines of Chomsky's 1986a expletive replacement hypothesis). Pesetsky and Torrego 2001 regard complementizer that as a clitic, doubled by INFL. Rizzi 1997 argues for the presence of features related to finiteness within COMP, a hypothesis that goes back to den Besten's 1989 seminal work on Verb Second. Similarly, Chomsky 2000, 2001a,b argues that C^0 selects a specific type of T: $T_{\phi\text{-complete}}$ (T with a full set of ϕ-features.) Building on Iatridou's 1993 work on Greek, he argues in 2001b that T receives its full interpretation as 'Tense' only when it combines with C^0 (on the role of C in temporal specifications, see Enç 1987). Chomsky (2001a:8) even suggests that this selection relation be captured under "Match/Agree" (on selection as a checking relation, see also Svenonius 1994 and Collins 1999).

Suppose that there indeed exists a connection between C^0 and T^0, and furthermore that this relation involves ϕ-features. That is, C^0 and T^0 agree upon Match. Or, to put it differently, that

this Matching (selectional) relation counts as Agree (because it is φ-feature Matching), perhaps along the lines of Chomsky's (2001a:15) principle "Maximize Matching Effects," here reinterpreted as 'maximize the relation between α and β' ('couple Match and Agree whenever possible'). It would then follow that no subject resumptive chain can be formed locally, for resumption equals stranding. But the very agreement relation holding between T and C amounts to the Agree-strategy, which is the alternative way of satisfying the PUC in situations where an element has to check more than one strong feature. There is therefore no need for a RP. Resumption is thus excluded by Last Resort.

It would also follow from the assumption that T and C agree that subject resumption is possible in long-distance cases. Here the two strong attractors (T and C) won't be in a local, selectional relation, so Agree won't automatically take place between them. Hence, stranding becomes an option. The case of local subject resumption in Hebrew discussed in (53) can also be captured by the proposal we are entertaining. If topicalization targets the specifier of a projection intervening between C^0 and T^0, the Topic Phrase will be enough to prevent C from merging with (selection; i.e., matching, and agreeing with) T as an automatic process, making stranding possible.

In sum, all that is needed to allow subject RP is the absence of Agree between C and T hosting the RP. Since Agree in this case is a reflex of selection, all that needs to be done is break up the sisterhood (selectional) relation between C and

T(P). This can be done by inserting a clause boundary between the two, or even more locally, by expanding the C-domain via the introduction of a Topic Phrase.[20] We thus have a unified account

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[20]The topic intervention effect that turns a deviant output into an acceptable one in (53) is strongly reminiscent of the adverb effect alleviating a _that-t_ violation (i), discovered by Bresnan 1977 and explored in Culicover 1993, Rizzi 1997, Pesetsky and Torrego 2001, among others.

(i)   who did you say that *(under no circumstances) t would come

It is tempting to capture _that-t_ effects within the present framework as a breaking up of the Agree chain necessary to relate [+wh] C* and I* due to the selection of I* by an argumental C_{that} (non-argumental C_{that}, such as relative C_{that} does not induce _that-t_ effects: "the man that t left"). Descriptively speaking, the Agree relation established between C_{that} and I* freezes the latter's ϕ-feature (and thus prevent any further relation between T and [+wh]C). Perhaps, the fact that argumental _that_ is more nominal renders the ϕ-relation it establishes with I* as "inherent" (ϕ-/Case-features inside NPs are often inherent), thereby preventing a feature-sharing relation with [+wh]C*. Intuitively, the ϕ-feature sharing of C_{that} and I* is of a different kind from that between C* and I*, rendering the two incompatible. No such incompatibility would arise if an adverb blocks the establishment of a C_{that} -I* ϕ-relation. Neither would it arise if C is null (_who do you think left_), if Bošković 1996, 1997 is right in taking null C to mean absence of C; or else if

of the important 'highest' subject restriction on resumption and of the conditions that enable languages to obviate it.

Let us pause over the consequences of automatic agreement between C^0 and T^0. If the matching of C and T indeed counts as agreement, as I proposed, we expect to find cases where the ϕ-features on INFL have the same value as those on C^0, due to the agreement process. That is, we expect cases of default ϕ-feature agreement on Infl given the 3rd sg ϕ-value of Cs (possibly related to the default ϕ-feature set found with expletives, if Law's conjecture is correct). That is indeed what we find. Witness the following examples from Welsh. (Data from Rouveret 1994:405; see Ouhalla 1993 for numerous cases in other, unrelated languages.)

(57) a. y   dynion a   ddaeth   (Welsh)

      the men   that is-come

      'the men that came'

  b. *y   dynion a   ddaethant

      the men   that are-come

  c. chwi   a   ddaeth

---

null C is "unspecified" for the relevant features (Uriagereka 1988), thus compatible with [+wh]C* (see Rizzi's 1990 "agreeing C_{null}" hypothesis). No <u>that-t</u> effect is predicted with object extraction in English, as no Agree relation is established between C_{that} and the Object (or the projection hosting it). In a similar fashion, we predict no <u>that-t</u> effects in languages where subjects can extract from a post-verbal position (Rizzi 1982)((24) above).

You(pl) that is-come

'You who came'

d. *chwi a ddaethoch

You   that are-come

Note here that the complementizer a (by hypothesis, [3rd sg]) not y is used. A is the Welsh equivalent of Irish (agreeing complementizer) aL (see Harlow 1981).

The present proposal also predicts that if languages have complementizers with sufficiently different featural/selectional specifications, local subject resumption will be possible. This is arguably the case in Vata and Edo,[21] two languages which we saw

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[21]It may also be true of Spanish, if Suñer's example in note 17 is a genuine case of resumption. As Suñer herself has documented (Suñer 1991, 1993; see also Uriagereka 1988:102 n.8), COMP in Spanish tends to reiterate, as in (i) (from Uriagereka 1988).

(i)   pues yo   les voto a tal que si me traen a las manos algún

      as for me I swear   that if me bring A the hands some

      otro enfermo que antes que le cure, me han de untar las

      other sick   that before that him cure me must fill with

      mías

      dough

      'As for me, I swear that, if they bring to my hands some

      other sick fellow, that before I cure him, they must fill

      them with dough'   (Don Quixote, Ch. LXXI, vol. 2)

Uriagereka makes the further observation that a stressed

interrogative element can appear after the first complementizer, as in (ii).

(ii) y volviéndose al hombre, le dijo que qué   decía y

and turning-to the man   him said that what should he

respondía a la   querella   de aquella mujer

reply   A the accusations of that   woman

'And turning to the man, he said that what was he to say to

the accusations of that woman' (<u>Don Quixote</u>, Ch. XLV, vol.

2)

Crediting S. Plann, Uriagereka notes that the semantic import of this type of reported question is purely <u>de dicto</u> (for the question word). This construction is therefore restricted to verbs of quotation. This is reminiscent of the verbal (quotative) complementizer discussed in the text with respect to Edo and Vata.

On a different, but related note, Uriagereka 1988, 1995 has argued for the presence of a functional projection F (for Point of View) intervening between INFL and COMP, accounting for instances of focalization/topicalization in embedded contexts, including indirect questions. Witness the examples in (iii) (from Uriagereka (1988:100)).

(iii)a. mi abuela dice que a los políticos   no los   traga

my grandma says that A the politicians not them like

'My grandma says that she hates the politicians'

b. mi abuela dice que muchas   bobadas hace el gobierno

———————————

        my grandma says that a-lot-of crap   does the government

        'My grandma says that the government does a lot of crap'

    c. elle se   pregunta por qué tánta   chorrada dirán

       She   self asks   for what so-much crap   they.say

       'She wonders why they say so much crap'

An F projection would have the same effect as the intervention of

a topic in (45) in Hebrew, a case where a local subject RP was

possible.

      Suñer 1998 reports the following local subject resumption

case in Yiddish. (See Lowenstamm 1977 for general discussion of

resumption in Yiddish.)

(iv) a yid voz er iz geven a groyser lamdn   un a gvir

     a man   that he is been a big   scholar and a rich-man

     'A man who was a big scholar and a rich man'

I suspect that the existence of local subject RPs in Yiddish is

to be related to the obligatory presence of es in embedded

questions of the following type (from Diesing 1990:68; similar

facts obtain in West Flemish; see Haegeman 1992.)

(v) Ikh veys nit ver *(es) iz gekummen

     I   know not who   it is come

     'I don't know who came'

Diesing relates the use of es in such cases to issues of Verb

Second and the A-bar property of subjects. The fact that Yiddish

allows productive topicalization in indirect question (as in

(vi), from Diesing 1990) suggests that an account along the lines

in chapter 2 allow local subject RPs.

(58) illustrates subject resumption in Edo.

(58) Dè òmwán nè   ó dé èbé

     Q person that he buy book

     'Who bought a book'

What is significant about Edo is that, unlike all the languages discussed so far, it makes use of a complementizer (wéé), which, as in many African and Austronesian languages, is homophonous with a verb of saying, quoting, or reporting. Baker (1999:285) takes this fact to be a property of the language that accounts for various parametric options seen in Edo (among others, logophoric elements). Even though wéé does not appear in (58), I assume (as does Baker) that the core properties of the complementizer system in Edo are nonetheless retained in this example.

Following Finer (1997:709ff.), I regard instances of verbal complementizers as part of a compound/serial verb construction with the verb it embeds. Since it is a robust characteristic of serial verb constructions that the second verb does not show any sign of agreement, I assume that verbal complementizers fail to trigger Agree upon Match (as they do not select a φ-complete element). If that assumption is correct, we now have an

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I propose in this note for Spanish is feasible.

(vi) der yid vos Khayim vet   zen shabes   bay nakht

     the man that Chaim will see saturday by night

     'The man that will see Chaim on Saturday night'

understanding of why subject RPs are allowed locally. In the
absence of automatic Agree, stranding becomes an option. Further,
if verbal complementizers do not possess ϕ-features (as expected
if they are indeed part of a serialization process), only the
stranding strategy will be available to meet the PUC. That
accounts for why subject RPs are obligatory, and gaps impossible.

The same analysis carries over to Vata. As already mentioned
in chapter 2, Vata allows RPs in subject positions, as shown in
(59). (As a matter of fact, Vata restricts RPs to subject
positions. From the present perspective, the ban on object RPs
may be a consequence of the absence of Object Shift in the
language, although as I said above, other factors are involved in
determining where RPs may appear. It is interesting to note that
Koopman (1983:53f.) claims that Vata has preposition stranding,
which corroborates some of the conclusions reached in section
3.4.1.)

(59) kɔ̋ mɔ̄mɔ̋ *(ɔ̀) lē ɓɔ' sa'ká

     man REL   (he) eat REL rice

     'The man who is eating the rice'

As Koopman 1982 argues, the complementizer used here is a wh-
pronoun (a reduplicated form of regular pronouns; literally 'him-
him').[22] An invariant relative marker is found further down in the

_____

[22]Reduplicated pronouns in Vata may correspond to so-called
d-pronouns in German, which, unlike r-pronouns, are used to
introduce relative clauses. (Déchaine and Wiltschko 2000 provide
evidence that D-pronouns are structurally more complex than R-

pronouns.)

(i)   der Mann den /*ihn   Johann sah

       the man   D.Acc/him.Acc Johann   saw

       'The man that Johann saw'

Pronominal complementizers may also be present in so-called

subject contact relative clauses, allowed in some dialects of

English such as Belfast English (data from Henry 1995:126).

(ii) I have one student ø speaks four languages

Henry notes that in all those cases where subject contact

relative clauses are possible, there is an alternative with an

overt pronoun (iii).

(iii) I have one student he speaks four languages

Here the pronoun appears to fulfil the role of the relative

complementizer (I have one student that speaks four languages).

It is tempting to hypothesize a null pronominal C in (ii).

      Juan Uriagereka (p.c.) raises an interesting point in this

context: Could it be that Irish aN is a pronominal complementizer

too (which, if true, would necessitate a totally different

analysis of (11)-(12)). There are, however, reasons to doubt the

pronominal nature of aN. Note that if aN 'contains' a pronoun, it

is not clear where the resumptive pronoun inside the relative

clause comes from. Further, the series of aN complementizers

documented in section 4.1.1 renders the pronominal analysis

untenable (to my knowledge, no other language has a series of

pronominal complementizers in long-distance cases). I therefore

sentence (<u>bɔ'</u>).

Like Edo, Vata makes extensive use of a verbal complementizer (<u>na</u>), which again is homophonous to the main verb <u>na</u> 'say.' Koopman (1983:94ff.) provides extensive arguments that <u>na</u> behaves like a verbal form. Further, she argues (p. 94f.) that wh-phrases (and by extension relative pronouns) are not in COMP, but are adjoined to IP, or in a Topic-like position. There is thus evidence from Vata that COMP is of a very different nature from what is found in more familiar languages. I hypothesize that such Cs don't trigger agreement. That is all that is needed to render subject RPs possible.

Overall, the conjecture made in this subsection regarding the general ban on local subject RPs seems well-supported. Local subject RPs are disallowed because of an automatic Agree relation established upon Merge (Match) between C^0 and INFL. This automatic φ-feature sharing relation has the immediate consequence of triggering the Agree strategy in order to meet the PUC, blocking the alternative, stranding (resumption) strategy. The present account predicts that when the C-T relation is not local, Agree won't be automatic, and therefore stranding will be an option. As I have shown, the prediction is borne out in long-distance relativization cases in Irish. It is also borne out in more local cases where the immediacy of C and T is relaxed by the presence of an intervening fronting element (and projection). A further --

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conclude that our view of the <u>aN</u>-<u>aL</u> alternation in terms of Match/Agree is to be preferred.

correct -- prediction of the present analysis is that if the feature composition of C^0 is sufficiently different so as not to trigger automatic agreement with INFL, subject RPs will be possible. I have argued that this is the case in Edo and Vata. If the analysis proposed here is on the right track, it allows us to dispense with the formulation of an Anti-locality condition on A-bar binding, thereby avoiding tricky issues concerning the definition of the relevant domain for binding -- at no cost of empirical coverage.

To conclude the discussion on subject RPs, let me briefly discuss the case of Swedish. It may strike one as odd to bring up the case of Swedish in the context of the ban on local subject RPs, for at first sight Swedish is no different from Irish or Hebrew, banning local RP subjects.

(60)   *vi vet   vem som   han pratar med   Maja

        we know who that he   talks   with Maja

        'We know who is talking to Maja'

However, what makes Swedish interesting from the present perspective is that in contexts of long distance A-bar movement across an overt complementizer like <u>om</u> 'if' or <u>att</u> 'that' or a wh-phrase, it allows subject RPs. Consider the following cases, taken from Engdahl 1985.

(61)   vilket ord   visste ingen   hur det staves

        which   word knew   no-one how it   is-spelled

        'Which word did no one know how it is spelled?'

(62)   vilken fånge   var det läkarna   inte kunde avgöra om

which prisoner was it the.doctors not could decide if

han verklingen var sjuk

he really   was ill

'Which prisoner was it that the doctors could not decide if

he really was ill?'

Engdahl's crucial observation is that RPs in non-subject positions are disallowed, even in island contexts. (Engdahl notes that the presence of an RP makes the sentence worse. This may be related to the fact known since Erteschik-Shir 1973 that Swedish appears to allow extraction out of Complex NPs.)

(63) vilken tavla   kände du faktiskt [killen som målat (*den)]

which painting knew you in fact the-guy that painted it

'Which painting did you actually know the guy who painted

(it)?'

Engdahl shows that Swedish RPs are not intrusive pronouns of the type found in English because they behave like gaps in many respects such as the ability to license parasitic gaps.

I wanted to mention Swedish in the present context to argue in favor of a uniform treatment of resumption. Swedish provides a powerful argument in favor of the position I have been advocating. The standard way to cut the pie is to say that Vata RPs are spelled-out copies of movement, while Irish RPs signal non-movement. Support for this view comes from the fact that Vata RPs are sensitive to islands, while Irish RPs aren't. However, data from Swedish cast doubt on such an approach. Although often cited in connection with Vata because it confines RPs to subject

positions, Swedish, unlike Vata, shows no island effects with subject RPs. Treating Swedish RPs as spelled-out copies will leave the contrast with Vata unexplained. Treating Swedish like Irish will leave unexplained the difference in distribution of RPs in the two languages. It seems fair to conclude that no matter how one treats Swedish, similarities will be obscured, and differences left unexplained. Appealing to a third type of language helps relieve the tension, but does not explain much, especially if we ask what the status of RPs might be in that third language type. Besides Merge (Irish) and Move (Vata), there does not seem to be any other option. By contrast, from the present view, Swedish may be like Vata in endowing INFL, but no other Case checking position, with an EPP-property (like Vata, Swedish allows P-stranding; it also lacks Object Shift of full DPs). This would explain why RPs are restricted to subject positions. And Swedish may be like Irish in having a C that establishes an automatic Agree relation with INFL.[23] This explains why Swedish subject RPs take non-local antecedents. Swedish would

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[23]That Swedish has a nominal, as opposed to a verbal C^0, is clear from the fact that it allows <u>att</u> to function as a direct complement of a preposition, which Bošković 1995 takes as evidence for the nominal character of C. (Data from Bošković 1995:49.)

(i)   hon ä besviken   över att han skall resa

        she is disappointed over that he   shall go

        'She is disappointed about the fact that he will go'

then be unlike English in possessing a Matching (non-agreeing) C.

3.4.4. Adjuncts

In this section I address the issue of adjunct RPs, and by the same token, the nature of adjunct chains. As mentioned in section 2.2.2.5, it has often been noted in the literature (Chomsky 1982, Koster 1987, Cinque 1990, among others) that adverbial RPs do not exist. By adverbial resumptives, I mean RPs linked to genuine adjuncts like why, not quasi-arguments like when (RP: then), where (RP: there), and, more controversially, low manner adverbials of the type discussed in Tsai 1999 (how/X way; RP: (in archaic English: thus).[24] Consider (64).

(64) *the reason that John wondered whether Mary cooked for it

The absence of adverbial RPs is but one of the many adjunct-argument asymmetries which have been discussed extensively since Huang 1982 and Lasnik and Saito 1984. To see how the present approach to resumption may shed light on this gap, it is necessary to state exactly what I take adjunct chains to be like.

There is no denying that adjoined material behaves in a way different from arguments and selectors (for enlightening discussion, see Uriagereka 2001a). Various options have recently been pursued to capture the asymmetry, none of which seem particularly satisfactory (see Chomsky 2001b for discussion). What is of special interest to us here is the fact that adjuncts

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[24]Toman 1998 reports cases of adverbial RPs, but they all associate with temporal or locative adjuncts, not with true (say, causal) adjuncts. For related discussion, see section 4.3.

obey a much more stringent locality than arguments do. Contrast (65)-(66).

(65) ??what do you wonder whether John bought __?

(66) *why do you wonder whether John bought <u>War and Peace</u> __?

Following insights of Bromberger 1986, Rizzi 1990, Uriagereka 1988, Law 1991, 1993, Starke 2001, among others, I will assume that when they appear in COMP, adjuncts are base-generated there.[25] I will not be concerned here with why that is so,

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[25]Taking 'wh-fronted' adjuncts to be base-generated in COMP begs the question of what happens to adjunct wh-phrases in situ in languages like Chinese. Clearly, I cannot adopt Huang's 1982 and Lasnik and Saito's 1984, 1992 covert movement analysis. To capture the basic distribution and interpretation of adjunct wh-in-situ phrases I adopt Watanabe's 1992 analysis, which regards the actual 'wh-word' in situ as an indefinite (see also Cheng 1991 and Tsai 1994), and argue that the movement effects diagnosed by Huang and others such as the island effect in (i) should be captured via null operator movement.

(i)   ni xiangxin Lisi weisheme lai de shuofa

     you believe Lisi why   came   claim

     '*why do you believe the claim that Lisi came __?'

Watanabe's Null Operator analysis enables me to reconcile my claim that wh-adjuncts are base-generated in COMP with the facts in wh-in-situ languages. In the case of adjuncts, I assume that the null operator is base-generated in COMP, and relates to the "wh-phrase" in situ in the same way as wh-adjuncts in SpecCP

although it could be made to follow from the fact that adjuncts

are no part of the Agree system (true adjuncts never trigger

_____

related to embedded predicates in wh-fronting languages. Island

effects with wh-adjuncts of the type discovered by Huang 1982 and

Lasnik and Saito 1984 are readily captured under a Watanabe-style

analysis, and thus pose no problem for us.

With respect to in-situ wh-arguments, I could either adopt

Watanabe's Null operator movement analysis (which would make in-

situ wh-arguments virtually identical to wh-arguments in wh-

fronting languages), or else say that nothing moves (the

unselective binding approach pursued in detail by Tsai 1994 and

Reinhart 1995). It may well turn out that both options are

needed, as the island facts in wh-in-situ languages are much more

complex than often presented, with substantial variation among

in-situ languages (see Watanabe 2000 for review). I will not try

to settle the question here, as the issue is tangential to the

main focus of this work.

Željko Bošković (p.c.) points out that the base-generation

analysis of wh-adjuncts straightforwardly predicts the behavior

of French pourquoi 'why,' which, unlike other wh-phrases, cannot

remain in situ (see, among others, Rizzi 1990). Crucially,

pourquoi has no indefinite morphology, which may be the reason

why a null operator analysis is excluded. (The approach may

extend to the case of true wh-adjuncts in Malay, which must also

be fronted, unlike other wh-elements. See Cole and Hermon 1998

for comprehensive discussion of the Malay facts.)

agreement on the predicate, e.g.), hence fall outside the Probe-Goal mechanism of displacement. If they have to appear in COMP, and cannot do so by Move, they must be base-generated. (Note that if unselective binding is likened to an Agree relation, as Saito 1998 has suggested, the fact that adjuncts do not agree would capture Tsai's 1994 and Reinhart's 1995 result that adjuncts cannot be unselectively bound.)

However, it is clearly not enough to say that adjuncts are base-generated where they are pronounced, for, as is well-known, wh-adjuncts (on which I am focusing here) may have long-distance construal, as in (67).

(67) why did John say that Peter believed that Bill kissed Mary?
The most carefully worked out proposal to generate wh-adjuncts in SpecCP (Law 1991, 1993) captures this fact by refining what is meant by base-generation in COMP. According to Law, wh-adjuncts are base-generated at the edge of the clause they modify. This may, but need not (and, on the relevant readings of (67), does not) coincide with their surface positions. Under Law's analysis, the latter may be reached by movement (from SpecCP to SpecCP). I will not adopt Law's position, and instead will claim that adjuncts are base-generated in their surface positions, and are interpreted via a 'Modification Rule' (see below), which may allow them to take scope over a clause embedded inside the clause they surface in. (My approach comes closest to that of Uriagereka 1988, 2001a.) Since this work focuses on A-bar chains, I will not deal with simple, non-wh-adjuncts such as <u>quickly</u> and the like. I

assume that the Modification Rule for these works in the simplest form: an adjunct modifies its sister node. For wh-adjuncts, things are different. We must find a way of extending their scope beyond their sister nodes in such a way as to capture the long-distance readings while capturing the strict locality they are subject to.

I hypothesize that when endowed with the relevant operator feature (say, [+wh]),[26] an adjunct modifies its sister (COMP) and any other similar(ly modifiable) elements (i.e., COMPs) within the extended projection line of its sister (i.e., all those COMPs selected by some element ultimately selected by the predicate that is within the adjunct's sister's extended projection line (C,I,V), in the sense of Grimshaw 1991).[27] This Modification Rule

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[26]Under this hypothesis, the fact that (causal) _why_ can modify low, but its [-wh] counterpart _because_ cannot, is to be understood as a featural difference. _Why_ has a functional feature [+wh], which enables it to extend its scope which is not available to _because_.

[27]Thus restricted, the Modification Rule won't be able to extend inside adjuncts, yielding strong island effects, if the analysis put forth in 3.5.1 is on the right track.

Juan Uriagereka (p.c.) observes that transitivity of modification is facilitated if the embedded tenses are related to the matrix clause hosting via Sequence-of-Tense. Thus, the absence of Tense sequencing in (i) renders the low reading of _why_ much harder for many speakers.

is stated in (68), and illustrated in (69).

(68) Modification Rule

A wh-adjunct, by virtue of its [+wh] feature, modifies its sister COMP and all other COMPs within its sister's extended projection line [C-I-V], so long as no other element of the same type (i.e., A-bar) modifies a COMP in the modification domain so defined.

[The formation of a projection line is here understood transitively in such a way that a $COMP_1$ selected by a predicate P that is within the projection line of $COMP_2$'s sister itself selected by a predicate P' within the projection line of the $COMP_3$ containing the wh-adjuncts is said to be within the projection line of $COMP_3$'s sister.]

(69) [why $[C_1^0 \ [I^0 \ [V^0 \ [C_2^0 \ [I^0 \ [V^0 \ [C_3^0 \ ...]]]]]]]]$

[_____]: C_1's projection line

[_____]: C_2's projection line (selected by the V within C_1's projection line)

[_____]: C_3's projection line (selected by the V within C_2's projection line, itself selected by the V within C_1's proj. line)

[_why's modification domain_____]

(i)   why will he say that John hit the dog

I will not try to incorporate such factors here, but they are clearly relevant, and deserve systematic investigation. I hope to examine them in the near future.

I assume that this Modification Rule is subject to an Exclusion Principle such that if another operator of the same type (A-bar, to be concrete) is found within the adjunct's sister's projection line, scope extension stops. This is illustrated in (70).

(70)   [why [C_1^0 [I^0 [V^0 [C_2^0 [I^0 [V^0 [<u>whether</u> C_3^0 ...]]]]]]]]]

[_____] : C_1's projection line

[_____] : C_2's projection line (selected by the V within C_1's projection line)

[_____] : C_3's projection line (selected by the V within C_2's projection line, which is itself selected by the V within C_1's projection line). C_3 cannot be modified by <u>why</u>, as it is already modified by an element of the same type. The modification rule thus stops at this point.

[<u>why's modification domain</u>]

Thus conceived, the Modification Rule in (68) is very similar to Heim's 1982 original formulation of unselective binding, which was also subject to some Exclusion Principle. (See Abe 1993 for an extension of unselective binding to a wide range of cases. See also Fox 2000a for locality principles on interpretive rules that are not standardly conceived of as movement-rules such as anaphora rules (but see Kayne 2000b, 2001)). It is also very

similar to a standard Probe-Goal relation (the [+wh] feature on the adjunct acts as a probe. But there is one crucial difference between the Modification Rule in (68) and the Probe-Goal relation as described in chapter 1. In the case of a Probe-Goal relation with Agree, the presence of a closer potential goal does not automatically render more deeply embedded goals inaccessible to the probe. As we will see in section 3.5.4, a matching element acts as an intervener only if it is still active (if it hasn't entered a checking relation). If it is no longer active, Agree may probe further down its domain. This is unlike the exclusion principle which I take the Modification Rule to be subject to. Here, the probe-like relation induced by the wh-feature on the adjunct must stop its search upon encountering an element of a similar type (another 'A-bar' operator), as in (70). There is thus a fine, but decisive line between Modification and Movement, one that imposes a stricter locality on adjuncts. It is easy to see how such a Modification rule captures the deviance of (66) (for an account of (65), see section 3.5.4.). The presence of a wh-phrase in the intermediate COMP blocks (by Exclusion) the application of the Modification Rule beyond that point. As a consequence, the wh-adjunct fails to modify the embedded clause.

In sum, adjuncts will be assumed to uniformly consist of trivial chains (singleton sets). 'Low' readings are the result of a modification rule that is flexible enough to accommodate long-distance construals, and at the same time, stringent enough to capture the severe locality conditions imposed on adjuncts.

If this view is correct, it means that adjuncts never run the risk of entering into two EPP-checking sites. This, in turn, means that no stranding/resumption will be found in the case of adjuncts (due to Last Resort).

At this stage, it may be worth discussing McCloskey's (to appear) data concerning adjunct extraction and complementizer selection in Irish (see also Duffield 1995:171).

McCloskey notes that adjunct extraction often triggers the appearance of aN (the complementizer typically associated with RPs.)

(71) an t-am a-r tháinig sé, bhíodar   díolta ar fad

     the time aN came   he they.were sold   all

     'By the time he came, they were all sold'

(72) sin an áit   a bhfuil sé ina chónai

     that the place aN is   he living

     'That's where he's living'

(73) sin an dóigh a bhfuil sé

     that the way   aN is   it

     'That's the way it is'

(74) sin an fáth   a-r fhág sé an baile

     that the reason aN left he home

     'That's why he left home'

McCloskey also observes that aL and aN alternate in a number of adjunct extractions.

(75) a. áit   ar bith a chaithfeadh siad a dhul

       place any   aL would-have they go

'Any place they would have to go'

b. áit   ar bith a gchaithfeadh sí a dhul

place any   aN would-have   she go

'Any place she would have to go'

(76) a. an dóigh chéanna a mhair a   réim

the way   same   aL lasted their rule

'In the same way that their rule lasted'

b. sin an dóigh a bhfuil sé

That the way   aN is   it

'That's the way it is'

(77) a. lá amháin a bhí sé féin ...

day one   aL was he himself

'One day that he himself was ...'

b. am   ar bith ar raiceáladh   árthach

time any   aN was-wrecked vessel

'Any time that the vessel was wrecked'

Some adverbials even require aL (the complementizer associated
with 'gaps'). These are durative and frequency adverbials.

(78) cá fhad a bhí/*a raibh tú ann

how-long aL be   aN be   you there

'How long were you there?'

(79) cá mhinice   a dúirt/*a dhúirt mé leat   é

wh frequency aL said/aN said   I with-you it

'How often did I say it to you?'

Reason adverbials, by contrast, take only aN.

(80) cén fáth   a-r dhúirt/*a dúirt tú sin

what reason aN said   aL said   you that

'Why did you say that?'

It is interesting to note in this context that reason adverbials never trigger wh-agreement in Chamorro (Chung 1998:chapter 9), and that only locative and temporal wh-phrases do so in Palauan (Georgopoulos 1991:129). Overall, the above facts are consistent with Huang's 1982 proposal that when/where-type adjuncts can behave as quasi-arguments, while reason adverbials are true adjuncts.[28] The status of manner adverbials is less clear.[29] It is

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[28]Željko Bošković (p.c.) reminds me that the same cut obtains in the case of long-distance scrambling. Only quasi-adjuncts may undergo long-distance scrambling. This observation is put to good use in Boeckx's (2001c) extension of the present analysis to scrambling (see chapter 2, note 8).

[29]Cardinaletti 2000 observes that in Italian preverbal subjects may intervene between the verb and the wh-phrase if the latter is perché 'why.' Come 'how' behaves like arguments and locative/temporal adjuncts in forcing the subject to be postverbal (see also Rizzi 1996:87 n. 16).

(i)   perché Gianni berrà   la birra

       why   Gianni will.drink the beer

       'Why will Gianni drink the beer'

(ii)   *come Gianni ha parlato

        how Gianni has spoken

       'How did Gianni speak'

Also, in French, comment 'how' may stay in situ in an example

standardly assumed that <u>how</u> patterns like <u>why</u> in the relevant respects. However, as Tsai 1999 demonstrates, the nature of <u>how</u> is very complex. Tsai notes that in Chinese <u>zenme</u> 'how' may have several readings: a method (/'manner') reading, a causal reading (shared by <u>weishenme</u> 'why'), and one related to the notion of degree (in which case it can only be construed as an indefinite, not as an interrogative).

(81) Akiu zenme zou

     Akiu how   leave

     'By what means will Akiu leave?'

(82) Akiu zenme zou-le

     Akiu how   leave-Perf/Inc

     'Why has Akiu left?'

(83) Akiu bu   zenme congming

     Akiu not how   smart

     'Akiu is not so smart'

To a certain extent, English <u>how</u> also embodies the three readings just noted.

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like (iii), whereas <u>pourquoi</u> 'why' cannot (iv) (under a non-echo interpretation).

(iii) tu vas là-bas comment

     you go there how

     'How are you going there?'

(iv) *tu vas là-bas pourquoi

     you go there why

     'Why are you going there'

(84) How did Akiu leave?

(85) How come Akiu left?

(86) How smart is Akiu?

According to Tsai, the various uses of <u>how</u> correspond to various
possible attachment sites: within VP, at the edge of VP, and at
the edge of IP; yielding the degree, manner, and causal readings,
respectively. Tsai further distinguishes between style <u>how</u> and
method <u>how</u> ("by what means" vs. "in what way"), and notes that
only causal and style <u>how</u>s are island-senstitive. Other uses of
<u>how</u> pattern with arguments when it comes to island contexts.
Based on Tsai's observation, the co-occurrence of either <u>aN</u> or <u>aL</u>
with manner adjuncts in Irish comes as no surprise. They reflect
the various possible attachment sites for <u>how</u>.[30]

The fact that true adjuncts cooccur with the 'resumptive'
complementizer in Irish (<u>aN</u>) should not lead us to posit an empty
reason adverbial RP, for which there exists no overt counterpart.
One would be led to that conclusion if resumption were a
primitive of narrow syntax, forcing the use of a specific
complementizer in its environment. However, no such view of
resumption is entertained here. Instead, notions like Agreeing
vs. non-Agreeing complementizers are taken as primitive,
irreducibly lexical properties. Following McCloskey to appear, I

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[30]One therefore expects the use of <u>aN</u> to correlate with
certain readings of <u>how</u> (the 'high' readings). I haven't been
able to check this prediction yet. The data I have had access to
is certainly compatible with it.

propose that <u>aN</u> surfaces with adjuncts because reason adverbials are base-generated in their surface positions. That true adverbials cooccur with uninflected complementizer is in fact part of a larger phenomenon: the lack of adjunct-induced agreement effects. If correct, the adjunct data discussed here support the view that the <u>aL</u>-<u>aN</u> is a matter of φ-feature agreement.

3.5. Islandhood

In what follows, I will show that what appears to be a major obstacle to a movement view on resumption, viz. the lack of island effects, turns out to further corroborate the core proposal made in this study. Before examining various patterns of resumption in island contexts, I want to lay out the consequences of the mechanisms of chain composition I entertain for islandhood in general.

3.5.1. Preliminary remarks

It is worth stating explicitly that the framework assumed here leads us to the conclusion that islandhood is not to be understood in rigidly configurational terms. Despite the fact that this is how some of the most successful theories thought of islands (think of Huang's 1982 CED or Kayne's 1984 Connectedness approach), fairly standard observations suggest that the strictly configurational view is not adequate. As noted by Rizzi 1990 and Cinque 1990, and much subsequent work, some islands are 'selective,' allowing some elements associated with a given semantics to extract fairly easily, but prohibiting the 'same'

elements from extracting if associated with a different semantics. (Strictly speaking, this is not Cinque's conclusion, as for him, if I read him correctly, apparent island violations are instances of base-generation and (non-overt) resumption.) The standard example given in this context is the one in (87)-(88).

(87) *How many pounds do you wonder whether he weighed t?

ANSWER 1 [non-referential reading]: he weighed 100 lbs (he was skinny)

(88) How many pounds do you wonder whether he weighed t?

ANSWER 2 [referential reading]: he weighed 100 lbs (by lifting the package)

To capture the contrast, it won't do to disallow A-bar movement across a wh-phrase. Instead, minimality has to be relativized to features (or, more accurately, to feature classes, as Rizzi 2000 and Starke 2001 have recently emphasized).[31] In some cases, featural differences may be reflected in terms of configurational differences, but this is not necessarily so. Of course, I do not mean to say that phrase structure considerations are unnecessary (clearly, they are crucial, if only to establish the relevant Probe-Goal relations), but I want to stress that some other considerations play a role.

A corroborating conclusion is reached in Merchant 1999. Following seminal work by Ross 1969, Merchant notes that sluicing

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[31]How to define feature classes in a non-taxonomical way is no trivial matter. More work is needed in this domain.

(IP-ellipsis) may rescue island violations.[32] The pair of examples in (89) illustrates this property for the subject condition (the ban on extraction out of subjects).

(89) a. *which Marx brother did she say that a biography of t is going to be published

b. a biography of one of the Marx brothers is going to be published next week, but I don't know which [deleted: {she said that a biography of t is going to be published}]

The rescuing effect of ellipsis rules like sluicing leads to the conclusion that it is not the case that movement out of certain domains is inherently prohibited (Merchant provides evidence in favor of a deletion, as opposed to an LF-copying, account of (IP) ellipsis), as the strictly configurational view on islandhood would have it. What matters is the form of the output generated by such movements at the interface levels. (See also Lasnik 2000 for a similar claim; and Lasnik 1999b for general discussion.)

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[32]Although sluicing appears to alleviate most island effects, Merchant does not claim that movement can take place out of any domain. In particular, he distinguished between cases where no island is found in the ellipsis site (this is how he analyzed the adjunct condition, which he subsumes under what he calls 'propositional islands') and cases where movement out of classic islands such as subjects in SpecIP is allowed provided the island be part of the ellipsis site. Merchant treats such permeable islands as PF-islands. It is these I have in mind in the text.

As a matter of fact, the proliferation of functional categories and massive movement rules of the type explored in the wake of Kayne 1994 virtually forces us to embrace a more flexible (not strictly configurational) view on islandhood. It is indeed hard to conceive of a restrictive structural definition of 'extraction domains' that will be able to accommodate the proliferation of movement out of left branches, as the antisymmetry hypothesis appears to require. Thus, we seem to be in a situation where Ross's original view that movement per se is unbounded appears right after all. Again, I stress that 'unbounded' movement does not mean that there are no constraints on syntactic displacement. There are. But once Move is viewed as an instance of Merge (or as the satisfaction of an EPP-property that says "I'm an occurrence of x"), it becomes extremely difficult to naturally constrain Move itself. The only natural constraint I can think of is 'Minimize Chain Links,' which gives rise to successive cyclic movement, as discussed in chapter 1. Other constraints must then be formulated on the other operations that take part in displacement: Match and Agree.

Earlier I suggested that Match is (almost) "free." The only requirement imposed on Match is that it applies (which is the minimal requirement one can impose on an operation to ensure convergence). Like Move, Match is required to apply within the probe's c-command domain, and must target the closest matching element (goal) (on closeness, see (2) above). Note that there is no mention of Match being prevented from applying inside, say,

adjuncts. This is again the null hypothesis, as there is no natural way of stating such a constraint.

Agree is, much like Match and Move, required to apply within its c-command domain, and to target the closest goal. But by its nature as an operation involving φ-features, it inherits constraints imposed on the latter, and as such, is more constrained than Match. In particular, Agree cannot target adjuncts, as adjuncts have inert φ-features. Nor can it target anything inside adjuncts, as no material contained inside adjuncts ever triggers agreement outside them. It is an interesting issue to determine why the φ-features of adjuncts are inert, and why it renders everything the adjunct dominates opaque to φ-feature agreement. But the fact is that they are. Language after language, we see that adjuncts never participate in φ-feature sharing, unlike arguments. Also, the Case of adjuncts always appears to be inherent, either through the use of a preposition, of the default use of some Case form (accusative, e.g.), or of a peripheral Case (allative, e.g.). I will not speculate here about what that follows from, but I will take this as a fact: Agree is restricted to selected domains (arguments).[33]

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[33]Howard Lasnik (p.c.) wonders (quite legitimately) whether the statement concerning the φ-inertnesss of adjuncts is better than Huang's CED-formulation. I confess that since I haven't deduced the φ-inertness of adjuncts, it remains axiomatic. Nevertheless, it goes beyond Huang's CED-approach, as it covers not only extraction facts such as the adjunct condition (and

2.5.2. Generalized Adjunct Condition

The constraint on Agree just stated can be made to account for a whole range of strong island effects. If Agree cannot penetrate adjuncts, as soon as the Probe-Goal relation trying to extract an element out of an adjunct contains the Agree step (see chapter 1), probing will be blocked. (For Probing relations without Agree, see section 2.6.) In particular, the constraint imposed on Agree subsumes the ban on extraction out of adjuncts, the ban on extraction out of relative clauses (if they are

related island effects), but also captures the special character of adjunct wh-phrases (ϕ-inertness prevents them from entering into Probe-Goal relations, and thus forces them to be base-generated in COMP, as we saw in section 3.4.4). Further, the ϕ-inertness of adjuncts is clearly a fact about adjuncts that must be captured. I am suggesting that whatever captures the latter also captures the adjunct condition. No such relation between ϕ-inertness and extraction is made by Huang's CED. As such, the present axiom is superior.

Incidentally, the idea that adjuncts have no label (Chametzky 1996, 2000; Uriagereka 2001a) may help us understand their ϕ-inertness, if we take seriously Chomsky's (2001a:5) claim that Search targets labels. If we manage to restrict Chomsky's statement to Agree (crucially not to Match), the no-label hypothesis would render adjuncts ϕ-inert. (On the relation between agreement and labels, see Uriagereka's 1999b notion of Address. See also Boeckx (in progress)).

adjuncts, which is a standard assumption), and the ban on extraction out of nominal complements (if these are appositives, as Stowell 1981 argued).[34] The various bans just listed are illustrated in the order they were mentioned.

(90) *who did John arrive [after Bill kissed t]

(91) *who did John meet [the woman [that said that Bill kissed t]]

(92) *who did John listen to [rumors [that Peter kissed t]]

The consequences of ϕ-inertness for adjuncts extends to the paradigm discussed by Zwicky 1971 and Kayne 1984, who observe that verbs of manner saying ('verba dicenda') are impervious to movement.

(93) a. *who did John grunt that Mary likes t

Following Stepanov 1999, who in turn follows Snyder 1992, I analyze such verbs to consist of a (hidden) complex NP. More precisely, an NP to which a CP is apposed, as schematized in (94).

(94) John grunted that Mary left = John gave [a grunt [that Mary left]]

As originally observed by Zwicky, almost all verba dicenda have homonymous nouns. For example, to holler corresponds to a holler, to grunt to a grunt. Zwicky also points out that given this

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[34]Sentential subjects may also be part of the list if they are treated as "satellites" (Koster 1978). However, there are reasons to believe that they are genuine arguments, much as nominal subjects (see Bošković 1995).

striking symmetry between verba dicenda and their corresponding

nouns, it is always possible to paraphrase any of these verbs

with a phrase like give a N, e.g., give a grunt. It is thus

plausible to assume, as does Stepanov, that manner of speaking

verbs have an underlying structure that involves a correspondent

noun. This suggestion is in line with the approach put forth by

Hale and Keyser 1993.

A similar reasoning applies to languages like Polish (and

many other languages), where extraction out of finite complement

clauses is prohibited.[35]

(95)   *kogo ty wiesz [że   Janek lubi t]

       whom you know   that Janek loves

       'Who do you know that Janek loves?'

To rule out such cases, I assume that indicative complements in

such languages function as appositives to a (sometimes null)

correlative pronoun, along the lines proposed by Torrego and

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[35]The conditional island discussed in Collins 1998 might

also fall under the purview of the present analysis, if one

assumes, quite plausibly, a structure like (ii) for consequents

of conditionals, which turns the extraction domain into an

appositive, impervious to Agree.

(i)   a. it is [the TA] that if the student does poorly, the

         teacher will fire t

      b. *it is [the TA] that if the student does poorly, then the

         teacher will fire t

(ii   [then [$_{CP}$ ...]]

Uriagereka 1993, among others, and schematized in (96). (For

Polish, Giejgo 1981 shows that the correlative pronoun <u>to</u> can be

overt.)

(96) know [that ...] = know [$_N$ IT [$_{CP}$ that ...]]

The structure in (96) essentially turns indicative complements

into adjuncts, hence inert domains for Agree. As the last example

makes clear, it is not the case that the present analysis

disregards structural configurations, but rather, it couples them

with conditions on Agreement that are not obviously cashed out in

structural terms. To emphasize this, consider the following

paradigm from Czech, reported by Starke (2001:38f.). Czech has a

fairly rich Case system, and allows instances of LB-extractions

like (97a,b), where extraction takes place out of structurally

Case-marked elements. By contrast, LB-extractions are disallowed

out of inherently Case-marked elements (97c,d).

(97) a. (?)ktereho   doktora   to byla chyba

          which.Gen doctor.Gen it   was fault.Nom

          'Which doctor's fault was it'

      b. ?ktereho   herce   by   sis rad   koupil obrazek

          which.Gen actor.Gen would you gladly buy   picture.Acc

          'Which actor's picture would you gladly buy'

      c. *ktereho   herce   bys   rad   vynadal priteli

          which.Gen actor.Gen would.you gladly scold   friend.Dat

          'Which actor's friend would you gladly scold'

      d. *ktereho herce se   bojis pritele

          which   actor you fear   friend.Gen

'Which actor's friend do you fear'

That extraction is impossible out of inherently Case-marked NP, as (97c,d) show is subsumed here under the present account of the 'adjunct condition': inherently Case-marked elements are opaque due to ϕ-inertness (see section 3.4.1).

To conclude this section on adjunct extraction, I note that cases of extraction out of purposive adjuncts like (98), extensively discussed in Browning 1987, Uriagereka 1988, and others, since they are legitimate, force me to regard such adjuncts as (possibly VP-internal) quasi-adjuncts[36] (see also Uriagereka 1988), transparent to Agree.

(98) who$_i$ did you go there [to visit t_i]

It is interesting to note that Landau 2000, who analyzes obligatory control as an instance of Agree, allows Agree to target VP-internal adjuncts to allow for cases of obligatory control inside adjuncts. Thus (98) does not constitute a counterexample to the present account of the adjunct condition.

3.5.3. Extraction out of displaced constituents

The cases covered so far subsume most instances of strong islands, except one: the subject condition; or, more generally, the ban on extraction out of moved elements, given the VP-internal-subject hypothesis (for evidence in favor of the latter, see Takahashi 1994. See also the Appendix to this chapter).

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[36]These may trigger agreement on verbal predicates, as Vinokurova 1999 shows (contrary to, say, causal adjuncts, see note 22 in chapter 2).

(99) *[which professor] did [a friend of $\underline{t}$] see you?

In contrast to the cases in the previous subsection, no appeal to any adjunct of sorts appears natural here. The domain out of which extraction takes place here (say, subject DP) typically agree. It should therefore be accessible to Agree.

In order to see how the present account rules out extraction out of displaced constituents, let us remind ourselves of the form displacement takes in the present theory. (For concreteness, I will use [SpecIP] subjects as instances of displaced constituents. As far as I have been able to determine, everything I say here for subjects carries over to other cases.) Consider (100), where $\underline{YP}$ is a displaced element, characterized by a non-trivial chain headed by I*. (C* is added to make subsequent discussion and reference to (100) easier.)

(100)   (C*) ... $[_{IP}$ $[_{YP}$ ... α ...$]_i$ $[I*$ $[$ ... $[_{WP}$ W $[\underline{t}_i]]$ ...$]]]$

CH(YP) = (I*,W)

Extraction out of [SpecIP] subjects is disallowed, as shown in (101).

(101)   *what$_i$ did [pictures of $\underline{t}_i]_j$ $[\underline{t}_j$ cause her to cry]

Descriptively speaking, extraction (the establishment of a Probe-Goal relation) is disallowed if the extractee (Goal) is contained within an element whose chain is headed by an S-OCC. In other words, Agree between C* and the element α contained in YP in (100) cannot take place. To understand the constraint just stated, one cannot simply appeal to some A-over-A condition that would block Agree from outside an agreeing domain (ϕ-over-ϕ).

Such a φ-over-φ condition would introduce massive undergeneration
in the grammar, as it would block any wh-movement out of an
argument (which agrees with its Case-assigner), as in (102),
corresponding to, say, (103).

$$|^{-\text{Agree-}}|$$

(102)   C* [... AGR [$_{DP}$ D [of [WH]]]]

         |_____X_____|

                Agree

(103)   who$_i$ did you see [pictures [of t$_i$]]

Clearly, it is the S-OCC* characterized YP in (100) that renders
the latter opaque. The situation is reminiscent of the one
discussed in chapter 1 and earlier in this chapter: if an element
α raises to a Case-checking position, it cannot move any further
(*John$_i$ seeems [t$_i$ is smart]). Once α lands in a Case-checking
position, it is "φ-complete:" it cannot agree any further up the
tree. Its chain is closed (defined by the presence of an S-OCC).
Recall that there is a way for the computational system to by-
pass φ-completeness by setting up an Agree relation between the
S-OCC heading the chain of the displaced element and the next
attractor up (which is how we can derive "[$_{C'}$ who C^0[$_{I'}$ t' I^0 [t
left]]]"). At this point, the parallelism breaks down between the
freezing effect discussed in chapter 1 (Case-to-Case movement)
and the one in (100). In the former situation, the two S-OCC that
must be related by Agree to ensure further movement are part of
the chain characterizing the same element (who in who left). In
(100), the troublesome S-OCC (I*) is not part of the chain

characterizing α. It is part of the chain characterizing YP, which contains α. Recall that Agree between two S-OCC turns them into a pair, and instructs the performance systems to interpret the displaced element in the specifier position of the higher S-OCC (e.g., pronounce _who_ in SpecCP in _who left_). We now see why setting up an Agree relation between the two S-OCC in (100) would not help, for the two S-OCC characterize different chains. What must be done for extraction to be allowed in (100) is find a way for C to probe inside a "closed" chain, a chain that is φ-complete. I claim that this is impossible: Agree cannot penetrate a domain that is already φ-complete.[37] (Let me stress that what I say here holds only for Agree-relations. Pure Match is able to penetrate domains that are φ-complete. See section 3.6.) Since it cannot by-pass φ-completeness via Agree between S-OCC, for the reasons just discussed, a Probe-Goal relation between C* and α in (100) is impossible. In other words, extraction out of displaced constituents is disallowed. We thus capture Takahashi's 1994

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[37]The present discussion appears to be too narrow, as it seems to deal only with φ-driven movement (movement that makes an element φ-complete). As is well-known, the ban on extraction out of moved constituents cover not only A-movement, but also A-bar movement (extraction out of topics, out of focused phrases, etc.). I am focusing here on extraction out of A-moved elements. (A-bar) extraction out of A-bar moved element may well be excluded independently (some version of the A-over-A condition).

generalization.[38] The technical implementation is different from

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[38]Takahashi (1994:73, 79) discusses alleged counterevidence to the generalization. In particular, he discusses the observation, originally due to Esther Torrego and developed in Chomsky 1986b and Lasnik and Saito 1992, among others, that wh-movement out of a wh-moved element is better than the corresponding extraction out of an A-moved element (i) vs. (ii).

(i)   ??[Who$_i$ did you say [[which pictures of $\underline{t}_i$]$_j$ C^0 Bill bought $\underline{t}_j$]]]?

(ii) *[who$_i$ did you say that [pictures of $\underline{t}_i$]$_j$ were bought $\underline{t}_j$]

Note that (i) is "better" than (ii), but is still degraded. Takahashi shows that small changes in (i) rapidly lead to sharp deviance, and concludes that (i) is not all too different from (ii), and thus does not constitute a argument against the generalization that no movement can take place out of displaced constituents.

Takahashi also discusses the potential relevance of scrambling out of a scrambled element, as in (iii).

(iii) [sono hon-o]$_i$ John-ga [Mary-ga $\underline{t}_i$ katta to]$_j$ Bill-ga   itta

     this book-Acc John-Nom Mary-Nom bought that Bill-Nom said

     to   omotteiru

     that think

'That book, John thinks that [that Mary bought] Bill said' Takahashi capitalizes on Saito's 1989 generalization that scrambling reconstructs to explain away (iii), but I think that (iii) constitutes a different case altogether, if, as I argue in

his Chain uniformity condition, but I agree with Takahashi that the ban on extraction out of displaced constituents results from what one might call a 'chain conflict.' Like Takahashi, I predict extraction out of subjects to be possible if the subject remains within VP (no S-OCC/φ-completeness for the extraction domain in this case). The prediction is borne out, as Takahashi 1994 and Starke 2001 (among others) discuss. I also predict extraction out of objects to be deviant if objects are displaced. Lasnik in press provides extensive arguments from English that this is the case.

Let me conclude the present treatment of the subject condition by noting that the subject condition and the adjunct condition are not alike (a point also emphasized in Stepanov 2001). Both adjuncts and subjects are inaccessible to Agree, but for different reasons. Adjuncts are opaque by definition (this is what makes them adjuncts); subjects, or, more generally, displaced elements become opaque ("φ-complete") once their contextual definition is taken into account. The theory presented here thus constitutes a departure from Huang's 1982 uniform CED-treatment. This appears justified on both cross-

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Boeckx (2001c), scrambling is an instance of (non-overt) resumption. If I am correct, (iii) is to be likened to cases of resumption inside displaced elements (falling under Match, not Agree).

For additional alleged counterexamples to Takahashi's generalization, see Appendix.

linguistic/typological and psycholinguistic grounds. Whereas to the best of my knowledge, no language allows extraction out of adjuncts, many languages allow extraction out of subjects. If true, this is a generalization one would like to capture formally. Also, building upon Snyder 2000, Hiramatsu 2000 shows that the subject condition, but not the adjunct condition (nor the complex NP/sentential subject case), is subject to satiation (improvement upon repeated exposure). The two conditions thus seem to have distinct natures. I thus take it to be a desirable consequence of the present theory that they receive distinct treatments.

3.5.4. Operator (weak) islands

Having covered strong islands, I now turn to weak islands. In contrast to strong islands, weak islands appear to be amenable to a straightforward Relativized Minimality/Shortest Attract account. In a configuration like (104), a [+wh] element whether intervenes between who and its trace (t), and thus conforms to the standard, Rizzi–1990 style formulation of intervention (105).[39]

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[39]Subject extraction out of a wh-island is sharply deviant.

(i)   *who did John wonder [whether t came]

This is expected, as closer scrutiny reveals that (i) is a PUC violation. Extraction here takes place out of an S-OCC (embedded T*). Therefore, Agree must take place between C* and T* to satisfy the PUC. But we saw in note 20 of the present chapter that (C*,I*) Agree is blocked if I* is selected by an argumental

(104)   ?*who$_i$ do you wonder [whether Bill saw t_i]

(105)   *α_i > β > t_i if α and β are "of the same type"

                                    (A/A-bar/Head) ['>' indicates c-

                                    command]

However, as noted in section 3.1.1, a Relativized Minimality account of (104) falls short of explaining why the deviance of the sentence is much milder than a Relativized Minimality violation for A-movement, such as the superraising example in (106).

(106)   *John seems that it was told t that Mary kissed Bill

In the present work, I will maintain that weak islands are to be accounted for as a intervention/minimality effect, as described in section 1.1.1. If we consider (104) and (106), an important difference emerges, one which accounts for why (106) is worse. In (104), the intervening element <u>whether</u> has already been involved in a checking relation (with the intermediate C^0), its chain contains an S-OCC. By contrast, in (106), the argumental <u>that</u>-clause out of which extraction takes place could raise to satisfy Infl's need (for arguments that sentential arguments check Case/ϕ-features, see Bošković 1995). In contrast to <u>whether</u> in (104), the <u>that</u>-clause in (106) hasn't taken part in any checking relation at the point of attraction by matrix INFL. In Chomsky's

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C (which is the case in (i); recall that I follow Bošković 1996, 1997 in taking C to be absent in <u>who did John say [$_{TP}$ t left]</u>). In the absence of Agree, (i) violates the PUC, in addition to being a case of intervention.

2000 terms, it is as active as, say, <u>John</u> (I take the presence of Case to signal the activity potential of an element, roughly as in Chomsky 2000, 2001a,b).[40] Accordingly, the <u>that</u>-clause should raise (it is the first potential Goal that matrix Infl encounters upon Search.) The cases in (104)-(106) are therefore distinct cases of intervention.[41] In (106) the closest Goal is still active, whereas in (104), it isn't. My claim in this section is that a whole range of weak islands arise from the presence of an interverner that has already checked its feature, as in (104).[42]

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[40]A legitimate question at this point is why the argumental infinitival clause does not 'intervene' in standard raising cases like (i).

(i)   John seems [<u>t</u> to be smart]

I would like to claim that [-Tense] infinitival clauses lack the relevant N-feature (ϕ) to be a matching goal for INFL, in contrast to <u>that</u>-clauses. For relevant discussion, see Boeckx 2001a.

[41]I disregard the fact that the intervener in (104) c-commands <u>who</u>, whereas in (106) <u>that</u> dominates <u>John</u>. Both fall under our definition of Shortest in section 3.1.1 ex. (2) above, and may in fact be unifiable (see Fukui 1997).

[42]If wh-islands are to be accounted for in terms of intervention, one has to account for why the intervention is much weaker still if extraction takes place out of non-tensed complements, as originally noted by Ross 1967.

(i)   what$_i$ do you wonder [how to cook t_i]

A similar improvement is found with subjunctive complements, as in (ii).

(ii) what$_i$ do you wonder [how you should cook $\underline{t}_i$]

That subjunctive and infinitival clauses pattern alike is a well-known fact (for interpretive similarities, see Bhatt 1999). For instance, in languages where infinitives are absent, it is common for subjunctive clauses to act as control complements (see Terzi 1992). Also, subjunctive and (most) infinitival clauses are typically more transparent for purposes of raising, showing clause-mate effects like obviation (Condition B), anaphor-licensing (Condition A), Quantifier Raising, clitic climbing, etc. (see Manzini 2000 for comprehensive overview). To characterize such transparency effects, one often hears of "collapsing of domains," whereby the subjunctive/infinitival predicate becomes part of the higher clause. Taking this collapsing of domains seriously may provide us with a clue to analyze the improvement noted in (i) and (ii). Following insights of Kayne 1998, I propose that the "collapsing" of domains is the result of raising of the embedded IP into the matrix clause (an abstract case of ECM), as schematized in (iii).

(iii) V_{matrix} [$_{IP}$ $I_{Subjunct./Infin.}$ [$_{VP}$...]]$_i$ [$_{CP}$ C^0 [$\underline{t}_i$]]

Subsequent reordering of the CP-IP sequence by remnant movement of CP will have the effect of burying the offending element too deeply for it to be able to c-command the relevant element to be attracted by matrix C^0, thus voiding intervention. (I leave aside

Having discussed wh-islands, let me proceed to other cases of weak islands.[43] Factive islands (in English and many other languages) are typically considered to be weak islands.[44]

(107)   ??what does John regret that Mary saw $\underline{t}$

Assuming, with Melvold 1991, that factive complements contain an

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the precise driving force and landing sites of the relevant movements).

(iv) V_{matrix} [[$_{CP}$ (wh) [C^0 [$\underline{t_i}$]]]$_j$ [[$_{IP}$ $I_{subjunct./Infin.}$ [$_{VP}$ ... (wh)]]$_i$ [$\underline{t_j}$]]]

Whether this account carries over to other "Tense-island" effects such as those discussed in Simpson 1995 is a question I leave for future research.

[43]Rizzi 1990 applies the minimality analysis to the negative island and pseudo-opacity effects (for recent discussion, see Pesetsky 2000, Bošković and Lasnik 1999, and Takahashi 1994). However, recent developments (see Beck 1996; Grohmann 1998, 2000; Lee and Tomioka 2000, among others) suggest that the facts in these domains are considerably more complex and subtle than previously thought, and that they necessitate a good deal of semantic and pragmatic considerations. Since the situation in this domain is not crystal clear, I will refrain from discussing the matter any further here.

[44]Here, as in wh-island contexts, adjunct extraction is sharply deviant. This is explained under the analysis of adjuncts proposed in section 3.4.4.

operator in SpecCP, we can subsume (107) under an operator intervention analysis, as in (108). (See also Manzini 1992, and especially Roussou 1994, who addresses the problems raised against Melvold's analysis in Hegarty 1992.)

(108)   what does John regret [Op that [Mary saw t]]

The minimality analysis also extends to another weak island effect, viz. the so-called specificity island. Since Chomsky 1973 it is known that extraction out of an indefinite (109a), a bare plural (109b), or a weak quantifier (109c) is fine, unlike extraction out of a specific indefinite (110a), or a regular demonstrative (110b). As for (110c), extraction is impossible if one has a specific picture in mind, but it considerably improves if that is not the case. (Here and throughout, I disregard possible shades of deviance among mild violations. For valuable discussion of some of the factors involved, see Starke 2001.)

(109)   a. what do you want to see [a picture of t]

          b. what do you want to see [pictures of t]

          c. what do you want to see [some picture of t]

(110)   a. *what do you want to see [a given picture of t]

          b. *what do you want to see [these pictures of t]

          c. (*)what do you want to see [the picture(s) of t]

Building upon the generalization that definite/specific objects undergo Object Shift, Mahajan 1992 suggests that the cases in (110) should be ruled out as CED effects (extraction out of displaced elements). Facts like (111) suggest, however, that displacement is not the relevant factor (for English, at least).

(111)   *what did you pick up [these pictures of t̲]

Taking the order <particle; NP> to signal the absence of Object

Shift, as in Johnson 1991, subextraction in (111) takes place

from a non-raised element. An alternative approach to Mahajan's

analysis must therefore be sought (see Uriagereka 1993 for

additional arguments against a CED-approach to the Definiteness

Island).

If we treat determiners (either all determiners, as

advocates of generalized quantifier theory would have it, or only

the relevant, 'strong' ones) as operators of sorts, the cases in

(110) fall within the purview of operator-intervention. But we

now have to account for why intervention is not found in (109)

(and, on the relevant reading, in (110c)). If such determiners

are not operators, a distinction can straightforwardly be made.

If they are, something else must be said.

Here I would like to follow work by Van Geenhoven 1996 and

others (see Dayal 1999, Wharram 2001), who have shown that in

many languages, elements headed by weak determiners (those in

(109)) incorporate into the predicate. (The idea behind such work

is that NPs , but not DPs, are predicates/property-denoting

elements, and thus form a complex predicate with the verbal

material adjacent to them.) Consider the following examples from

Inuit (data from van Geenhoven 1996).

(112)   a. angut   qimmi-qar-p-u-q   ..

               man.Abs.sg dog-have-ind-[-tr]-3sg

               'The man has a dog/(some) dogs'

b. juuna-p   qimme-q   tuqut-p-a-a

    Juuna.Erg dog-sg.Abs kill-ind-[+tr]-3sg3sg

    'Juuna killed the dog/a (specific) dog'

Suppose then that weak determiners incorporate (abstractly (via Agree) -- in the spirit of Baker 1988 -- in English, as the surface word order forces us to assume). Once incorporation of the offending element takes place, intervention will be obliterated, as shown schematically in (113). (The intervener no longer c-commands the trace of WH.)[45] (I assume, with Chomsky 2001a that a trace does not count as a potential goal. See already Uriagereka 1988.)

(113) $WH_j \ldots [[_v [D_{Weak}]_i V] [\underline{t_i} N (of) \underline{t_j}]]$

Of interest here is Uriagereka's (1988:81) observation that determiner cliticization (a head-movement process akin to incorporation) eases extraction out of DPs. Consider (114)-(115), from Galician.

(114)   e   de quén viche-lo   retrato

        and of whom saw-you-the portrait

        'And who did you see the portrait of?'

---

[45]Uriagereka 1993 observes that in languages like Spanish, extraction out of (post-verbal) subjects is subject to the specificity constraint (which he uses as an argument against an approach like Mahajan's). It is crucial that extraction take place out of post-verbal subjects, so as to allow incorporation, which as is known since at least Baker 1988 may only take place out of 'properly governed' positions.

(115)   *e   de quén viches o   retrato

           and of whom saw-you the portrait

Such facts fall nicely within the analysis of the specificity

island developed here.

3.5.5. Summary

To repeat the main conclusions of previous subsections, most

strong islands are ruled out because they constitute adjunct

domains, which Agree cannot reach into.[46] Cases of extraction out

of displaced constituents such as the subject condition are ruled

out because they give rise to PUC-violations, preventing the

establishment of the necessary Agree-relation. Weak islands

constitute cases of (operator) intervention.

It may be objected that the present account of islands is

pluralistic, nowhere near the uniformity obtained under theories

of proper government in the 1980s. However, as Pesetsky and

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[46]If the account of islandhood developed above is correct, I

am forced to conclude that parasitic gaps, which are found inside

strong islands, cannot be the result of extraction out of islands

via Agree. The mechanisms adopted here for extraction seem to

leave no room for such extraction processes. Therefore, parasitic

gaps must involve null resumptives, as has sometimes be suggested

(see Culicover and Postal 2001 for references), or else, they

must be 'emergent' properties, arising by the mechanisms of

semantic composition (and no extraction out of islands), as

explored by Nissenbaum 2000, building upon Chomsky's 1986b empty

operator analysis.

Torrego 2001 correctly emphasize, such theories were comprehensive because the definitions they made use of were enriched as cases were discovered, to the point that they became completely unnatural. Furthermore, there is evidence in favor of a pluralistic view of islands. First, as already pointed out, typologically, not all islands are equal. Some islands like the adjunct condition appear never to be violated. Second, psycholinguistic evidence: not all islands are subject to satiation effects (Snyder 2000, Hiramatsu 2000). Third, if Merchant 1999 is correct, not all islands are rescued by ellipsis. Interestingly, Merchant arrives at a typology of islands based on the saving effect of sluicing that is strongly reminiscent of the present one. In particular, Merchant is led to distinguish between strong islands (like the adjunct condition),[47] displaced islands (including the subject condition), and weak islands. Note that this is exactly the distinction we arrive at, a fact which I take to be very encouraging.[48]

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[47]Recall that for these, Merchant argues that they are not present in sluicing examples that appear to violate them.

[48]Let me add that I do not have a precise theory of why (some) island extraction is possible under sluicing. In particular, I do not know exactly why Agree can reach into a displaced constituent in English only if the latter is elided in PF, but maybe what ellipsis does is eliminate from the representation the S-OCC that would otherwise cause the chain to be ill-formed. I leave an exploration of this idea for future

3.6. Resumption and islandhood

Having laid out the consequences of Agree for extraction domains, I now return to resumption, and examine the extraction patterns found under (pure) Match (Match not accompanied by Agree).

3.6.1. No islands

As is well-known, RPs in many languages are insensitive to any sort of islands.[49] For instance, in Hebrew, RPs are immune to

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research. What matters for present purposes is the parallelism between Merchant's island typology and mine.

[49]From now on I will proceed on the assumption that the languages under discussion consistently use RPs as genuine RPs, not as intrusive elements (devices just only to rescue island violations). Sells 1984 observes that it is not unheard of for a language which makes productive use of RPs to resort to intrusive pronouns to save bad derivations. This assumption follows from the idea that there is something intrinsically opaque to certain domains, which I have argued against. Once this assumption is abandoned, it becomes possible to reconcile the movement analysis of resumption with island insensitivity. Furthermore, there are reasons to suspect that Sells's suggestion cannot be maintained. In some languages like Lebanese Arabic, discussed in section 4.5.2, stressed (/strong) pronouns are used exclusively as intrusive pronouns. (This may also be the case for the contexts mentioned in note 18 for Irish, Czech and Hebrew.)

the adjunct condition, to the Complex NP, and to the wh-island.[50]

(116)   eyzo iša   Dan higia [lifney še   Bill raʔa ota]

            which woman Dan arrived before that Bill saw her

            'Which woman did Dan arrive before Bill saw (her)'

(117)   raʔiti ʔet ha-yeled ʔašer/še-ha-cayad harag ʔet

            saw-I ACC the-child COMP-the-hunter killed ACC

---

[50]Wh-island effects are almost inexistent in Hebrew, even in the absence of an RP. See Reinhart 1981 for seminal discussion.

Ivy Sichel (p.c.) points out that she detects island effects like the Complex NP constraint when an RP appears in a free relative in Hebrew (see also Borer 1984a, from which the example in (i) is taken).

(i)   *raʔiti ʔet mi   še-hacayad   harag ʔet ha-ʔarie

      saw-I ACC who C-the hunter killed ACC the-lion

      še-radaf ʔaxarav

      C-chased after-him

      'I saw whoever the hunter killed the lion that was chasing him'

Other speakers (Yael Sharvit, p.c.) do not feel any island in this case. At the moment, I have no account of this variation among speakers. Hopefully, a clarification of the structure of free relatives will shed some light on the issue. It may be significant that both agreeing (wh-pronoun) and invariant complementizers co-occur in free relatives. As we will see in sections 3.6.2 and 3.6.3, the use of a wh-relative renders RPs sensitive to islands.

[ha-arie   ʔašer/še-radaf ʔaxarav]

  the-lion COMP-chased   after-him

'I saw the child that the hunter killed the lion that

chased (him)'

(118)   eize sefer saxaxta   [mimi   kibalta oto]

which book you.forgot from.who you.got it

'Which book did you forget from whom you got (it)'

If resumption is interpreted along the lines of chapter 2, the

facts in (116)-(118) show that there is nothing inherently

impossible about extracting an element from an adjunct (or a

complex NP, or an embedded question). As I have argued at length

in section 3.5, deviance results because of the constraints

imposed on Agree. If the need for Agree is eliminated, that is,

if Move can take place upon Match alone, as I propose in this

work, extraction will be freed from the constraints noted in

section 3.5. The 'trick' underlying resumption consists in

freeing the (moving) antecedent of the resumptive from any ϕ-

feature requirement, which gives rise to island insensitivity. ϕ-

features need not be activated if the attracting C just requires

Match, and if some other element (the resumptive D head) can

check the necessary Case/ϕ-feature requirement.

The general format of extraction under resumption inside

islands is given in (119). (Note that the term 'island' is used

for ease of exposition. No node is assumed to be a 'barrier'

intrinsically.)

(119)   C* ... [$_{('Island')}$ ... [$_{DP}$ D$_{RP}$ [{Wh/Op-}NP]]]

          |_____ Match (+Move) _____|

Like Ross 1967, the present analysis holds the view that movement
is potentially unbounded. Previous movement analysis of
resumption that assumed that the RP was a lexicalized trace/copy
did not provide a way of understanding the island insensitivity
noted in the domain of resumption. Under standard models of
grammar, inserting an RP (or lexicalizing a trace/copy) at PF
should not rescue any violation that took place within narrow
syntax. Saying that islands are PF phenomena is likewise
inadequate, as island effects are also felt in wh-in-situ
languages (see Huang 1982, Lasnik and Saito 1984, 1992, and for a
critique of processing accounts of islandhood, Lasnik 1999d).
Given that Ross's copying rule can no longer be formulated in
current terms, the present approach may well be the only one that
captures island sensitivity while maintaining that resumptive
chains arise by movement.

However, although many languages show no island effects
whatsoever under resumption, this is not true of all languages.
Here languages split further into two groups: some languages show
strong island effects under resumption (Scottish Gaelic, as per
Adger and Ramchand 2000; Greek, as per Alexiadou and
Anagnostopoulou 1997; and Romanian, as per Dobrovie-Sorin
1990.),[51] while others show both weak and strong island effects

---

[51]As already mentioned in chapter 2, Palauan shows robust
adjunct condition effects under resumption. However, Georgopoulos

(Serbo-Croatian, according to Goodluck and Stojanović 1996,
Željko Bošković, p.c.; and Vata, according to Koopman 1982, 1983,
Koopman and Sportiche 1986). In the following paragraphs, I show
how this state of affairs is accounted for within the present
theory.

3.6.2. Strong islands

Let us start with the languages that show strong island
effects under resumption. The data in (120)-(121) illustrate the
weak-strong island distinction for Scottish Gaelic (wh-island vs.
adjunct condition).

(120)   ?siud am boireanach nach eil fhios   agam ciamar a

            that the woman   not be knowledge at-me how   C

            phòsadh   duine sam bith i

        marry-cond. anyone   her

        'That's the woman who I don't know how anyone could

        marry her'

(1991: 80) notes that Palauan does not show any other strong
island effects (such as sentential subject/relative clauses)
under resumption, unlike Greek, Romanian, and Scottish Gaelic.
Although I fail to see how Palauan achieves the relevant
distinction(s), it may be worth noting that in all the strong
island cases that Palauan obviates under resumption, the 'island'
is introduced by the complementizer el kmo, which Georgopoulos
(1991:129) takes to be a selected complementizer. If such domains
are indeed selected via el kmo, that would free up the way for
Agree.

(121) *dè an t-òran nach eil duine sam bith ag èisdeachd ri

which song C-rel/neg is anyone listening to

Iain ged a tha e ga sheinn

Iain although C is he singing it

'Which song isn't anyone listening to Iain even though

he is singing it'

The same contrast is found in Greek, as illustrated in (122)-(123).

(122) gnorisa mja gineka pu den ksero pjos tin

got-to-know a woman C NEG know.I who her

pandreftike

married.he

'I got to know a woman that I don't know who married'

(123) *pira mia efimerida pu o Petros apokimithike

got.I a paper.Acc C the Petros fell-asleep

eno tin diavaze

while it read.he

'I got a paper that Petros fell asleep while reading

(it)'

Similarly, for Romanian:[52]

(124) cartea asta pe care nu ştiu cui m-ai

the book this PE which not I.know whom me-you.have

---

[52]To repeat the point I made in chapter 2, Romanian is

included here because of its similarity with Greek, although,

unlike Greek, it does not show any wh-island effect, even in the

absence of resumption.

rugat să-i   spun   s-o   cumpere

asked that-him   I.tell that-it buy

'The book that I don't know to whom you asked me if I

told him to buy (it)'

(125)   *omul   pe care   cunosc femeia   care __ l-a

the man PE which I.know the woman which   him

întîlnit __ a venit ieri

met   A came yesterday

'The man that I know the woman that met (him)

yesterday'

In light of the characterization of islandhood in section 3.5,

the sensitivity of RPs to strong islands should tell us that

Agree is involved: under the present set of assumptions, this is

the only factor that can play a role. Strikingly, some

independent properties of the languages confirm this expectation.

First, note that Scottish Gaelic uses the same complementizer

(a), irrespective of whether an RP is present or not. Witness

(126).

(126)   siud am boireanach a phòsadh Iain sam bith (i)

That the woman   C marry   Iain (her)

'That's the woman that Iain married (her)'

Put differently, Scottish Gaelic uses an agreeing complementizer,

even in the presence of resumption. Likewise, Greek uses a wh-

relative in the context of resumption, as illustrated in (127).

(Recall from chapter 2 that I take wh-pronouns to be agreeing Cs,

not matching Cs.)

(127)   agorasa   ena vivlio {to   opio}/pu   (to) diavasa

           bought.I a   book   the which/that   it   read.I

           'I bought a book which/that I read'

Romanian also uses a wh-relative in the presence of an RP, as

shown in (124).

In sum, the strong island effects shown above are expected,

given that the three languages we are examining use an inflected

complementizer in the context of RP. (A question arises for Greek

regarding the status of the pu 'that' complementizer that can be

used (and is used in (122)-(123)). To capture the island effects

with pu given the logic of the present work, I am led to conclude

that pu is an agreeing complementizer.)

Abstractly, a derivation of A-bar movement under resumption

in the languages under discussion can be schematized as in (128)

(the same derivation is given in stages in (129)).[53]

---

[53]A legitimate question to ask at this point concerns the

Last Resort character of resumptive chains formed as in (128). So

far, resumptive chains are formed as a Last Resort strategy to

meet the PUC. The alternative way of meeting the PUC in

situations where two EPP requirements have to be satisfied is to

establish an Agree relation between EPP-holders (S-OCCs). A

derivation like (128) appears to collapse both ways of meeting

the PUC (resumption and agreeing C*), which is problematic from

the point of view of Last Resort. However, upon closer scrutiny,

this is not so: (128) does conform to Last Resort because it in

fact does not collapse the two strategies used to meet the PUC.

```
|--------Match [+wh] + Agree + Move------|
```

(128)   [C* ...[... [AGR ... [_{DP} D [WH]]]]]

                          |Agree+Move|

(129)   a. AGR (Case-checking position) established a Probe-

           Goal relation with the resumptive element. Given my

           account of the definiteness island in 3.5.4, D must

           move so as to allow subsequent movement out of it

           (recall Uriagereka's case of cliticization in (114)).

The agreeing character of C* in the languages examined in this

section is not used to relate S-OCCs, it is simply a property of

the probe (just like finite T's agree with their goals, with no

relation between S-OCCs). In other words, it is a Case of direct

Agree (between the probe and the goal), not of indirect Agree

(between EPP-holders). Direct Agree by C was no option in the

instances of resumption examined earlier because in such cases

the RP pied-piped its complement (antecedent), thus freezing the

latter for extraction under (direct) Agree for reasons discussed

in section 3.5.3 (displaced constituents islands). As can be seen

in (128), D does not pied-pipe. By leaving its complement in

situ, it renders possible an Agree relation between C* and [wh].

With Chomsky (2001a:15) I assume a principle that demands

maximization of matching effects, which forces an Agree relation

whenever possible. In sum, (128) conforms to Last Resort. The RP

checks the S-OCC associated with Case, and, by not pied-piping

its complement, allows the latter to enter into an Agree relation

with C*.

b. C* establishes a maximal Probe-Goal relation with the wh-phrase: Match ([+wh]), Agree (φ), and Move. The trace left by movement of the D head does not block extraction.

The important thing to realize about the three languages at hand is that once Agree has to be established, it is again subject to the same constraint we saw in section 3.5. In particular, it is incapable of reaching inside 'adjunct' (more generally, non-selected) domains. That immediately accounts for the strong island effects illustrated above. That weak island effects are not felt is also expected, as here Agree can reach into the relevant domains. That weak island effects are weaker with RPs than without them may be the conjunction of several factors, given our current lack of understanding of judgment variability for weak islands more generally. If Cinque 1990 is right in taking more referential elements to be more readily extractable than others,[54] the observed improvement falls into place, as resumption forces a D-linked interpretation (see chapter 2). (Rudin 1988 provides data from Bulgarian that clearly show that wh-island effects disappear if the extractee is D-linked.)

Before turning to other cases of island effects under resumption, let me note that Demirdache's 1991 claim that strong island effects will be felt under resumption if the RPs are clitics cannot be right. (Athough the fact that the RP raises for

---

[54]I use 'extractable' in a pre-theoretical sense here. For Cinque, such cases are instances of base-generation.

Case checking is important for the present analysis, as it allows wh-extraction without triggering any definiteness effect). To show this, it is useful to recall Rizzi's (1982:70 n.6) observation that Italian has a way of forming relatives by resumption. Italian behaves like many languages discussed here in resorting to the invariant complementizer che, as in (130).

(130)　　　tuo　fratello, che　gli abbiano raccontato tutto ...

　　　　　　　your brother　　that him have　　　told　　　　everything

　　　　　　　'Your brother that they told (him) everything ...'

Note that the RP gli is a clitic. Crucially, as Rizzi notes, RPs in Italian are not sensitive to strong islands. Consider the following Complex NP (relative) example.

(131)　　　tuo fratello, che　temo　　　la possibilità　che　gli

　　　　　　　your brother　that am.afraid the possibility that him

　　　　　　　abbiano raccontato tutto ...

　　　　　　　have　　told　　　　everything

　　　　　　　'Your brother, that I am afraid of the possibility

　　　　　　　that they told (him) everything ...'

The Italian examples show that clitichood of the RP does not correlate with islandhood. Instead, the right correlation appears to be the use of an agreeing complementizer.

3.6.3. All islands

The account relying on the use of an agreeing C (wh-relative) given for the languages in the previous subsection carries over straightforwardly to the case of Vata, which displays island effects in the realm of resumption. Crucially,

Vata makes use of a wh-pronoun in relative clauses, as Koopman 1982, 1983 has shown. However, the case of Vata is slightly different from that of Greek and the two other languages discussed in section 3.6.2 because it exhibits even weak island effects with RPs.

Consider the following examples (taken from Koopman's work).

(132)   *àlÓ n`   nyla' nyni' nā Ò dI' mÉ la'

          who you wonder   C he cut it wh

          'Who do you wonder whether cut it'

(133)   *àlÓ n`  gūgū  nā  kòfí yÉ` yO'-O' mŌmO'`   Ò  yÉ`-ɓo'

          Who you think C Kofi saw child him-him he saw-rel

          yé lá

          PART wh

          'Who do you think that Kofi saw the child that he saw'

The strong island effect in (133) can be straightforwardly captured under the account developed in section 3.6.2. (The agreeing C probing for the wh-word can't access it as strong islands are impervious to Agree.) The weak island effect can also be captured once we capitalize on a special property of indirect questions in Vata that is absent from the languages considered in the previous subsection. Embedded questions in Vata are on the surface very similar to relative clauses ("I don't know who (it is that) you saw"). If embedded questions really are structurally like embedded clauses, that would account for their strong island character. Under this view, there is no significant difference

between (132) and (133).[55]

Serbo-Croatian is another language where both weak and strong island effects are found under resumption (see Goodluck and Stojanović 1996). Serbo-Croatian is unlike Vata in using RPs is in relative clauses introduced by the invariant complementizer *što*, and confined them to non-subject positions. (Željko Bošković (p.c.) points out that being a *pro*-drop language, Serbo-Croatian may have a resumptive subject *pro*.) Described in this way, Serbo-Croatian RPs are very much like those found in Hebrew or Irish. The only context where Serbo-Croatian RPs are special is that of extraction. As the following facts show, they are sensitive to both weak (134) and strong island (135) effects. (Data from Željko Bošković, p.c.; see Goodluck and Stojanović 1996.)

(134)   *čovek što se   sećam   gde   sam ga upoznala

man   that refl remember where aux him met

'The man that I remember where I met him'

(135)   *čovek što si otišao zato   što ga je Petar

man   C   are left   because that him is Petar

---

[55]Discussing the structural similarity between embedded clauses and relative clauses, Koopman (1983:46) claims that Vata does not treat wh-islands as Complex NPs (strong islands). Specifically, she shows that object extraction out of a wh-island is permitted, in contrast to object extraction out of a complex NP. I have no account for this asymmetry, but neither does Koopman (if embedded clauses are structurally like relative clauses, where does the contrast come from?).

otpustio

fired

'The man that you left because Peter fired (him)'

An analysis that regards RPs as lexicalized traces could easily capture the island facts but it would obscure the similarities with the other languages just noted. Further, it would leave unexplained why traces have to be spelled out.

Given the logic of the present analysis of island effects under resumption, I am forced to say that Serbo-Croatian complementizer što has φ-features; in other words, it is an agreeing complementizer. Such a claim can account for the island effects, but unlike what we found in other languages, there is no independent evidence I am aware of for the agreeing character of što (e.g., it is not a wh-relative). On the face of it, Serbo-Croatian allows RPs in relative clauses introduced by a wh-pronoun, in the (limited) so-called za koga relatives (see Goodluck and Stojanović 1996 for data and discussion.)

(136)   čovek [za koga] znam   da sam ga već   upoznala

         man   P who   know.we C aux him already met

'The man who I know that I have already met him'

However, Željko Bošković points out that there is compelling evidence in favor of treating the antecedents of the (resumptive) pronouns in such cases as being generated as arguments of the matrix clause, similar to (137). (In particular, Željko Bošković (p.c.) informs me that za koga relatives are limited to precisely those predicates that are compatible with the of-complement in

(137).)

(137)   I believe of John that he is clever

Although I have no evidence for the agreeing nature of _što_, there

may be a reason internal to the language for why _što_ is different

from the matching/invariant complementizers found in Irish and

elsewhere and discussed at length here. Recall the structure of

relative clauses proposed in Kayne 1994, and repeated here in

(138).

(138) $[D [_{CP} NP_i [C^0 [_{IP} \ldots t_i \ldots]]]]$

What is special about relative clauses (as opposed to, say,

interrogative clauses) is that CP is selected by a determiner.

Now, crucially, Serbo-Croatian lacks determiners -- not just

overt ones. There is indeed compelling evidence for the total

absence of determiners in the language (see, especially,

Stjepanović 1998, Zlatić 1997, and Corver 1990, 1992).[56]

Determiner-like elements such as demonstratives inflect like

adjectives. Also, adjunct extraction out of nominals is allowed

in the language (in contrast to what is found in many languages).

Consider (139).

(139)   a. Petar je pročitao knjige sa ove police

---

[56]Progovac 1997 provides arguments in favor of a null D head

for Serbo-Croatian nominals, by taking pronouns (which exist in

the language) to instantiate the functional projection D.

However, as Bošković has pointed out (class lectures Fall 2000),

none of her arguments require the existence of a D-head in non-

pronominal contexts.

Peter is read books from this shelf

'Peter read books from this shelf'

b. Sa koje police   je Petar pročitao knjige

from which shelf is Petar read books

'from which shelf did Peter read [books t]'

This is unlike English (and most other languages), where such extraction is impossible.

(140)   *[from which shelf]$_i$ did Peter read [books t_i]

Building upon Culicover and Rochemont's 1992 proposal that D is involved in blocking adjunct extraction out of nominals (see also Ochi 2000), Stjepanović 1998 argues that nouns in Serbo-Croatian are (bare) NPs.

If Serbo-Croatian lacks D (in non-pronominal environment; see note 56), we expect the featural make-up of relative CPs to be different from what it is in other languages, given (138). I would like to claim that one difference is the presence of φ-features on CP (the idea being that in the absence of D, which usually bears φ-features, some other element must have φ-features to enable the relative clause to function as part of the higher clause.)

Once the idea that što is an agreeing complementizer in Serbo-Croatian RPs, we can account for the sensitivity of RPs to strong islands (the account is identical to the one given above for Greek, Vata, etc.). As for weak island effects, we cannot appeal, as we did for Vata, to a relative-clause-like structure in Serbo-Croatian. However, the fact that Serbo-Croatian lacks

(non-pronominal) DPs may again help us. As has been noted by Rizzi 1990, Cinque 1990, and heavily exploited by Starke 2001, weak islands force a specific ('DP') reading on the extractee.[57] That the NP/DP distinction matters when it comes to extraction is shown by the fact that NP associates in existential constructions cannot be extracted out of a weak island. Witness (141).

(141)   *how many men do you wonder whether there were in the
             garden

Serbo-Croatian lacking D, it may be more difficult to attain the relevant reading in the language (it is not encoded as a categorial difference). If I am right, Serbo-Croatian is like Greek, Scottish Gaelic, and Romanian in strong island situations, and unlike them when it comes to wh-islands because the language lacks (non-pronominal) DPs (which forces an NP status onto the extractee).

3.7. Conclusion

In conclusion, I have offered an analysis of island effects that rests on the Principle of Unambiguous Chains (PUC). To briefly summarize the relevant facts: a chain may only contain one strong occurrence (one instance of EPP checking). If a chain contains more than one S-OCC, two options are available to avoid a PUC violation: (i) an Agree relation obtains among the S-OCCs,

---

[57]Recall also Rizzi's (1982:70 n.5) observation that wh-extraction out of an embedded question improves as the extractee is made (in his terms) "heavier." A similar observation is made in Bergvall 1984 on the basis of Kikuyu.

or (ii) the moving element is sufficiently complex so as to allow the chain to be split into two distinct EPP checkers. The latter case formally corresponds to resumptive chains.

Although the two strategies have the same effect, they do not have identical properties. In particular, the first (Agree) option is constrained by standard conditions on agreement. For instance, Agree cannot target non-selected domains, nor can it probe inside domains that are "ϕ-complete," characterized by a distinct S-OCC. I have argued that those two conditions accounts for strong island effects and for the ban on extraction out of displaced elements. Weak islands effects were analyzed as (operator) intervention effects.

Being free from Agree, Matching chains are not subject to the conditions just mentioned. This enabled me to explain why in many languages resumptive chains, which arise under pure Match, are insensitive to island effects. Once Agree is forced in the domain of resumption, due to independent, language-specific factors, RPs were shown to be sensitive to islands.

It is important to emphasize the results achieved here: a movement approach to resumption was shown to be compatible with the absence of island effects. Such a conclusion was reached by refining the mechanisms of chain formation, and by a pluralistic view on islandhood.

Appendix: "Wh-topics" and extraction in Austronesian

In this appendix, I examine the nature of wh-extraction in several Austronesian languages. I show that an analysis of resumptive chains like the present one captures some otherwise puzzling restrictions straightforwardly. Also, it eliminates a potential counter-argument to the generalization that extraction out of displaced elements is banned.

Several Austronesian languages are known to require so-called topic morphology on the verb in the presence of argument wh-extraction. I illustrate this constraint on the basis of Tagalog (relying on Richards 1998).

As shown in (142)-(143), Tagalog may topicalize either the subject or the object. In either case, the topic is marked by <u>ang</u>, and verbal morphology indicates the thematic role of the topicalized nominal. In (142), the infix <u>um</u> shows that the logical subject ("A(gent)") is the topic, while in (143), the infix <u>in</u> indicates that the direct object ("G(oal)") is the topic.

(142)   Bumili   ang lakaki ng tela

            AT-bought Top man   G   cloth

            'The man bought cloth'

(143)   Binili   ng lakaki ang tela

            GT-bought A   man   Top cloth

            'The cloth, a man bought'

Topicalization interacts in interesting ways with wh-extraction. As the data in (144) show, Tagalog requires that topic morphology

be associated with the extractee. (Similar facts hold for both wh-questions and relative clauses.)

(144)   a. sino ang bumili   ng tela

         who T   AT-bought G cloth

         'Who bought cloth'

    b. *sino ang binili   ang tela

         who T   GT-bought Top cloth

    c. ano ang binili   ng lakaki

         what T   GT-bought A man

         'What did the man buy'

    d. *ano ang bumili   ang lakaki

         what Top AT-bought Top man

One may be tempted to analyze this restriction as a Minimality requirement. Extraction out of a non-topic would be blocked by the topic, much as in (145).

(145)   *what do you think that to the boy John gave

However, note that extraction of non-topicalized elements (adjuncts, which do not trigger topic morphology on the predicate) does not interfere with topic marking, as shown in (146).

(146)   a. kailan bumili   ang lakaki ng tela

         when   AT-bought Top man   G cloth

         'When did the man buy cloth?'

    b. kailan binili   ng lakaki ang tela

         when   GT-bought A man   Top cloth

         'when did the man buy cloth?'

Nakamura 1994 offers an economy account of the above facts. He follows Guilfoyle, Hung, and Travis 1992 in taking topicalization to involve overt movement to SpecIP. The topic-requirement on extraction (hereafter, TRE) follows from the requirement that shorter moves are favored. As can be seen in the derivations of the sentences in (147), the good cases always consist of two short steps, as opposed to a long one. (The position of the verb is immaterial.)

(147) a. [Wh [$_{IP}$ t [$_{VP}$ SUBJ V OBJ]]]

    b. *[Wh [$_{IP}$ [$_{VP}$ SUBJ V OBJ]]]

    c. [Wh [$_{IP}$ t [$_{VP}$ SUBJ V OBJ]]]

    d. *[Wh [$_{IP}$ [$_{VP}$ SUBJ V OBJ]]]

TRE-effects are absent in (146) because the more economical (2 short moves) derivation is unavailable, hence does not enter the comparison set.

Richards 1998 notes that, despite its appeal, Nakamura's analysis fails to predict a difference between (144a) and (146a). Whereas (146a) appears to correspond closely to its English translation, (144a) is closer to a cleft of the form "the one who bought the cloth was a man" or "it was a man who bought the cloth." The cleft nature of some Tagalog questions has long been recognized (see already Schachter and Otanes 1972). Further, as

Richards notes, the distribution of <u>ang</u> in (144)-(146) reveals the cleft nature of (144a) as opposed to (146a). As he notes, wh-clefts obligatorily involve <u>ang</u> placed in front of the verb, while adjunct wh-extraction disallows <u>ang</u> in such a position.

(148)   a. sino *(ang) bumili ng tela

          b. kailan (*ang) bumili ang lakaki ng tela

Richards argues for a biclausal structure in cases of wh-clefts, with the wh-word base-generated in its surface position, and relating to an empty operator that moves from a clause internal position). An alternative would be to say that wh-clefts are formed by the means of a null resumptive pronoun.[58] By doing so, we avoid the difficult question of what it means for a wh-phrase to be a topic (but see Grohmann 2000 and Rizzi 2000 for analyses that treat D-linked wh-phrases as topics, due to the presupposition they carry. Anticipating what follows, I'm happy to say that wh-phrases in the languages under investigation are D-linked. But saying that they are 'topics' (referential elements, by definition) seems to me to be far-fetched for operators.) With Richards, I conclude that Nakamura's derivations (147a,c) are unavailable, due to a semantic clash. (142b,d) are ruled out because of topic intervention. The successful

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[58]Tagalog uses overt resumptive pronouns in topicalization contexts only (not, e.g., in questions; see Kroeger 1993:215). Null resumption in Tagalog has been defended by Miller 1988, who relies on Hale's 1983 correlation between free word order and the use of null arguments.

derivations involve the use of an RP. This is summarized in (149)-(150).

(149)　　a. *[Wh V [$_{IP}$ t [$_{VP}$ SUBJ V OBJ]]]　[semantic clash]

^_____|____|

b. *[Wh V [$_{IP}$ OBJ-top [$_{VP}$ SUBJ]]][topic intervention]

^_____|

c. *[Wh V [$_{IP}$ t [$_{VP}$ SUBJ OBJ]]]　　[semantic clash]

^_____|_____|

d. *[Wh V[$_{IP}$ SUB-top[$_{VP}$ OBJ]]]　　[topic intervention]

^_____|

(150)　　a. [Wh$_j$ V [$_{IP}$ [RP t$_j$]$_i$ [$_{VP}$ t$_i$ OBJ]]]　　(=(144a))

b. [Wh$_j$ V [$_{IP}$ [RP t$_j$]$_i$ [$_{VP}$ SUBJ t$_i$]]]　　(=(144c))

The examples in (146) are analyzed via base-generation of the adjuncts in their surface positions, in accordance with the assumptions laid out in section 3.4.4.[59]

Note that our analysis of the TRE effect in Tagalog (and by extension, in the other Austronesian languages displaying the effect) in terms of resumption is reminiscent of the fact that RPs are found in questions when the latter have a structure similar to relatives (or clefts; as in Irish). I will now show how given the account just given to the TRE it now comes as no

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[59]Note that the post-subject position of the object topic in (144b) either demands that topicalization be an instance of covert movement (or pronunciation of a low copy), or else requires the subject to move beyond IP, perhaps as part of the VP (remnant movement)).

surprise that extraction out of a subject topic is possible, as in the example in (151), from Malagasy.

(151)   ny vehivavy$_i$ izay noheverin-dRakoto   fa

the woman   that TT-thought-by Rakoto that

[nividy vary ___$_i$]

bought rice

'The woman that it was thought by Rakoto [that <u>t</u>

bought rice]'

Stepanov 2000 takes (151) to be a counterexample to the CED, and also to Takahashi's claim that extraction out of a moved constituent is disallowed. As Stepanov observes, if Guilfoyle et al. are right that subjects move overtly to SpecIP in Malagasy, extraction out of subjects should be impossible in Malagasy, contrary to fact. As (151) shows, the noun phrase <u>ny vehivavy</u> can extract out of the sentential argument. However, once the possibility of a resumptive chain is used for topics, as I did above, nothing blocks extraction out of subjects. The derivation in (151) would receive the (simplified) representation in (152).

(152)   [$_{FP}$ ny vehivavy$_i$ [F^0$_{Match}$ [izay noheverin-dRakoto fa

[nividy vary [D [<u>t$_i$</u>]]]]]]

All we have to say is that extraction out of subjects, which is blocked if it has to proceed via Agree (see section 3.5.3), is possible in Malagasy due to the presence of an RP. If so, examples like (151) do not jeopardize Takahashi's generalization that extraction out of displaced constituents is barred.

4. Further Aspects of resumption

The previous two chapters focused on core facts about resumption, and tried to account for them in the most natural way. In this chapter, I expand the data base, looking at a more limited, or marked set of facts, and show how these can be accounted for along the lines developed in chapter 3.

4.1. Elaborate patterns

This section examines complex patterns of wh-extraction under resumption in which it appears that mixed chains are formed. Two such cases have been identified in the literature. McCloskey to appear analyzes Irish patterns in great detail, and so does Finer 1997 for Selayarese. Both suggest that the computational component is capable of creating 'mixed' chains (interleaving of movement and resumption), in which crucially the possibility of base generation of an operator in its surface position is assumed. My goal in this section is to show that the subextraction analysis developed in the previous chapters accounts straightforwardly for all the attested patterns, and furthermore avoids some thorny technical problems that arise when mixed chains are assumed to be available in narrow syntax.

4.1.1. Irish

The textbook description of movement/resumption found in Irish for relative clause formation (and related processes, such as clefts or questions; see McCloskey 1990) is as presented in chapters 2 and 3, and repeated here under (1)-(2).

(1)   an   t-ainm a   hinnseadh dúinn a   bhí __ ar an   áit

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    the name   aL was-told   to-us aL was   on the place

    'The name that we were told was on the place'

(2)   cúpla muireara a bhféadfá a rá go rabhadar bocht

    couple household aN you-could say GO were   poor

    'A few household that you could say were poor'

An series of aL complementizers, as in (1), corresponds to a 'movement' structure, while the presence of aN signals the use of an RP. As we saw in chapter 3, the facts are straightforwardly captured under an Agree (ϕ) vs. (pure) Match (μ) analysis. (3) provides a schematized version of the analysis given in chapter 3 for (1), and (4) does the same for (2). (I focus on the Probe-Goal relation, and do not represent successive cyclic movement steps, which are common to both cases.)

(3)   [D-XP]$_i$ [aL$_\phi$ ... [aL$_\phi$ ... [aL$_\phi$ ... t$_i$]]]

        |_____|_____|____/

        Agree

(4)   (D) [NP]$_i$ [aN$_\mu$ ... [go ... [go ... [$_{DP}$ t'$_i$ [D t$_i$]]]]]

        |_____/

        Match

However, as we will see immediately, the neat dichotomy found in Irish is something of an idealization, representing unmarked patterns only. McCloskey to appear, in particular, stresses the relevance of more marked patterns, and the need to take them into account. The first pattern, schematized in (5), and illustrated in (6), is one where the topmost complementizer is aN, and the intermediate complementizer is aL.

(5)   DP [aN ... [aL ... [t̲]]]

(6)   rud   a   raibh coinne   aige   a   choimhlíonfadh __ an

thing aN was   expectation at-him aL fulfill   the

aimsir

time

'Something that he expected time would confirm'

We seem to face a mixed case of movement/resumption. Such a

mixture poses non-trivial problems for analyses that subsume the

gap/resumption alternation under the Merge/Move options.[1] For an

analysis like the present one, a possibility immediately avails

itself to account for (5). To see this, let us go over some

properties of movement and relativization.

Under Kayne's 1994 raising analysis of relative clauses, a

relative clause external D-head selects a CP complement, as in

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[1]In particular, Norbert Hornstein (p.c.) has drawn my

attention to the fact that letting movement and resumption (non-

movement) interleave in chain-formation is bound to conflict with

the preference of Merge-over-Move (Chomsky 1995, 2000). McCloskey

to appear contains a detailed attempt to come to terms with the

Merge-over-Move problem in the case of mixed chains. Evaluating

his proposal here would take me too far afield, as it would

require a detailed critique of phase-based derivations, which

McCloskey crucially relies on. For some remarks, see the

beginning of chapter 2.

(7).[2]

(7) $[_{DP}$ D $[_{CP}$ NP$_i$ $[_{C'}$ C^0 $[_{IP}$ ... $\underline{t_i}$ ...]]]]

The structure in (7) seems to be the structure needed to account for why nominal elements that typically cannot appear with a definite determiner (proper names, idiom portions, NPs in existential constructions) can do so in relative clauses. Witness (8)-(10).

(8) a. *the Paris was nice

b. the Paris that I knew as a boy was nice

(9) a. *John took the advantage of Bill

b. the advantage that John took of Bill ...

(10) a. *there were the flowers in my garden

b. the flowers that there were in my garden ...

Once the presence of an external D head is taken into account, capturing the mixed pattern in (5) becomes relatively straightforward. The first part of the derivation, targeting $\underline{aL}$, is obtained by raising the NP. For the sake of concreteness, let us assume that Irish $\underline{aL}$ relatives are identical to English wh-relatives, so that what raises to $\underline{aL}$ is an NP with a null operator, that gets stranded in COMP, as in (11), just as $\underline{which}$ gets stranded in (12).

(11) a. $[C_\phi$ ... [... [OP NP]...]]

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[2]The need for an external D head goes back to the earliest explorations of the raising analysis of relative clauses, among which Vergnaud 1974 and Schachter 1973. For recent reappraisal, see, among others, Bhatt 1999, Bianchi 2000 and Safir 1999.

b. [[OP NP]$_i$ [C$_\phi$ [... t_i ...]]]

c. [[NP$_j$ [OP t_j]$_i$ [C$_\phi$ [... t_i ...]]]]

d. [D [[NP$_j$ [OP t_j]$_i$ [C$_\phi$ [... t_i ...]]]]]

(12) a. [C$_\phi$ ... [... [which NP]...]]

b. [[which NP]$_i$ [C$_\phi$ [... t_i ...]]]

c. [[NP$_j$ [which t_j]$_i$ [C$_\phi$ [... t_i ...]]]]

d. [the [[NP$_j$ [which t_j]$_i$ [C$_\phi$ [... t_i ...]]]]]

In itself, (11d) represents a possible final stage of a derivation. But further options arise if movement is long-distance. In particular, there is an option of iterative relative clause formation, which I will show covers the mixed chain patterns identified by McCloskey.

Recall that long-distance successive cyclic movement is assumed here to take place in 'one-fell swoop,' with no independent (i.e., checking) intermediate steps. This gives rise to the complementizer harmony witnessed in (1). But if iteration takes place, we will have independent intermediate movements. What iteration essentially does is combine independently formed (i.e., triggered) chains into one.

Let us go back to the stage in (11d). Once that stage is reached, there are two possible ways of continuing the derivation; both of which are attested in Irish. One consists in selecting another aL complementizer, which demands an agreeing goal. Based on the fact that adjuncts never agree, but arguments do, I assume that an agreeing complementizer demands an argument. Following Longobardi 1994, I take argumenthood to be a property

of DPs (not NPs, which are predicates, property-denoting elements.) That means that if another aL is selected after (11d) is formed, the whole DP, not just the NP, must raise. For that the raised NP and D must form a constituent. There are various ways of achieving this. One of them, which I will assume here, largely for the sake of concreteness, is to (obligatorily) extrapose the relevant portion of the relative clause highlighted in (13) (on extraposition of relative clauses in Irish, see McCloskey 1999).[3] (Here I have added functional information to the stage in (11d).)[4]

(13)   D [$_{ZP}$ NP$_j$ Z^0 [$_{CP}$ [OP t_j]$_i$ [C$_\phi$ [... t_i ...]]]]

Once extraposition has taken place, it becomes possible to raise D and NP without the rest of the relative clause. The derivation sketched will lead to an iterative aL pattern (the trace to the right of XP records the extraposition step in (13)). (The derivation in (14) provides an alternative to (3) to generate

---

[3]Extraposition as a rightward movement rule is here used in an a-theoretical sense. A series of leftward movements would achieve the same result. (See Kayne's 2000c reply to McCloskey's 1999 analysis of extraposition in Irish.)

[4]The presence of ZP allows me to make extraposition comply with the currently dominant view that no syntactic operation may target an intermediate projection (C' in the present case). (See next note for further discussion.)

(1).)

(14) [[D [$_{ZP}$ XP ($\underline{t}_j$)]]$_i$ C$_\Phi$ [... $\underline{t}_i$ [$_{CP}$ OP [C$_\Phi$ ...]]]]

                            aL   aL

In addition to the option in (14), there is another possibility

of interative relativization, viz. the selection of an $\underline{aN}$

complementizer. This is the option which I take to be illustrated

in (6). If $\underline{aN}$ is selected, all that has to be done is raise the

NP, 'stranding' (external) D, as depicted in (15).[5] (Here and

below, a stage-by-stage derivation is provided immediately below

the schematic derivation.)

(15) (D) [NP]$_i$ [C$_\mu$ ... [D$_j$ [$_{ZP}$ $\underline{t}_i$ Z$_0$ [$_{CP}$ [OP $\underline{t}_i$]$_j$ [C$_\Phi$ ... $\underline{t}_j$]]]]]

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[5]The reader may wonder how movement of the NP in (15) is

possible, given that the chain that is represented in the

derivation contains two strong positions (C* and Z*), which are

not related by Agree (C* is a non-agreeing C). However, the

problem disappears if the movement step raising XP from the

complement position of $\underline{OP}$ to SpecZP is omitted (which is possible

if $\underline{Z}$ is not part of the numeration). Alternatively, we may assume

that extraposition of the lower relative clause again takes place

so that what raises is NP and the trace created by extraposition

(of ZP).

To keep the representations in this section as uniform as

possible, I will disregard that option, and adopt a

representation which appears to conflict with the assumptions in

chapter 3. The reader may verify that the more precise derivation

sketched in this note can always be used.

<div align="center">aN   aL</div>

  a. C_ϕ Attracts [OP [NP]]

  b. NP raises out of [OP [<NP>]] to Z^0

  c. NP Matches C_μ

The availability of an external D-head can be put to good use to account for another 'mixed-chain' pattern found in Irish, illustrated in (16)-(17).

(16) DP [aL ... [aN ... RP]]

(17) aon duine a cheap sé a raibh ruainne tobac aige

    any person aL thought he aN was scrap tobacco at-him

    'Anyone that he thought had a scrap of tobacco'

(16) is the mirror image of (6), in that the topmost complementizer is <u>aL</u>, and the embedded complementizer is <u>aN</u>. In our terms, the presence of <u>aN</u> forces the raising of a bare NP. At this point, again, two options of iteration are possible (both of them are again attested in Irish). Either an <u>aL</u> complementizer is selected, and a DP is forced to raise; or an <u>aN</u> complementizer is selected, and the NP that raised to the first <u>aN</u> is raised once more.[6]

The first option, sketched in (18), gives rise to the pattern in (16). (ZP is omitted for ease of exposition.)

(18) [[D [NP$_j$ (t_k)]]$_i$ [C$_\phi$ ... t_i [t_j C$_\mu$ ... [t'_j [D t_j]]$_k$]]]

<div align="center">aL   aN</div>

  a. C_μ raises NP out of DP

---

[6]Again, the reader should bear in mind the more accurate version of the derivation discussed in the previous note.

   b. the CP-external D (selecting CP) is merged

   c. C_μ' undergoes extraposition

   d. C_0 raises (clause-external) D + NP (+ trace of extraposed C_μ)

The second option gives rise to another pattern of iterative relative clause formation found in Irish, schematically represented in (19), and illustrated in (20).

(19) DP [aN ... [aN ... RP]]

(20) an bhean a raibh mé ag súil a bhfaighinn uaithi   é

      the woman aN was   I hoping aN get   from-her it

      'The woman that I was hoping that I would get it from her'

The derivation needed to capture (19) is given in (21). (Note, crucially, that, unlike the _aL_-series, which can be generated via (3) or (14), the derivation in (21) is the only way of generating an _aN_-series. A derivation equivalent to (3) is unavailable (see (4)), as _aN_ is not an agreeing complementizer.)

(21) [[NP]$_i$ [C_μ ... [D [[t_i'][C_μ ... [D t_i]]]]]]

            aN   aN

   a. the lower C_μ raises NP

   b. the higher C_μ raises NP[7]

In sum, mixed chains are instances of iterative relativization. (It may well be that iteration is what accounts for the marked status of the patterns discussed here.) By concentrating on the various possibilities of stranding clause internal and clause external Ds (sometimes in the same derivation), the complex

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   [7]More accurately, [NP $t_{aN-clause}$].

patterns found in Irish provides rather strong support for a raising analysis of relative clauses, and for a raising/stranding analysis of resumption.

4.1.2. Selayarese

Let us now turn to another, somewhat 'milder' case of mixed chain formation, identified for Selayarese in Finer 1997. Recall from section 2.5 that Selayarese allows for agreement or non-agreement in A-bar chains. ("Wh-")Agreement is indicated by null agreeing suffixes on verbs and null complementizers. Absence of ("wh-")agreement is signaled by the use of overt complementizers and overt agreement suffixes on verbs. The patterns are repeated here in (22)-(23).

(22) apa mu-isseʔ la-ʔalle __ i Basoʔ

     what 2fam-know 3-take   h Basoʔ

     'What do you know that Basoʔ took?'

(23) apa mu-isseʔ muko la-ʔalle-i <u>pro</u> i Basoʔ

     what 2fam-know that 3-take-3 (pro) h Basoʔ

     'What do you know that Basoʔ took?'

Finer observes an inconsistency in chain formation displaying no agreement in Selayarese. As can be seen in long-distance cases such as (24), the agreement suffix is always missing on the matrix verb (contrast that with the situation on the intermediate verb).[8]

(24) apa mu-kua(*-i) muko la-isseʔ-i i Ali lako la-ʔalle-i (<u>pro</u>)

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[8]In this respect, Selayarese appears to be the mirror image of the pattern found in Duala, described in Épee 1976.

What 2fam-say-3   comp 3-know-3   h Ali comp 3-take-3   pro

i Baso?

h Baso?

'What did you say that Ali knows that Baso? took?'

Finer takes the obligatory absence of an agreement suffix on the matrix verb as evidence for the formation of a mixed chain in the case of resumption in Selayarese. In particular, he argues that in the case of resumption, the wh-phrase antecedent always starts off right at the edge of the CP complement of the matrix V. As he takes the absence of an agreement suffix to correlate with a movement chain, the short movement step necessary to bring the wh-phrase antecedent from the edge of CP to the topmost SpecCP and yield the surface word order accounts for the obligatory absence of an agreement suffix on the matrix verb.

Finer's case for the existence of mixed chains is slightly different from McCloskey's. For Finer resumptive chains are always mixed chains. For McCloskey they need not be (they may be an instance of pure merge in the highest SpecCP). But, crucial to both analyses is the availability of merger of the operator in its non-theta-position.

Instead of arguing for mixed chains, thereby avoiding the difficult question of what determines the merger of the wh-phrase antecedent at the edge of the highest embedded clause (no trivial matter if one assumes, with Chomsky 2000, that Merge is an instance of a checking-like relation), I would like to argue that the agreement suffix is obligatorily absent on the matrix verb

because of the relation that exists between matrix V and non-agreeing matrix C. The relation may be instantiated in various ways. The most straightforward one is to say that V raises to C (Selayarese is a VSO language, and may thus well have independent V to C, as currently standard accounts of VSO word order have it). In order to raise to a non-agreeing element (C_μ), V must lack agreement features. (Why the 'agreement suffix' must be absent but the agreement prefix is present, I suspect, has to do with the ergative-absolutive Case-system of the language, which I cannot go into here.) There is therefore no need for intermediate merger of the wh-phrase antecedent. (Non-)agreement patterns suffice to account for the (at first puzzling) property of matrix verbs identified by Finer.

4.2. Resumptive pronoun fronting

In this section I examine the phenomenon of RP-fronting. The phenomenon has been analyzed for Irish (McCloskey 1990, to appear), Hebrew (Borer 1984a, Doron 1982, Fox 1994, Reinhart 1981, Shlonsky 1992), and Swiss German (van Riemsdijk 1989), among other languages (see also Demirdache 1991 for additional data).[9] Recently, McCloskey to appear has suggested that RP-fronting is a uniform process (at least for the three languages just mentioned), with superficial differences arising from low-

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[9]Željko Bošković (p.c.) points out that the (forced) second-position cliticization of (non-prepositional object) RPs in Serbo-Croatian may be another instance of the same phenomenon. It certainly resembles the Swiss German pattern analyzed below.

level prosodic processes. I provide arguments against a uniform
account, which, when taken together, support the general analysis
of resumption developed here.

4.2.1. Irish

In questions,[10] under certain circumstances, it is possible
to front an RP in Irish, as shown in (25). (An in-situ RP is also
an option, not illustrated here.)

(25) cé leis   a raibh tú ag caint

who with him aN were you talk-Prog

'Who were you talking to'

The possibility of RP-fronting is limited by a number of prosodic
factors. The sequence formed by the interrogative pronoun and the
inflected preposition constitutes a single prosodic unit, with
the syllable corresponding to the preposition being the more
prominent of the two. The interrogative pronoun must be stress-
less and monosyllabic. Let us say that it is clitic-like.

Following Borer's 1984a analysis of RP-fronting for Hebrew
(see also Reinhart 1981), McCloskey 2000b assumes that RP-
fronting is an instance of topicalization targeting a position
immediately below C (aN), followed by prosodic movement, which
switches the complementizer and the fronted topic, giving rise to
the observed word order (<Wh-antecedent; fronted RP; C^0>), as
depicted in (26) (Target: (25)).

(26) a. raibh tú ag caint [leis]   -> Topicalization

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[10]McCloskey 1990 reports instances of RP-fronting in
relative clauses in a number of now extinct dialects of Irish.

b. [leis]$_i$ raibh tú ag caint $\underline{t}_i$ -> merger of C

c. a [leis]$_i$ raibh tú ag caint $\underline{t}_i$ -> merger of operator

d. cé a [leis]$_i$ raibh tú ag caint $\underline{t}_i$ -> prosodic flip (in PF)

e. cé [leis]$_i$ a $\underline{t}_i'$ raibh tú ag caint $\underline{t}_i$

A prosodic movement analysis of the data is appealing in light of the prosodic restriction on RP fronting. However, analyses relying on PF movement processes face severe criticism, both conceptual and empirical. As Kayne (2000c:44) observes, any restrictive theory should not assume a set of similar operations affecting two distinct components of the grammar, unless forced to do so. Hence, ceteris paribus, if a syntactic movement analysis is able to account for RP fronting without appealing to PF, it must be regarded as superior. More importantly, Bošković 2001a provides a book-length argument against PF-movement processes, focusing on prosodic inversion (which to this day remains the most worked out instance of PF-movement).[11] I

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[11]Prosodic inversion has often been invoked (in its most detailed fashion, by Halpern 1995) to ensure that elements which appear sentence initially satisfy their enclitic requirement. The role of Prosodic inversion is to 'switch' (as a last resort) a clitic and the first stressed word (or first phrase) to satisfy the enclitic/proclitic properties of the clitic. Halpern (1995:63) formulates the operation as in (i):

(i)   For a directional clitic, X, which must attach to a W [phonological word] to its left (respectively right),

       a. if there is a W, Y, comprised of material which is

therefore take it to be desirable to provide an account of RP-fronting that does not rely on PF-movement.[12]

_____

    syntactically immediately to the left (right) of X, then adjoin X to the right (left) of Y.

    b. else attach X to the right (left) edge of the W composed of syntactic material immediately to its right (left)

Unlike other "stylistic rules" in PF, which are often disguised versions of syntactic movements that do not comply with certain sets of assumptions, prosodic inversion has a well-defined domain of application, defined in prosodic (as opposed to purely syntactic) terms. I concur with Bošković (2001a:192-193) that a rejection of prosodic inversion amounts to a rejection of PF-movement altogether.

[12]McCloskey 2000b likens his prosodic movement account of RP-fronting to Merchant's (to appear) treatment of 'swiping,' the process that flips around some prepositions and wh-phrases in sluicing contexts:

(i)   Peter went to the movies, but I don't know with whom/who with

In work in progress, I extend the copy-deletion analysis offered here for RP-fronting to such instances of preposition stranding in Comp. Taking the structure of PPs to contain several projections (see van Riemsdijk 1978, Watanabe 1993, Koopman 1996, among others), I argue that the special focus requirements imposed on sluicing interact to license the pronunciation of the lower copy of the preposition. The derivation corresponding to

Such an account is possible under a movement analysis of resumptive-antecedent chains like the present one, which assumes that the RP and its antecedent form a unit upon First Merge. A structure like (25) may be derived in the same way as (27) are derived in a Sportiche-type analysis, viz. via pied-piping (for now, I set aside the revised analysis of Q-float put forth in Bošković in press, discussed in section 2.4).

(27) a. $[_{QP}$ [they]$_j$ [all <they>$_j$]]$_i$ were willing to come $\underline{t}_i$

b. $[_{QP}$ [what]$_j$ [all <what>$_j$]]$_i$ did they decide to read $\underline{t}_i$

Indeed, once a movement analysis is adopted, the independent process of pied-piping becomes available. I argue that pied-piping is what accounts for RP-fronting. Thus, (25) receives a derivation like (28) (details omitted).

(28) $[_{CP}$ $[_D$ $[cé_i$ leis] $[_{DP}$ <cé>$_i$]]] $[_{C'}$ a raibh tú ag caint $\underline{t}_i$]

To restrict the pied-piping account to the attested cases, I assume that only when the 'antecedent' of the RP has the properties of a clitic (see McCloskey 1990 for a precise definition in prosodic terms) it is ambiguous between an XP and an X^0 (see Chomsky's 1995 Bare Phrase structure analysis of clitics; see also Bošković 2001a). I further assume that by virtue of this ambiguity, the goal (cé in the example under discussion) head-adjoins (leftward) to the RP upon attraction by C (recall that cé does not move prior to insertion of the probe),

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(i) would be as in (ii).

(ii) ... but I don't know $[_{CP}$ $[_{XP}$ ~~with~~$_t$ $[_{AGRP}$ who$_j$ $[_{PP}$ <with>$_i$ $[_{NP}$ ~~<who>~~$_j$]]]] [C]]

and is thereby able to carry the RP along with it to C.

It is important to emphasize the fact that under an approach to successive cyclic movement like the one adopted here, the step that takes the complement of the pied-piped material and adjoins the former to the latter is not featurally motivated. The complement is attracted, and passes through all possible intermediate landing sites, as a reflex of successive cyclic movement (as Željko Bošković (p.c.) notes, head-adjoined positions are possible landing sites, given the XP/X^0 status of the clitic). When a head-like element head-adjoins to intermediate position, it is plausible to assume that the resulting configuration is treated as one word.

I emphasize the fact that head-adjunction is not an instance of feature checking. This is shown by the selection of the non-agreeing complementizer aN in (25), despite the fact that D is pied-piped (i.e., despite the fact that there is no long-distance 'stranding').[13]

---

[13]For this reason, I assume that head-adjunction is allowed to take place independently of attraction by C in the Munster dialects of Irish, which, as shown in McCloskey 1990, use the aL complementizer in cases of RP-fronting. (Recall that aL signals a ϕ-relation with the element assigning Case to the RP.)

(i)   cad leis   a chlúdaigh tú iad

       what with-it aL covered   you them

       'What did you cover them with'

Although the reason behind this microparametric variation remains

Note also that the locality of the moving element is defined in terms of the attractor (C). One therefore should not be surprised if the movement of _cé_ in (25) behaves unlike standard instances of head-movement.

Finally, let me point out that when no pied-piping takes place in cases where it could have (pied-piping is optional in

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to be understood, independent pronoun movement past its selecting head is attested elsewhere. (See, e.g., McCloskey's 2000 instances of _what all_ vs. *_all what_.) I speculate that in the Munster dialects, light elements like _cad_ are 'pure' X^0 elements, that are forced to undergo head-movement to the RP. Once head-adjunction has taken place, the wh-element becomes part of the RP. The latter will therefore be attracted by C, forcing the choice of _aL_. The presence of an RP upon _aL_ attracting appears problematic from the point of view of Last Resort. As I said in chapter 3, RPs are present upon Match only (not upon Agree). However, my analysis of (i) can be reconciled with Last Resort, given that _cad_ (head-)moves. It is plausible to assume that if the clitic weren't there, _cad_ would be Case-frozen as P's complement, and would not be able to move up.

Note, incidentally, that it is not clear how an account like McCloskey's to appear is able to capture _aL_-selection in (i), since, under such an analysis, for all syntactic purposes, the fronted RP occupies a position lower than the complementizer. (McCloskey to appear does not contain any discussion of the Munster facts).

(25)), I assume that pied-piping does take place, but that PF considerations enables the pronunciation of the lower copy of the RP (in a way similar to Bošković's 2001a reinterpretation of many instances of prosodic inversion as pronunciation of a lower copy. Bošković's general approach is to allow pronunciation of a lower copy if and only if PF considerations require it. See Franks 1998 for a related proposal.).

4.2.2. RP-cliticization

McCloskey to appear takes the post-complementizer position of the RP in languages like Swiss German (see van Riemsdijk 1989) as supporting evidence for the structure he hypothesized for Irish. (Demirdache (1991:21) documents similar cases for Standard Arabic. The analysis I develop here is likely to extend to all instances of RP clitics in the Greek, Romanian, Czech, Serbo-Croatian and Bulgarian data in the previous chapters.)

(29) s   auto wo   du gsäit häsch das es sich   de Peter

     the car   that you said have   that it himself the Peter

     nod chönti läischtev

     not could afford

     'The car that you said that Peter could not afford'

However, I think that there are good reasons to keep the Irish and Swiss German data apart. Fronting of the RP in (29) is likely to be due to the independent process of cliticization (independent movement of the RP). That clitics must move out of the thematic layer is a poorly understood, but extremely robust cross-linguistic requirement. In the Irish case, RP-fronting is

determined by prosodic properties of the antecedent, whereas in Swiss German it is properties of the RP that determine whether RP-fronting takes place or not.

It is significant (and under the present account, expected) that in languages with RP clitics, RPs always appear higher than regular pronouns (a typical property of clitics), irrespective of the prosodic properties of their antecedents. For instance, in Serbo-Croatian, non-prepositional object RPs must always be in second position, just like any other non-prepositional object clitic in the language.

4.2.3. Hebrew

Hebrew appears to 'combine' the Irish and Swiss German patterns in allowing the RP to occupy a position either to the left or to the right of the complementizer, as discussed by Borer 1984a, Doron 1982, and Reinhart 1981.

(30) ha-ʔiš še alav dani diber

      the-man that on him Dani spoke

      'The man that Dani spoke about'

(31) ha-ʔiš alav dani diber

Note first that RP fronting in this case is not amenable to cliticization, as the fronted RP is a full PP, not a clitic. RP-fronting is also unlikely to be an instance of pied-piping of the Irish type, as the antecedent (ha-ʔiš) is not particularly 'light.'

For Hebrew, I think that the topicalization analysis of RP is the correct one. The two possible orders in (30)-(31) are

accounted for by assuming, with Reinhart 1981, that Hebrew has two COMP nodes (on multiple projections in the COMP-area, see Rizzi 1997, among many others).

If RP-fronting takes place, it must either target the lower COMP node via topicalization (yielding (30)), or else fronting takes place as part of the relativization process. That is, the RP functions as a wh-operator. The word order is achieved, as in English, under Kayne's 1994 analysis, by further movement of the 'antecedent', as schematized in (32). (For numerous instances of COMP-internal movements, see Grohmann 2000.) Note, incidentally, that the RP in this case is needed because Hebrew lacks P-stranding, which would be the result of the fronting of <u>ha-ʔiš</u>.

(32) a. dani diber [alav ha-ʔiš]   -> merger of C

      b. C dani diber [alav ha-ʔiš]   -> attraction of OP

      c. [alav ha-ʔiš]$_i$ C dani diber t_i -> movement of antecedent

      d. ha-ʔiš$_j$ [alav t_j]$_i$ C dani diber t_i

Following again Borer 1984a, Demirdache 1991, Fox 1994, I assume that in the derivation in (32), when the RP functions as a wh-operator, the complementizer must go missing, as a result of the doubly-filled COMP filter, as shown in (33).

(33) [$_{CP}$ ha-ʔiš [$_{CP}$ alav [$_{c'}$ še [dani diber]]]]

Summing up this section, I have examined three cases of RP-fronting. Contrary to McCloskey to appear, I have argued that they do not constitute a uniform process of RP-topicalization. Instead, the Irish case is induced by pied-piping induced by the clitic-like properties of the antecedent, while the Swiss German

case is due to an independent cliticization requirement imposed on the RP. Only the Hebrew case constitutes a genuine case of RP-topicalization, which I have argued is related to the presence of a rich COMP domain in the language.

Let me end by emphasizing an important conclusion that emerges from instances of RP-fronting. The Hebrew case aside, which an anti-locality account of the type discussed extensively by Grohmann 2000 might capture,[14] I see no straightforward way of capturing the above facts if the RP is to be treated as a minimal copy of the antecedent. Thus, RP-fronting seems to offer a powerful argument for treating the RP and its antecedent as distinct syntactic entities. It is also not clear how a base-generation account can accommodate the Irish facts (other than by appealing to dubious PF-movement rules), which seem to require that the RP and the antecedent form a unit at some point of the derivation leading to PF, as they do under the present analysis.

4.3. Bare adjunct NPs

Choueiri 2001 observes some striking facts about the resumption in Lebanese Arabic that I want to analyze here, as they enable us to shed light on the nature of the argument vs. adjunct asymmetry mentioned at various points in this work.

Choueiri's core observation is the existence of a matching

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[14]Roughly, Grohmann argues that if movement of an element targets two distinct positions within well-defined domains (such as the COMP-domain), this movement counts as "too local" and requires pronunciation of two copies of the same element.

effect between resumption and argumenthood. Simply put, an RP is
allowed if and only if its antecedent functions as an argument.
The matching effect shows up clearly in the realm of quasi-
adjuncts.

Lebanese Arabic allows bare NP adverbs of time. (For an
analysis of bare NP adverbs in English, see Larson 1985.)

(34) a. fallayna (bi-) laylit l-?orbʕa

     left.1pl in   night the-Wednesday

     'We left (on) Wednesday night

   b. ?akalna (ʕa) s-seeʕa ʕaʃra

     ate.1pl at the-time ten

     'we ate at ten'

   c. ?akal *(bi-) Tarii?t-o

     ate.3m in   way-his

     'He ate (in) his own way'

   d. wSəlna   *(ʕa) l-mhaTTa

     arrived.1pl to the-station

     'We arrived at the station'

As the following facts show, bare NP adverbs can be resumed by a
weak pronoun (like regular arguments) under very strict
conditions. A weak RP is only possible if the antecedent
functions as an argument of the higher predicate, as in (35).

(35) ?aDDayna laylt lli ?aDDaytuw-a b-l-maTaar   ʕam

     spent.1pl night that spent2pl-it in-the-airport Asp

     nfattiʃ   ʕala taxi

     look.1pl for taxi

'We spent the night that you spent in the airport looking

for a taxi'

Resumption is not possible if the antecedent of the RP has an

adverbial function, irrespective of whether the RP is a weak

pronoun (36), or the argument of an adjunct PP (37).

(36) *wSəlna   laylt lli ʔaDDaytuw-a b-l-maTaar

      arrived.1pl night that spent.2pl-it at-the-airport

      'We arrived the night that you spent at the airport'

(37) *fallayna laylt lli wSəlto   fiy-a

      left.1pl night that arrived.2pl in-it

      'We left the night that you arrived'

Further, if the antecedent behaves as an argument of the higher

predicate, resumption is obligatory (38). (Resumption is

obligatory in relative clauses for arguments in Lebanese Arabic.)

A PP must be used in cases where the function of the 'antecedent'

inside the relative is not argumental (39).

(38) *ʔaDDayna laylt lli wSəlto   b-l-maTaar

      spent.1pl night that arrived.2pl in-the-airport

      'We spent the night that you arrived in the airport'

(39) ʔaDDayna laylt lli wSəlto   fiy-a b-l-maTaar

      spend.1pl night that arrived.2pl in-it in-the-airport

      'We spent the night that you arrived in the airport

If the antecedent has an adverbial function in both the relative

clause and in the matrix clause, a gap is found inside the

relative, as illustrated in (40). (An RP is impossible.)

(40) fallayna laylt lli wSəlto

left.1pl night that arrived.2pl

'We left the night that you arrived'

The Lebanese Arabic facts just summarized show that if the antecedent has an argument function in the higher predicate, it must be resumed (either by an NP or a PP, depending on its function inside the relative clause). If the antecedent behaves as an adjunct with respect to the matrix predicate, resumption is impossible, no matter what the function of the antecedent inside the relative clause is.

The matching effects just seen can be captured under the present approach at no cost, once we appeal to two independent assumptions underlying a vast array of facts: (i) movement from a Case position to a Case position is impossible (hyperraising), unless Agree takes place among the S-OCCs (see chapters 1 and 3) and (ii) adjuncts are base-generated in their surface positions (see section 3.4.4).

Assumption (i) immediately accounts for why a bare NP cannot function as an argument of the higher predicate if it is not resumed. The presence of a resumptive element allows for the ϕ-/Case-features of the antecedent to remain active (movement of the latter will not violate the PUC). Note that Agree among the S-OCCs is impossible in Lebanese Arabic. The language lacks an agreeing complementizer to introduce relative clauses (resumption is always forced for arguments in relative clauses contexts, signaling the use of a Matching complementizer). Note that a prepositional object resumptive is necessary in cases where the

antecedent functions as an adverb inside the relative clauses for the same reason: the antecedent must have active ϕ-/Case-features. If a PP is not used in such cases, the NP would function as an adjunct iself. In accordance with our view on adjuncts (section 3.4.4), it cannot have active ϕ-/Case-features, and would therefore be unable to become active later.

Assumption (ii) above (adjuncts are base-generated) captures the fact that resumption is impossible if the antecedent of the RP functions is an adjunct. Recall that for us, resumption arises by movement. But if adjuncts are merged into their surface positions, there cannot be any movement, hence any resumption.[15] Inserting an RP would be a violation of Last Resort.

In sum, the matching effects found in Lebanese Arabic provide strong support for several claims made here, as the

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[15]Note that the presence of island effects as in (i) is captured by the conditions on the application of the Modification Rule discussed in section 3.4.4, assuming that <u>because</u> contains an empty causal operator of sorts that blocks modification by the adjunct (The '__' is meant to represent the interpretation site of the adjunct.)

(i) *fallayna laylt lli zʕilto   [laʔanno waSSal-na   Sami

    left.1pl night that upset.2pl because get.3ms-us Sami

    ʕa-l-maTaar __]

    to-the-airport

    'We left the night that you were upset because Sami drove

    us to the airport'

latter predicts the above facts, once coupled with core minimalist assumptions such as Last Resort, and the language-particular fact that the relative clause introducing C in Arabic does not have an Agree property.

4.4. Multiple A-bar dependencies

In this section I discuss two interesting issues that arise when two A-bar dependencies interact, one of which is related to an RP. The first is an argument due to Aoun and Benmamoun 1998 that shows that some cases of resumption must be dealt with via base-generation, and others by means of PF-movement, two possibilities which I have argued against in the present work. The second issue has to do with superiority effects found under resumption in multiple interrogatives.

4.4.1. Interaction between Topicalization/Wh-movement and Left-Dislocation

Aoun and Benmamoun 1998 examine in detail how Clitic Left Dislocation interacts with other A-bar processes such as topicalization and wh-movement.

As in many languages, Clitic Left Dislocation (hereafter LD) is characterized by the fronting of an NP to the beginning of the clause and the presence of an argumental clitic related to the fronted NP. (41) illustrated LD in Lebanese Arabic.

(41) Naadya ʃeef-a   Kariim mbeeriħ

   Nadia saw.3ms-her Karim yesterday

   'Nadia, Karim saw her yesterday'

As in other contexts of resumption in Lebanese Arabic, the weak

RP related to the LDed NP is insenstitive to islands.

(42) Smәʕt   ʔәnno Naadya rәht   [mәn duun ma tәhke   maʕ-a]

heard.1s that Nadia left2sm without C   talking.2s with-her

'I heard that Nadia, you left without talking to her'

Topicalization and wh-movement (when not accompanied by an RP)

behave much as they do in English, and are sensitive to islands.

Both topicalization and wh-movement are possible across a LD

element, as in (43)-(44).

(43) ʃu   Naadya (smәʕte   ʔәnno) Xabbaruw-a

what Nadia   heard.2sm that   told.3p-her

'What, Nadia, did (you hear that) they tell(/told) her'

(44) Nәkte Naadya (smәʕte   ʔәnno) Xabbaruw-a

joke Nadia   heard.2sm that told.3p-her

'A joke, Nadia, did (you hear that) they tell(/told) her'

However, Aoun and Benmamoun observe that topicalization/wh-

movement across LD is ungrammatical if the LD is separated from

the RP by an island. Witness (45), where wh-movement is involved.

(45) *ʃu   Naadya Xabbaro Kariim [ʔabl   ma ʃeef-a   ] ʔәnno

what Nadia told.3pl Karim before C saw.3sm-her that

l-mʕallme   ʔaalit

the-teacher.fem said.3f

'What, Nadia, did they tell Karim before he saw her that

the reacher said'

Aoun and Benmamoun show that a similar contrast obtains in the

case of long distance wh-movement/topicalization. If the LDed

element is not separated from the RP by an island, long-distance

wh-movement/topicalization is fine (46). If, however, the LDed element is separated from the RP by an island, wh-movement/topicalization across it gives rise to deviance (47).

(46) ʃu   smaʕte   ʔənno Naddya Xabbaruw-a

      what heard2sm that Nadia told.3pl-her

      'What did you hear that Nadia, they told her?'

(47) *ʃu   smaʕt   ʔənno Naadya Xabbaro Kariim [ʔabl ma

        what heard.2sm that Nadia told.3pl Karim before C

      ʃeef-a]   ʔənno l-mʕallme   ʔaalit

      saw.3sm-her that the-teacher.fem said.3f

      'What did you hear that Nadia they told Karim before he saw her that the teacher said'

Summing up, an A-bar dependency can be created across LD as long as the LDed element is not separated from the RP it is related to by an island.[16] Aoun and Benmamoun's interpretation of this generalization is that LD may be a case of base-generation or movement. In island contexts, the movement option is unavailable. They further assume (on the basis of obligatory reconstruction of the LD in the relevant cases, which they discuss at length) that when movement takes place, it does so in PF. Given that the relevant movement applies in a different component, it does not

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[16]Aoun and Benmamoun observe that an account of the generalization in terms of crossing vs. nesting paths is not available, as both crossing and nesting dependencies result in a deviant output if the RP related to the LDed element is inside an island (see their discussion on p. 576 n.3).

block A-bar dependencies like wh-movement and topicalization, which Aoun and Benmamoun assume to be part of narrow syntax. They further assume that movement, even if it takes place at PF, is still sensitive to islands, hence unavailable in the intervention cases.

To conclude this brief summary of Aoun and Benmamoun's findings, let me note that an instance of wh-movement under resumption is not blocked by an intervening LD even if the latter is separated from the RP it relates to by an island. Consider (48).

(48) ?ayya rəʒʒeel Naadya χabbarto [l-bənt   yalli

     which man   Nadia   told.2pl the-girl that

     ʃeefət-a   ] ?ənno laħtəʕəzmu-u

     saw.3sf-her   that fut.invite.2pl-him

     'Which man Nadia did you tell the girl that saw her that you

     will invite him'

Let us now examine in more detail the conclusions drawn by Aoun and Benmamoun on the basis of the Lebanese Arabic facts just summarized. First, one and the same configuration (LD) receives two possible derivations (base-generation or movement). If, following Chomsky 1995, we take Merge to be favored over Move if both possibilities are available, LD in Arabic should always be an instance of base-generation. Second, the movement giving rise to LD is argued to be an instance of PF movement. Note that, unlike prosodic inversion, LD in PF is not defined in "PF" (say, prosodic) terms. It is non-local (it may extend beyond one

clause), which is unheard of for standard PF-processes. Further, the locality conditions imposed on LD in PF are exactly the same as those which narrow syntactic movement is subject to (all islands). That means that locality conditions on movement must be stated twice (once in Narrow Syntax, once in PF). Since it is far from clear that PF has access to the information available in narrow syntax (Aoun and Benmamoun do not say how they conceive of islands, but presumably, notions like operator, adjunct, c-command, etc. would be part of the necessary information for PF to recognize 'islands'), it is not clear how to define islands in PF terms. It is fair to say that the model of grammar that Aoun and Benmamoun argue for is much more complex than the standard one. It may be that this is what we are led to by the Lebanese Arabic facts above, but such a conclusion should be embraced only as a last resort. Before doing so, one wants to make sure that the above facts cannot be captured within the confines of narrow syntax.

In the remainder of this section I offer such an account. The first issue to address is why Wh-movement/topicalization across another A-bar moved element (the LD-element) is possible at all. In traditional circumstances, such a configuration is ruled out by Relativized Minimality. The answer I would like to provide for this state of affairs is that LD may, in well defined circumstances, be redefined as A-movement (thus rendering A-bar movement across it immune to Relativized Minimality). Notions like A- and A-bar movement types have no non-taxonomic meaning in

the current theory, and they will be made more precise later on. For now, we can keep to a standard, GB-style understanding of them, and see how far they go in solving the Minimality problem at hand.

Saito 1992 argues on the basis of short-distance scrambling, which shows characteristics of both A- and A-bar movement, that it is A-bar movement, which may be reanalyzed as A-movement at LF, subsequent to V-raising. The intuition behind this proposal is that by bringing the θ-assigner closer to the moved element, the resulting configuration counts as "θ-related" (i.e., A-type) movement. The same intuition can account for why LD does not block other A-bar movement types in some contexts. Lebanese Arabic is a VSO type language, which places 'discourse-related' elements to the left of the verb (X-VSO). Let us assume, as is standard, that the verb raises fairly high. Further, as the example in (49) shows, it is not just the verb that raises high, but also light PP objects.

(49) Sməʕt   ʔənno Naadya ltaʔa   fiy-a   ʕomar mbeerih

heard.1s that Nadia   met.3sm with-her Omar   yesterday

'I heard that Nadia, Omar met with her yesterday'

As the example in (50) illustrates, direct objects remain in VP.

(50) Fakkart   ʔənno ʕomar həkət-lo   Zeena ħkeeye

thought.1s that Omar told.3sf-him Zeena story

'I thought that Omar, Zeina told him a story'

Let us therefore assume that the raised PP in (49) has reanalyzed with V (possibly along the lines suggested in Larson 1988, where

a V' may be reanalyzed as a V). Crucial for us is the fact that the verb(al complex) is adjacent to the LDed phrase. Assume, then, that the verb raises to the head of the projection hosting the LD element. Since the verb carries the φ-bearing element related to the LDed phrase, this is what allows LD to count as A-movement. More precisely, it makes the position (call it F) φ-related.

I assume that F has a Matching (non-φ-related) feature triggering LD. (So far this is not different from other circumstances of resumption.) F also demands verb raising. As the verb carries the RP, there is a sense in which the overall feature composition of F contains the φ-features related to the LDed phrase. I claim that this is what allows F to count as a φ-related or Agreeing projection. Although LD is generated by Match, verb movement to F renders the configuration identical to one where F agrees with LD.

The relevance of the fact that F may count as an agreeing projection will become immediately obvious. For sentences like (43)-(44), I assume that when wh-movement/topicalization takes place, it also targets F (more precisely, an outer specifier of FP). Strictly speaking, such instances of A-bar movement do not cross the LDed phrase, hence we expect no Relativized Minimality violation. But things are different in the case of long-distance movement (46), conforming to the abstract configuration in (51).

(51) $[F_{[+WH/TOP]} \ldots [_{CP} [_{FP} LD [_{F} [V-RP] F] \ldots WH/TOP]]]$

Here, it is crucial that the F projection hosting the LDed phrase

not be a pure A-bar head, otherwise Relativized Minimality would be violated.[17] Fortunately, I have argued that via V-raising, the lower F may be ϕ-related (i.e., LD may count as A-movement). Once such a possibility exists, wh-attraction from the higher F may proceed unhindered in (51). (A-bar movement is not blocked by A-movement.) Incidentally, that LD is reanalyzed as A-movement may provide a straightforward account for the fact that the reconstruction site of a LDed phrase cannot be lower than the clitic RP. That would follow from whatever accounts for why A-movement fails to reconstruct (see Chomsky 1995, Lasnik 1999c, Ausín 2001).

At this point, the reader may wonder how the present analysis captures the fact that long-distance LD (in non-island contexts) fails to block other A-bar dependencies established across it (see (43-44)). On the surface, it looks like we predict an intervention effect. Recall that what allows LD to count as A-movement and thereby allow an A-bar dependency to be formed across it is V-movement. But surely, then, long-distance LD must count as A-bar movement, as the verb carrying the relevant ϕ-features (i.e., the RP) cannot reach the matrix F from an embedded (finite) clause. The problem, however, disappears if

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[17]Note, incidentally, that since I am not assuming that successive cyclic steps are formed 'independently,' raising of the WH/TOP element to the lower FP cannot function as an escape hatch. WH/TOP-movement takes place only upon attraction by the higher F.

long-distance LD and wh/top target the same position, as in (52).
If that is the case, (43)-(44) are just instances of multiple
attraction to the same head (akin to the well-known pattern of
multiple wh-fronting).

((52) is to be read as follows; first, long distance LD
targets the lower F position (not as a reflex of successive
cyclic movement, but as a feature checking step). Ignoring
irrelevant structure building steps afer that, the LDed phrase
moves to the higher F (A-bar movement). Then, the wh-/topic
element is attracted to an outer specifier of the higher F. Step
#1 is given here as an option. Nothing substantial changes in
this case if long-distance LD takes place in one fell-swoop.)[18]

(52) $[_{FP}$ WH/TOP$_i$ $[_{F'}$ LD$_j$ $[F^0$ ... $[_{CP}$ $[_{FP}$ $\underline{t_j}\underline{'}$ $[[V$ RP$]F^0]$ ... $\underline{t_j}$ $\underline{t_i}]]]]$

| | ② || "A"-movement ① | |
| ③ |

Crucially, for the second movement step of the LD-ed phrase to be
possible, there must be an Agree relation between the higher F

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[18]An inner specifier position is also available, as Aoun and
Benmamoun report. (The order <LD;WH/Top> is only possible in root
contexts.)

(i)   Naadya ʃu   smaʕte   ʔənno) χabbaruw-a
      Nadia what heard.2sm that   told.3p-her
      'Nadia, what did you hear that they told her'

(ii) Naadya Nəkte smaʕte   ʔənno χabbaruw-a
      Nadia joke heard.2sm that told.3p-her
   'Nadia, a joke did you hear that they told her'

and the lower F. If there is no Agree relation, the chain will violate the PUC (it will contain two S-OCCs). Likewise, if step #1 in (52) is not taken (if long-distance LD proceeds in one step), the higher F must still be an agreeing head (as opposed to a matching head) since it hosts a wh/top-element that by hypothesis (since they don't involve resumption) require Agree.

Once we realize that the higher F head must be an agreeing one if it is to host the two A-bar dependencies, it becomes clear why LD blocks another A-bar movement across it if the RP it relates to is inside an island: islands are contexts where no Agree (i.e, ϕ-related) process may take place. This is schematized in (53).

(53) a. $[_{FP}$ WH$_i$ $[$LD$_j$ $[$F$^0_{+\phi}$ ...$[_{Island}$ $[_{FP}$ $\underline{t}_j\underline{'}$ $[[$V RP$]$F$^0]$ $\underline{t}_j$ ..$]]$ $\underline{t}_i]]]]]$

```
        |          |_____②_____X_____| |"A"-movement ①|        |
        |_____③_____|
```

b. $[_{FP}$ WH$_i$ $[$LD$_j$ $[$F$^0_{+\phi}$ ...$[_{Island}$ $[_{FP}$ $[[$V RP $]$ F$^0]$ $\underline{t}_j$ ...$]]$ $\underline{t}_i]]]]]$

```
        |          |_____①_____X_____|        |
        |_____②_____|
```

The only way for LD to take place outside an island is for attraction by F to proceed under Match only. But then F will lack the Agree resource to attract the wh/top-phrase. Our approach predicts that if wh-/top-movement can take place under Match (if wh/top-movement forms a resumptive chain), the presence of an island will have no effect on the combination of two A-bar dependencies (LD and wh-/top-movement). The prediction is borne out, as the grammaticality of (48) attests. Abstractly, the

sentence looks like (54).

(54) $[_{FP}$ WH$_i$ $[_{LD_j}$ $[F^0_\mu$ ...$[_{Island}$ $[_{FP}$ $[[V$ RP$]F^0]$ $\underline{t}_j$ ...$]]$ $[RP$ $[\underline{t}_i]]]]]]$
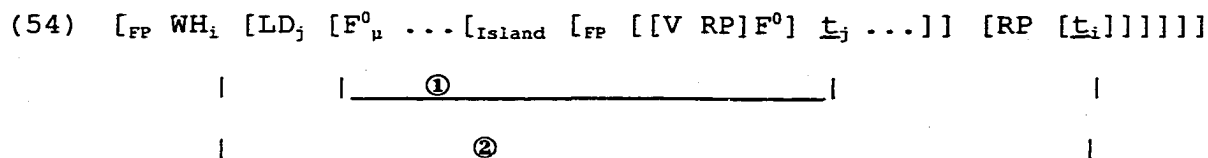
In sum, the account I have proposed capitalizes on an independent property of Lebanese Arabic (V-movement to F^0) and the general Agree/Match distinction to capture the seemingly asymmetric behavior of LD and how it interacts with other A-bar movement dependencies.[19] Crucially, the account is able to treat LD as a uniform, movement process, taking place within narrow syntax, thereby avoiding the complexities of Aoun and Benmamoun's 1998 analysis. In particular, it does not require any instance of PF-movement.

4.4.2. Multiple questions

In this subsection I address another issue that arises in the realm of multiple A-bar dependencies: the Superiority condition, and how it interacts with resumption.

Languages that allow for multiple interrogatives (Irish, for instance, doesn't) and make productive use of resumptive pronouns readily allow the combination of the two. Witness the following

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[19]Our analysis provides two ways of generating LD in Lebanese Arabic (via pure Match or Match and Agree). For subtle independent arguments that there are two kinds of LD in the language, see Alexopoulou, Doron and Heycock 2001 (who, however, treat one as a base-generated element, much like Aoun and Benmamoun 1998).

example from Lebanese Arabic (taken from Aoun and Li 2001).

(55) ʔayya walad ʔannaʕ-to   ʔayya bint t-zuur-o

     which boy   persuaded.2pl which girl 3fs-visit-him

     'Which boy did you persuade which girl to visit (him)?'

As expected, resumption is also possible in island contexts.

(56) ʔayya walad ʔənasatto   [laʔinno Saami ʕarraf   ʔayya

     which boy   pleased.2pl because Sami introduced.3sm which

     bint ʕəl-e]

     girl to-him

     'Which boy were you pleased because Sami introduced which

     girl to him?'

The Arabic sentences in (55)-(56) appear to violate the
superiority condition. Since Chomsky 1973 it is known that in
multiple interrogatives in English and many other languages, the
highest wh-phrase must be raised to SpecCP. Selecting a lower wh-
phrase results in ungrammaticality.

(57) a. who bought what?

      b. *what did who buy?

I will assume that superiority effects reduce to the requirement
that a probe select the closest matching goal, where closest is
defined in terms of c-command, as stated in chapter 3 (see Oka
1993, and Bošković 1998, 1999 for compelling arguments that an
Attract Closest account of superiority is more adequate than the
alternatives entertained since Chomsky 1973.)

     It is also well-known that superiority effects are absent if
the wh-phrases are D-linked.

(58) a. which man bought which book?

b. which book did which man buy?

Uriagereka (1998:366) proposes an account of this fact based on Attract Closest. He notes that in contrast to (57), the wh-elements in (58) are arguably the _which_ portions, not the whole NPs. If that is so, the wh-phrases in (58) are equally close to the target (and either one is free to move), since neither c-commands the other. (Recall the standard definition of Closest: α raises to probe P if there is no closer matching element β that c-commands α (and is within the c-command domain of P)). Uriagereka's account raises non-trivial questions which I will not address here.[20] But I will show that it accounts for superiority effects found in the context of resumption.

Aoun and Li note that superiority effects hold quite generally in Lebanese Arabic (59)-(60).

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[20]In particular, Uriagereka's account begs the question of why the whole NP _which X_ raises, as opposed to just _which_, which would be expected if the wh-element is just _which_. (This is another gray area surrounding the condition on pied-piping.) Also, as pointed out to me by Noam Chomsky (p.c.), the account fails to distinguish the pair in (58) from the one in (i) (where I assume that _what_ counts as the wh-element). (In fairness, I note, with Chomsky, that none of the alternative accounts of (58) capture (i) at no cost.)

(i) a. what school ordered what book

b. *?what book did what school order

(59) miin ʔannaʕ-to y-zuur miin

   who persuaded-2pl 3ms-visit who

   'Who did you persuade to visit who?'

(60) *miin ʔannaʕ-to miin y-zuur

   who persuaded-2pl who 3ms-visit

   'Who did you persuade who to visit'

As we saw above, superiority appears to be violated with D-linked wh-phrases, as in English. Crucially, Aoun and Li note that superiority effects obtain even if a resumptive chain is used in examples like (61)-(62) (recall that Lebanese Arabic <u>miin</u> can be resumed.)[21]

(61) miin ʔannaʕ-t-u y-zuur miin

   who persuaded-2pl-him 3ms-visit who

   'Who did you persuade (him) to visit who?'

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[21]Everything I say in this section for Lebanese Arabic appears to hold of Hebrew as well. Fox 1994 observes that resumptive chains are subject to superiority. (The data I use here for illustration were provided by Yael Sharvit (p.c.).)

(i) *?Dan Saʔal eyzo iša mi nišek ota

   Dan asked which woman who kissed her

   'Dan asked which woman who kissed'

Yael Sharvit (p.c.) notes that the superiority effect disappears if D-linked wh-phrases are used, as it does in Lebanese Arabic.

(ii Dan Saʔal eyzo iša eyze gever nišek (ota)

   Dan asked which woman which man kissed her

   'Dan asked which woman which man kissed'

(62) *miin ?anna\-to   miin y-zuur-u

      who persuaded-2pl who 3ms-visit-him

      'Who did you persuade who to visit (him)'

What is also important is that superiority obtains if the RP is

found inside an island. Consider (63)-(64).

(63) miin ?ənasa<u>tt</u>o   [la?inno Saami \arraf-o   9a-miin]

      who pleased.2pl because Sami introduced.3sm-him to-whom

      'Who were you pleased because Sami introduced (him) to

      whom?'

(64) *miin ?ənasa<u>tt</u>o   [la?inno Saami \arraf   miin 9əl-e]

      who pleased.2pl because Sami introduced.3sm who to-him

      'Who were you pleased because Sami introduced who to him?'

This contrast found in islands provides yet another piece of

evidence that resumption is generated by movement, not via base-

generation. If base-generation were available, it is not clear

why <u>miin</u> in (64) would be unable to bind the pronoun inside the

island. (This is especially true of accounts like Cinque 1990 and

Rizzi 2000, where base-generated elements bind their variables

across islands. Note, incidentally, that binding inside the

island must be assumed in (64).) In fact, if superiority is a

constraint on movement, as Bošković 1998, 1999 has convincingly

argued, the Lebanese Arabic facts (even a simple example like

(62)) force us to analyze resumptive chains as movement chains.

And recall that the language shows no island effect under

resumption. Taken together, the facts in this section provides

strong evidence for the approach to resumption developed in this

work (alternative movement approaches to resumption fail to account for island insensitivity).

When it comes to superiority, the Lebanese Arabic facts can be captured by an account like Uriagereka's. (Aoun and Li develop an account which is very similar to Uriagereka's.) Superiority is violated whenever the closest matching goal fails to be raised, as is the case in (62) and (64). Superiority is only apparently violated in (55)-(56). Upon closer scrutiny, however, it appears that Attract Closest is not violated in such cases, as neither of the two potentially matching goals c-commands the other.

To conclude this section, let me briefly mention the case of English. It is sometimes noted that RPs are excluded from multiple interrogatives (see, e.g., Pesetsky 1998:363 n. 26), as the following contrast illustrates.

(65) ?which student would you get mad [if I spoke to __ about what]

(66) *which student would you get mad [if I spoke to him about what]

Since English has no genuine RPs, (65) and (66) have no clear bearing on the conclusions drawn on the basis of Lebanese Arabic, Still, the contrast reported by Pesetsky is surprising, as, descriptively speaking, RPs in English are favored over gaps inside islands. Consider (67).

(67) which student would you get mad [if I spoke to him/*__]

Bošković's 2000 analysis of multiple questions may provide an understanding of (66). On the basis of numerous languages,

Bošković claims that if one of the wh-phrases in a multiple interrogative sentence targets a [+wh]Spec, it forces a pair-list reading. If no [+wh]Spec is targeted, a single-pair reading is possible. Suppose we refine Bošković's analysis in the light of the conclusions reached here, and say that if one of the wh-phrases in a multiple interrogative sentence is attracted by a C_ϕ-probe, it forces a pair-list reading. (Nothing, as far as I can see, affects Bošković's conclusion if this change is made.) Assuming, as we have done throughout, that English wh-phrases are attracted by C_ϕ, we predict that resumption will be excluded in multiple interrogatives. As pointed out in chapter 2 (building upon Doron's and Sharvit's works), RPs force a 'single pair' reading (the crucial examples are repeated in (68)-(69)). As such, they will be incompatible with a C_ϕ-probe, which forces a multiple pair reading.

(68) ha-iša   še   kol   gever hizmin hodeta lo

      the-woman that every man   invited thanked to-him

      a. the woman every man invited thanked him

      b. for every man x, the woman that x invited thanked x

(69) ha-iša   še   kol   gever hizmin ota hodeta   lo

      the-woman that every man   invited her thanked to-him

      a. the woman every man invited thanked him

      b. *for every man x, the woman that x invited thanked x

By contrast, wh-movement under resumption in Arabic is induced by a Matching C, which, by assumption, does not force a pair-list reading. (Bošković 2000 provides evidence from multiple wh-

fronting languages that not all cases of wh-fronting count as wh-movement, and argues persuasively that pair-list readings are induced only under wh-movement in the strict sense). In other words, it is compatible with a single-pair answer. In fact, just as in relative clauses, there is a strong preference for single-pair answers in interrogatives containing RPs. The following example from Hebrew (Yael Sharvit, p.c.) illustrates this. (As I said in note 21 above, Hebrew patterns like Lebanese Arabic in the relevant respects regarding resumption and superiority in questions.)

(70) eyze sefer natata   oto le-mi

     which book gave.2sg it to-who

     'Which book did you give to whom'

Given Bošković's 2000 analysis, we thus have an account of the different behavior of Lebanese Arabic/Hebrew and English RPs in multiple interrogatives.

4.5. Base-generation?

The various facts analyzed so far strongly suggest that resumptive chains are movement chains (of a special sort). Here I would like to bring up two more contexts in which base-generation has been used. In one case (the Left-Dislocation of PPs in Italian), I argue that a movement analysis is at the very least equally feasible. In the second (intrusion), I conclude that base-generation is used, but that this does not at all conflict with the conclusions reached so far, as it can be shown that we are not dealing with genuine resumption in this case.

4.5.1. PP Dislocation

Cecchetto in press and Cecchetto and Chierchia 1998 discuss various asymmetries between PP left-dislocation and NP left-dislocation in Italian, on the basis of which they argue in favor of a base-generation analysis of PP left-dislocation. (71)-(72) illustrate the two LD types.

(71) Maria, Leo la incontra spesso

      Maria, Leo her meets   often

      'Maria, Leo meets her often'

(72) In palestra, Leo (ci)   va   volentieri

      To gym   Leo there goes with-pleasure

      'To the gym, Leo likes to go (there)'

Let us start by noting that PPLD and NPLD share two fundamental properties. First, the relationship between the clitic and the LDed element is sensitive to (strong) islands. Witness (73)-(74).

(73) *Maria, ho   visto Leo [prima che la incontrasse]

      Maria, have.I seen Leo before that her meet.subjunctive

      'Maria, I saw Leo before he met her'

(74) *In palestra, ho   visto Leo [prima che (ci)

      To gym   have.I seen Leo before that there

      andasse]

      go.subjunctive

      'To the gym, I saw Leo before he went there'

Second, both types of LD show Condition C reconstruction effects,

and license variable binding.[22]

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[22]According to Carlo Cecchetto (p.c.), LDed PPs also give rise to Condition C reconstruction effects even when they are moved long-distance and even if they are not resumed by an overt locative pronoun. Witness (i)-(ii). (LDed NPs have a similar behavior if extracted long-distance.)

(i)   a. *a case di Leo$_i$ (pro$_i$) crede   che Maria (ci)   vada

          to house of Leo   pro believe that Maria there goes

          volentieri

          with-pleasure

          'To the house of Leo, he believes that Maria goes there with pleasure'

     b. *a casa di Leo$_i$ Maria credo   che (pro$_i$) (ci)   vada

          to house of Leo Maria believes that pro   there goes

          volentieri

          with-pleasure

          'To the house of Leo, Maria believes that he goes with pleasure'

(ii) a. a casa sua$_i$ ogni ragazzo$_i$ dice che Maria (ci)   torna

          to house his every boy   says that Maria   there goes

          volentieri

          with-pleasure

          'To his house, every boy says that Maria goes with pleasure'

     b. a casa sua$_i$ Maria dice che ogni ragazzo$_i$ (ci)   torna

          to house his Maria says that every boy   there goes

(75) *Il libro di Leo$_i$ (pro$_i$) l'ha letto volentieri

    The book of Leo (he) it.has read with-pleasure

    'The book of Leo, he read it with pleasure'

(76) *A case di Leo$_i$ (pro$_i$) (ci) va volentieri

    To house of Leo he there goes with-pleasure

    'To the house of Leo, he goes there with pleasure'

(77) la casa di sui padre, l'ho ridata a ogni

    the house of his father him-have given-again to every

    studente

    student

    'His father's house, I have given again to every student'

(78) a case sua$_i$, ogni ragazzo$_i$ (ci) va volentieri

    to house his every boy there goes with-pleasure

    'To his house, every boy goes (there) with pleasure.'

As Cecchetto and Chierchia note, the presence of island effects and of reconstruction effects suggests a movement analysis. However, they note that a movement analysis is only feasible for NPLD (see Cecchetto 2000 for ample discussion). For PPLD, such an analysis would fail to capture the non-obligatoriness of the clitic _ci_, the lack of scope reconstruction with PPLD, and the absence of a corresponding clitic doubling structure. (None of those characteristics apply to NPLD.)

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    volentieri

    with-pleasure

    'To his house, Maria says that every boy goes with pleasure'

Concerning the absence of scope reconstruction with PPLD, they offer the following contrast.

(79)   qualche compito di fonologia Leo l'assegnato a ogni

some   problem of phonology Leo it.assigns to every

studente

student

'A phonology problem, Leo assigns it to every student'

(80)   in qualche cassetto, Leo (ci) tiene ogni carta importante

in some   drawer   Leo there keeps every paper important

'In some drawer, Leo keeps every/an important paper'

In (79), both scope orders ($\exists{>}\forall;\forall{>}\exists$) are available; while in (80), only the $\exists{>}\forall$ order, with the PP taking wide scope is possible.

As for the absence of clitic doubling with PPs, Cecchetto and Chierchia report the following fact from Trentino (a language that has locative clitics to start with).

(81)   (*che)   vago volintiera   a Roma

there I.go with-pleasure to Rome

'There, I go with pleasure to Rome'

On the basis of the three asymmetries noted, Cecchetto and Chierchia argue for a base-generation account of PPLD. Island sensitivity is captured (as in Iatridou 1991) by generating the PP at the edge of the island (still, within it), so that movement is forced to take place from the island out. As for the binding reconstruction effects, they argue for a semantic (chain-binding) account of the type proposed in Barss 1986.

Note that since we are dealing with quasi-adjuncts, a base-generation analysis is not incompatible with the present account (in section 3.4.4 I argued that adjuncts are (first) merged in their surface positions. Island sensitivity would be straightforwardly captured by the conditions I imposed on adjunct modification). However, in light of the Lebanese Arabic facts noted by Choueiri 2001 and discussed in some detail in section 4.3, I claim that there is an option of generating the (locative) adjunct inside the clause, where it will function as an argument, and from where it will be resumed if forced to move further up. The two options (base-generation as a pure adjunct, or movement with resumption) account for the optionality of ci. Alternatively, one may assume that the locative pronoun is optionally null (on null locatives in Romance, see Goodall (in press). Given the facts in (80), and those in note 22 above, I adopt the latter hypothesis.

Once a movement analysis is made available, the binding reconstruction effects come as no surprise. They will indeed follow from the copy left by the PP upon movement. No chain-binding mechanism is required, which I take to be desirable as it is not clear how to formulate chain-binding in a minimalist context. The strong island effects follow straightforwardly on the assumption that the attracting head for LD is an agreeing one (Italian LD would then behave like relativization in Greek and the other languages discussed in section 3.5.2.)

When it comes to the scope rigidity effect illustrated in

(80), note that Cecchetto and Chierchia contrast binding and scope by showing that the LDed PP reconstructs (for binding) with respect to the <u>subject</u> and that the LDed PP fails to reconstruct (for scope) with respect to the <u>object</u>.

Andrea Gualmini (p.c.) informs me that a LDed PP gives rise to a Condition C effect with respect to the (clitic) object, as shown in (82). (My informant finds doubling with <u>ci</u> difficult in this example.)

(82) *con il coltello di Leo$_i$, Gianni lo$_i$ ha ucciso

     with the knife   of Leo, Gianni him has killed

     'With the knife of Leo, Gianni killed him'

(82) can be captured if the LDed phrase is resumed by a null locative pronoun.

As for scope,[23] Carlo Cecchetto (p.c.) informs me that

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[23]The third asymmetry noted by Cecchetto and Chierchia between NPLD and PPLD, the absence of clitic doubling of locative PP, is puzzling given that Cecchetto himself (2000) has argued that clitic doubling underlies clitic left dislocation (which I also assume).

However, one can make sense of this fact by noting that (81) is a violation of Last Resort. Since the adjunct does not move at all, there is no need for any stranding chain. Recall that stranding only takes place if a chain contains more than one S-OCC. It therefore follows that doubling will be possible only when the adjunct is merged inside VP and attracted to some further projection, which is exactly what a LD configuration

rigidity is always observed. Thus, it is not possible for a quantificational LDed PP to contain a variable bound by the object, as in (83).

(83) *in una delle sue$_i$ stanze/in una sue$_i$ stanza (ci) ho

    in one of-the his rooms/ in one his rooms   CI (I-)have

    sistemato ogni ragazzo$_i$

    placed   every boy

    'In one of his rooms, I have placed every boy'

(83) is important because it shows, contrary to Cecchetto and Chierchia's 1998 claim, that there is no divorce between binding and scope with PPLD. (The divorce was only apparent because of the fact that the original binding and scope facts did not involve the same arguments). Scope rigidity is captured under the hypothesis that the locative PP starts off higher than the direct object (say at the edge of $\underline{v}$P), and necessarily takes scope over it,[24] much as in the double object construction in English and in

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looks like. The solution proposed here for (81) suggests that (at least some instances of) clitic doubling arises as a way of meeting requirements that would otherwise result in ambiguous chain formation (violating the PUC). I hope to explore this consequence of the present analysis in the future.

[24]For some speakers, scope rigidity may be relaxed if the LDed PP contains a variable bound by the object, as in (i). (Thanks to Andrea Gualmini for helping me construct the example.)

(i)   con qualche suo$_i$ coltello, i pirati (ci) hanno aperto

    with some   his knife   the pirates CI have   opened

Italian the indirect object necessarily takes scope over the direct object.

(84)   a un professore, Leo (gli) ha assegnato ogni studente

　　　　to a professor　　Leo　him has assigned every student

　　　　'To a professor, Leo assigned (him) every student'

　　　　($\exists > \forall / *\forall > \exists$)

The binding facts in (76) and (82) fall into place once we realize that the binder is in IP (the subject is in SpecIP, and the clitic object is adjoined to Infl[25]), and thus c-commands the copy of the dislocated PP.

What important to realize is that none of the examples

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　　　　ogni　baule di Capitano Uncino$_i$

　　　　every trunk of Captain　Cook

　　　　'With some of his knife, the pirates opened every trunk of

　　　　Captain Cook'　　　　　(Every > some)

(i) shows that it may be possible (for some speakers; perhaps as a marked option) to generate the PP lower than the direct object. I do not know why that option is unavailable in the absence of a bound variable in the LDed PP (the speakers who accept (i) show robust scope rigidity effects with (80)).

[25]How c-command is achieved in this case is not at all clear under the adjunction hypothesis. However, if clitics occupy a special functional head in the IP-area, as many have suggested (see Sportiche 1992, Manzini and Savoia 2001), the problem disappears.

discussed in this section provide an argument for base-generating the LDed PP at the edge of the clause.

4.5.2. Intrusion

At the beginning of my investigation of resumption, I explicitly drew a line, as did Sells 1984 and many subsequent studies, between true resumption and 'intrusion.' The former has been the focus of this work, the latter was not touched upon. Here I report on a study by Aoun, Choueiri, and Hornstein 2001 which bears on the nature of intrusion.

Aoun et al. concentrate on instances of resumption by strong pronouns and epithets (call these 'rich' RPs) in Lebanese Arabic. They observe that rich RPs cannot relate to quantificational antecedents, unless separated from them by an island. (Note, incidentally, that rich RPs are allowed in local subject positions.)

(85) *kəll muttahame ʕrəfto   ?ənno hiyye nħabasit

      each suspect   know.2pl that she   imprisoned

      'Each suspect, you know that she was imprisoned.'

(86) kəll muttahame tfeeʒa?to   [lamma/la?anno ʕrəfto

      each suspect   surprised.2pl   when/because   know.2pl

      ?ənno hiyye nħabasit]

      that she   imprisoned

      'Each suspect, you were surprised because she was

      imprisoned'

No such contrast exists with non-quantificational antecedents. As (87)-(88) show, rich RPs are allowed in both cases.

(87) ha-l-muttahame   ʕrəfto   ʔənno hiyye nḥabasit

    this-the-suspect know.2pl that she   imprisoned

    'This suspect, you know that she was imprisoned.'

(88) ha-l-muttahame   tfeeʒaʔto   [lamma/laʔanno ʕrəfto

    this-the-suspect surprised.2pl   when/because   know.2pl

    ʔənno hiyye nḥabasit]

    that she   imprisoned

    'This suspect, you were surprised because she was

    imprisoned'

It is not the first time we encounter special effects of rich
resumption. As the reader may recall, we saw in section 3.4.3
that the ban on local subject RPs does not hold for focused RPs
in Czech. Likewise, in Irish (and Hebrew), rich RPs (of the 'he
himself' type) are used as members of a coordinate structure in
subject positions. Further, as Željko Bošković points out (p.c.),
the preference for a clitic RP over a full pronoun (FP) in Serbo-
Croatian, which is otherwise quite robust, is nullified in island
contexts. Contrast (89)-(90).

(89) a. čovjek što tvrdiš   da   ga   Petar mrzi

        man   that you.claim that him(CL) Petar hates

        'The man that you claim that Petar hates'

    b. ?*čovjek što tvrdiš da njega   Petar mrzi

        man   that you.claim that him(FP) Petar hates

(90) a. *čovjek što se   pitaš   da li ga   Petar mrzi

        man   that self you.wonder whether him(CL) Petar hates

        'The man that you wonder whether Petar hates'

b. *čovjek što se pitaš da li njega Petar mrzi

     man that self you.wonder whether him(FP) Petar hates

Informally, the Serbo-Croatian cases fall within the 'Avoid

Pronoun' (more precisely, Cardinaletti and Starke's 1999 'Avoid

[rich pronominal] Structure') principle of Chomsky 1981, which

disfavors the use of strong forms if lighter ones can be used.

(Recall that clitic RPs in Serbo-Croatian are illicit in island

contexts.) Similarly for the Czech, Irish, and Hebrew cases.

However, in Lebanese Arabic, the relevance of the Avoid Pronoun

Principle is less obvious. Although the non-island contexts may

appear to be captured by it (weak pronouns can take

quantificational antecedents, as shown in (91)), the island

contexts blur the contrast, since here too weak RPs in islands

are possible (92).[26]

(91) kəll məʒrim fakkarto ʔənno l-bolisiyye

    each criminal thought.2pl that the-police.pl

    laʔaTu-u

    caught.3pl-him

    'Each criminal, you thought that the police caught him'

(92) kəll muttahame tfeeʒaʔto [lamma/laʔanno ħabasuw-a]

    each suspect surprised.2pl when/because imprisoned.3pl-her

    'Eeach suspect, you were surprised when/because they

    imprisoned her'

---

[26](91)-(92) do not constitute minimal pairs with (87)-(88),

due to the fact that there is no subject clitic RPs in Lebanese

Arabic.

Further, since Lebanese Arabic is a subject pro-drop language, according to Montalbetti's 1984 discussion, pro should always be favored in subject positions. That is not the case in Lebanese Arabic. An alternative to the Avoid Structure principle must therefore be sought.

Aoun et al. capture the contrast in (87)-(88) by developing a mixed theory of resumption (see also Aoun and Benmamoun 1998). According to them, resumption may be the result of movement (what they call "apparent resumption") or base-generation (in their terms, "true resumption"). In island contexts, movement is disallowed, hence base-generation is forced. Rich RPs can only be true resumptives, not apparent ones. Hence they are excluded in contexts where movement is possible (Aoun et al. follow Hornstein 2000 in taking movement to be forced if possible -- the opposite of Chomsky's Merge-over-Move principle).

I believe that Aoun et al.'s intuition is correct. But before showing how it can be implemented in the present framework, let me make clear that what they call "true resumption" is more aptly characterized as intrusion. Following Sells 1984, I take intrusion to be instances of 'resumption' restricted to island contexts. This is exactly the distribution of rich RPs in Lebanese Arabic (I come back to non-quantificational antecedents below).

Having said this, let us proceed to a characterization of rich RPs. Aoun et al. analyze strong pronouns/epithets as appositives. Instead, I would like to analyze rich RPs as full

DPs (D with an NP complement), like regular DPs (e.g., [$_D$ the [$_{NP}$idiot]] or [$_D$ he [$_{DP}$ the idiot]]. (On full pronouns as 'full' DPs, see Cardinaletti and Starke 1999, among others.) If that is the correct structure for them, they cannot take their antecedents as complements, unlike the pronouns that have been discussed so far. As a result they cannot function as RPs. There is simply no room for antecedents. Being excluded from the complement domain of the 'resuming' elements, antecedents of rich RPs must be base-generated in their surface positions.

Note that if this view of intrusion is correct, intrusive pronouns literally stand for what would otherwise be a gap. In instances of true resumption (what Aoun et al. call "apparent resumption"), the RP stand next to a gap formed by movement (of the antecedent). In cases of intrusion, there is no gap.

This analysis of intrusion is able to account for various facts in both Lebanese Arabic and English. First, in Lebanese Arabic, the ungrammaticality of (85) follows if we assume, with Kayne 2000b, 2001, that in order for a pronoun to function as a bound variable, it must form a constituent with its antecedent upon First Merge. Since that can't be the case if the bound variable is a full pronoun, (85) is ungrammatical (a quantifier needs to bind a variable in a theta-position). No such contrast is found when the antecedent of the rich RP is non-quantificational because in such cases there is no need for variable binding. The non-quantificational element can be interpreted as a hanging topic of sorts, with no need to bind

anything inside the sentence. The grammaticality of both (87)–
(88) thus follows. The status of (86) is less clear. The sentence
is better than (85), just as intrusive pronouns in English are
better in island contexts than in non-island contexts. It is
still an open question whether this improvement is to be captured
in terms of competence or performance. Since it is not clear
whether the sentences should be ruled in or ruled out from a
syntactic point of view, and since the present analysis appears
to make no sharp predication one way or another, I will not
analyze (85) and English intrusive pronouns. It is hoped that
further understanding of the interfaces will shed some light on
the nature of improvement of sentences under intrusion.

4.6. Pending issues

The present work has covered a rather broad landscape of
resumption. Obviously enough, it is, however, not exhaustive. In
particular, I see three domains for which the stranding analysis
should have deep ramifications. These are (Weak) Cross-Over,
Parasitic Gap licensing, and Reconstruction, all of which are
standardly associated with movement (as opposed to, say, base-
generation).

If I have not touched on these domains here, it is mainly
because despite extensive research the precise characterization
of the principles underlying them is still lacking. Hence, I am
tempted to leave an exploration of these issues for future
research. But since they figure so often in discussions where

matters of movement are involved,[27] I feel compelled to sketch, if only briefly, the terrain which should constitute the starting point of further investigation.

Finally, I conclude with a mention of the contrast between RPs in questions and in relatives noted in Tellier 1991, Sportiche 1983, and Rouveret 1994, among others.

4.6.1. Parasitic gaps

Let us start with the issue of parasitic gap licensing. As Culicover (2001:47) notes in his comprehensive survey of the properties of parasitic gaps, it is still an open question whether a parasitic gap can be licensed by an A-bar antecedent that forms a chain with a resumptive pronoun. Engdahl 1985 shows that parasitic gap licensing is possible under resumption in Swedish. Consider (93).

(93) det var den fången   [som läkarna   inte kunde avgöra

      it was that prisoner that the-doctors not could decide

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[27]For instance, Sportiche (1983:117ff.) argues that parasitic gap licensing under resumption depends on how resumptive chains are generated (movement or base-generation). Similarly, Koopman and Sportiche 1983 argue that resumptive chains licensed by movement trigger Weak Crossover effects. Finally, Aoun and Benmamoun 1998, and Aoun, Choueiri, and Hornstein 2001 argue that resumption via base-generation does not display reconstruction effects, while resumption via movement does (see also Adger and Ramchand 2000, in press). For much related discussion, see also Safir 1984, 1996.

[om <u>han</u> verligen var syk] [utan   att   tala med __pg

 if he really   was ill   without that talk with

personligen]]

personally

'This is the prisoner that the doctors could not determine

whether he really was ill without talking to in person'

Similarly, Sells 1984 notes that parasitic gap licensing in

resumption contexts is possible in Hebrew.[28] Consider (94).

(94) ha-ʔiša   še [[ha-anašim še   šixnati   levaker __pg]

     the-woman that the-people that I.convinced to-visit

[teʔaru   ota]]

 described her

 '(this is) the woman that the people that I convinced to

visit described her'

Tellier 1989 notes that in Moore resumptive pronouns do not

license parasitic gaps (which are otherwise possible in the

language).

(95) *ad   neb   [nins yamb sen wʊm   t'a Maari pab əb la

     here people NINGA 2pl   REL claim COMP Mary hit 3pl DECL

zaame n   [yaol n ka pogl __pg]]

yesterday before neg   hurt

'These are the people that you heard the claim that Mary hit

them without hurting'

Further, Shlonsky 1992 points out that parasitic gaps inside

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[28]Irish cannot be tested here, as it appears to lack

parasitic gaps altogether, as McCloskey 1990 notes.

adjuncts cannot be licensed by resumptive chains in Hebrew (in contrast to parasitic gaps inside subjects, as in (94)). Witness (96).

(96) ha-ʔiša [še yosi ahav t̲/*ota [mibli lehakir __pg]]

     the-woman that Yosi loved her without knowing

     'The woman that Yoshi loved without knowing'

Whether the subject vs. adjunct distinction is relevant is not clear. As Sells already pointed out, descriptively speaking, parasitic gaps appear to be licensed by resumptive chains only if the gap linearly precedes the RP. (For further discussion, see Fox 1994.)

Note, incidentally, that the parasitic gap licensed in (94) does not comply with the robust generalization noted for English by Nissenbaum 1998 that parasitic gaps inside subjects are only possible if the subject is headed by a quantificational head or a bare plural in generic sentences. (A generalization which Nissenbaum derives from his claim that parasitic gaps are licensed by rules of semantic composition, which demand that subjects containing parasitic gaps must reconstruct.) Contrast the pairs in (97)-(98).

(97) a. Mary's the kind of woman that [a person who talks to __]

       always goes to bat for __

      b. ??Mary's the woman that [a person who talked to __

      (yesterday)] went to bat for __

(98) a. Nader's the person that we should invite __ because [many

      of the people who voted for __] are likely to come to see __

b. ??Nader's someone that we should invite __ because [the

fifty people who voted for __] are likely to come to see __

Such facts highlight the need for a comprehensive study of the

licensing conditions on parasitic gaps. In the absence of such a

study it is not clear what the predictions of the present theory

are. It appears to have the prerequisites for parasitic gap

licensing, as it relies on 'pure' A-bar movement of

specific/definite antecedents (by 'pure' A-bar movement, I mean

direct movement of the wh-phrase to SpecCP (ignoring successive

cyclic step), with no A-movement checking step), thus complying

with the generalization that A-movement does not license

parasitic gaps, and the one that says that parasitic gaps require

'specific antecedents' (see Cinque 1990; Karimi 1999, among

others). Note also that since Clitic Left-Dislocation licenses

parasitic gaps, and has been argued to share structural

properties with resumption, we expect parasitic gap licensing to

be possible. Whether or not the counterexamples noted by Tellier

and Shlonsky can be explained away by independent properties

remains to be seen.

Finally, let me note that Chomsky's 1982 observation that

parasitic gaps are excluded by resumptive chains in English, as

in (99), is not surprising since English lacks genuine

resumption, and resorts to intrusion instead.

(99) *a man [whom [everyone who meets __pg] knows someone who

likes him]

Given that intrusion is here taken to involve base-generation, we

expect parasitic gaps in the absence of A-bar <u>movement</u> not to be possible. Chomsky's example may then provide an argument for the base-generation analysis of intrusion developed here (a PF insertion approach would not obviously predict the ungrammaticality of (99)).

4.6.2. Weak Crossover

Weak Crossover is another domain where the lack of understanding of the phenomenon in question prevents me from making predictions. As is well-known, in many languages with productive resumptive strategy, Weak Crossover effects disappear once an RP is used. Witness the following cases from Hebrew.

(100)   a. ha-$?iS_i$ Se $?im-o_i$?ohevet $?oto_i$

          the-man that mother-his loves   him

          'The man that his mother loves'

      b. *?ha-$?iS_i$ Se $?im-o_i$?ohevet $\underline{t}_i$

          the-man that mother-his loves

This is not true of all languages. As Koopman and Sportiche 1983 show, RPs in Vata are subject to Weak Crossover.

(101)   *àlɔ́$_i$ ɔ'$_i$ nɔ́   gùgù   nā ɔ̀$_i$ mlɪ̀ la'

          Who his mother think that he left wh

          'Who does his mother think left'

As noted by Demirdache 1991, a Leftness condition like the one proposed in Chomsky 1976, given in (102), captures the Hebrew facts (taking the RP to be the variable).

(102)   Leftness condition

          a variable cannot be an antecedent for a pronoun to

its left

However, the Leftness condition does not seem to make much sense if imposed as a condition on interpretation, where it is doubtful that directionality matters. At this point, it seems to me that Lasnik and Stowell's 1991 generalization that Weak Crossover is to be tied to the type of operator movement involved (which they correlate with the type of trace left behind) is more promising. In particular, Lasnik and Stowell note that in contrast to wh-movement, topicalization in English does not seem to yield Weak Crossover effects, as shown in (103).

(103)   a. *Who$_i$ does his$_i$ mother like $\underline{t}_i$

         b. That man$_i$, his$_i$ mother likes $\underline{t}_i$

Lasnik and Stowell argue that the trace left by topicalization, which they characterize as an instance of non-quantificational A-bar movement, is a null epithet, which has both pronominal and R-expression properties (quantificational A-bar movement is taken to leave a pure R-expression behind). It is not clear how Lasnik and Stowell's claim can be reformulated under a copy theory of movement,[29] but at least in the realm of resumption, their claim can be useful.

Aoun and Choueiri 2000 argue that epithets have the shape of a definite determiner and an epithet NP complement, a structure

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[29]Although an interpretive mechanism like Fox's 2000b Trace conversion may leave different portions of a copy unaffected.

that is transparent in Lebanese Arabic, as illustrated in (104).[30]

(104)   a. $[_{DP}$ D $[_{NP}$ epithet]]

         b. ha-l-ma3duub

           this-the-idiot.masc.

Aoun and Choueiri's structure for epithets match exactly what I assigned to the Big DP structure underlying resumptive chains, repeated here as (105). (Note, incidentally, that the structural parallelism between (104a) and (105) explains why they exclude each other, as discussed in section 4.5.2.)

(105) $[_{DP}$ D(RP) $[_{NP}$ Antecedent]]

If Weak Crossover correlates with the idea that movement relates to a null epithet, as Lasnik and Stowell claim, we may expect that movement of the antecedent in (105) will not trigger any Weak Crossover effect, since the RP and the trace left by movement of the antecedent will be identical to the structure of epithet in (104b). Notice that what I just said would explain an otherwise puzzling contrast in Irish reported in May (1985:156) (attributing the examples to Jim McCloskey).

(106)   a. Cén   fear$_i$ a sábháil a$_i$ mháithair é$_i$

          which man   aN saved   his mother   him

          'Which man did his mother save him?'

      b. *Cén   fear$_i$ a sábháil a$_i$ mháithair $\underline{t}_i$

          which man   aL saved   his mother

---

[30]Aoun and Choueiri's structure straightforwardly captures the dual pronoun/R-expression status of anaphoric epithets (see Lasnik 1976).

'Which man did his mother save?'

May observes that a resumptive wh-chain in Irish is immune to Weak Crossover (106a), in contrast to a chain containing a gap (106b). The contrast is unexpected under Lasnik and Stowell's theory, as both cases involve quantificational A-bar movement (I set aside a base-generation analysis of (106a), for reasons which I hope are clear by now.) By contrast, the two examples differ for us in the richness of the 'trace' (simple copy in (106b) vs. big DP structure in (106a)). That we find such a contrast is very encouraging.

Although the present approach appears to open interesting possibilities in the realm of Weak Cross-Over, it leaves unexplained the case of Vata. As extensively discussed in Koopman and Sportiche 1983, Vata RPs are subject to Weak Cross-Over. At this point, I can just point to the only difference that arises in the present work between Vata and, say, Irish: the use of an agreeing C in the former. Possibly, Agree may have an effect on which movement type is involved (with ensuing consequences for Cross-Over, as in Lasnik and Stowell 1991). But what kind of effect Agree should have is far from clear. I must therefore leave the case of Vata for future research.

To conclude this section on Weak Crossover I want to note another encouraging fact for the present theory, viz. the absence of Weak Crossover under some instances of clitic doubling in wh-movement contexts. (Examples from Galician, based on Uriagereka

1989;[31] see also Cecchetto 2000 for similar facts from Italian Clitic Left-Dislocation, and Alexiadou and Anagnostopoulou 1997 for Greek clitic doubling.)

(107)   a qué   cadela$_i$ (pro$_i$) a$_i$ fireu o   seu$_i$ amigo ($\underline{t}_i$)

          A which dog   pro her hurt   the his friend

          'which dog did her friend hurt her'

(108)   qué   cadela$_i$ (pro$_i$) fireu o   seu$_i$ amigo $\underline{t}_i$

          which dog   hurt   the his friend

          'which dog$_i$ did her$_i$ friend hurt $\underline{t}_i$'

That clitic doubling and resumption patterns alike in this domain reinforces the conclusion reached in chapter 2 that a similar structure underlies both of them.

4.6.3. Reconstruction

If no further assumptions are made, a movement analysis of resumption predicts reconstruction effects, if, as is now well-supported, reconstruction arises from the use of a copy left by movement.

We have already seen evidence in chapter 2 on the basis of Strong Crossover data for the _presence_ of a copy of the antecedent next to the RP. Recall that Hebrew exhibits condition

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[31]In fairness, I note that clitic doubling is subject to Weak Crossover if (107) is changed to (i), for unclear reasons (see Uriagereka 1989 for valuable discussion).

(i)   *a qué   cadela$_i$ (pro$_i$) a$_i$ fireu seu$_i$ amigo ($\underline{t}_i$)

       A which dog   pro her hurt   his friend

       'which dog did her friend hurt her'

C (Strong Crossover) effects in cases like (109c) (as I discuss

in chapter 2, a mere pronoun would not account for the

ungrammaticality of (109c)).

(109)   a. yidaʕ   ʔet ha-ʔidiot$_i$ še   ha   more

              I-informed ACC the-idiot that the teacher will-

              yaxšil ʔoto$_i$

              flunk him

              'I informed the idiot that the teacher will flunk

              him'

        b. *Ze   ha baxur$_i$ še   yidaʕti   ʔet ha-ʔidiot$_i$ še

            this is the guy that I-informed ACC the-idiot that

            ha   more   yaxšil __$_i$

            the teacher will-flunk

            'This is the guy that I informed the idiot that the

             teacher will flunk'

        c. *Ze   ha baxur$_i$ še   yidaʕti   ʔet ha-ʔidiot$_i$ še

             This is the guy that I-informed ACC the-idiot that

             ha   more   yaxšil   ʔoto$_i$

             the teacher will-flunk him

But reconstruction is more than presence of a low copy (which is

all I take (109) to show). It is interpretation of that low copy.

     Aoun and Benmamoun 1998, and Aoun, Choueiri, and Hornstein

2001 show that reconstruction effects under resumption are not

always found. In particular, their works indicate that

reconstruction effects are found under resumption so long as the

RP is not within an island. (110)-(111) illustrate this

asymmetry.

(110)   təlmiiz$_j$-a$_i$ l-kəsleen ma baddna nχabbir [wala

Student-her the-bad   neg want.1pl told.1pl   no

mʕallme]$_j$ ʔənno ha-l- maʒduub$_j$ zaʕbar   b-l-faḥS

teacher   that 3p-the-idiot cheated.3sm in-the-exam

'Her bad student, we didn't tell any teacher that this

idiot cheated on the exam'

(111)   *təlmiiz$_j$-a$_i$ l-kəsleen ma ḥkiina   maʕ [wala

student-her the-bad   neg talked.1pl with   no

mʕallme]$_i$ [ʔabl-ma ha-l-malʒduub$_j$ yuuSal]

teacher   before the-idiot   arrive

'Her bad student, we didn't talk to any teacher

before the idiot arrived.'

In (110), the pronoun within the LDed phrase may be bound by the
negative quantifier phrase corresponding to 'no teacher,' which
is not the case in (111). For Aoun et al., such a contrast is
expected, given that resumption is achieved by movement in all
contexts where movement is possible (i.e., everywhere except
islands). The absence of movement in island contexts accounts for
why reconstruction effects are missing in such cases. But note
that for us too the contrast is expected, given the conclusions
we reached in earlier sections (in particular 4.4 and 4.5.2).
Note that in both cases, we are dealing with an intrusive
pronoun. Accordingly, in (111), the phrase containing the pronoun
we want to bind, must be generated in its surface position. By
contrast in (110), nothing prevents generating the LDed element

at the edge of the embedded clause (in the specifier of the projection hosting the finite verb) and raising it to its surface position. The possibility therefore exists to leave a copy of the relevant element below the licenser. By contrast, no such possibility exists in (111). If the LD-ed element is merged at the edge of the island, Match cannot raise it to its surface position (the chain would contain two S-OCCs, violating the PUC), and Agree can't reach inside the adjunct. Hence the LDed phrase must be base-generated in its surface position, and thus becomes inaccessible to binding by 'no teacher.' Upon closer scrutiny, then, Aoun et al's cases pose no problem for the present theory.[32]

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[32]Adger and Ramchand 2000, in press argue that the antecedent of the RP in the following Scottish Gaelic sentence does not reconstruct on the basis of the following example. (Which they take to mean that the antecedent is base-generated in its surface position.)

(i)   ??dè am fear de na   peannan aige fhèin$_i$ a bha (pro$_i$)

    Which one of the pens   at   himself C was

    a'sgrìobhadh leis (pro$_{RP}$)

    writing   with-3ms

'Which one of his own pens was he writing with?'

Although I have no explanation to offer for this, Audrey Li (p.c.) has brought to my attention a generalization which may subsume (i). She informs me that in work in progress with Joseph Aoun she arrives at the conclusion that cross-linguistically, wh-relatives show much fewer reconstruction effects than equivalent

In sum, I conclude that although it is encouraging to see that the Aoun et al.'s examples can be captured within the present theory, much more work remains to be done in the domain of reconstruction, and its interaction with resumption -- work which demands much more careful fieldwork than I could afford here.

4.6.4. The Wh/Relative clause contrast

A last issue I would like to address is the observation made in Sportiche 1983, Rouveret 1994, and especially Tellier 1991, that RPs under wh-movement differ from resumption under relative clause formation. Both Sportiche and Tellier note that in Yiddish, resumption is insensitive to a Complex NP constraint under relative clause formation, but not under wh-movement. Witness the contrast in (112)-(113) (data attributed by Sportiche to Jean Lowenstamm).

(112)   ?der boxer vos ix ken [dos meydl vos hot im gezen]

          the boy   what I know the girl what has him seen

          'The boy that I know the girl that saw him'

(113)   *voser boxer kenst du [dos meydl vos hot im gezen]

          which boy   know you the girl what has him seen

          'Which boy do you know the girl that saw him?'

A similar contrast is found in (literary) Welsh (data from

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that-relatives. (Bosook Kang (p.c.) has drawn my attention to Svenonius 1998, where a similar asymmetry is noted.) Although the asymmetry remains to be understood, it may cover (i), as the complementizer in Scottish Gaelic is an agreeing one.

Rouveret 1994:411).[33]

(114)   ??dyma 'r dyn y gusanaist ti 'r ddynes a briododd ef

          here the man that have-kissed you the woman that

          married him

          'Here is the man that you have kissed the woman that

          married him'

(115)   *pa ddyn gusanaist ti 'r ddynes a briododd ef

          which man have-kissed you the woman that married him

          'Which man did you kiss the woman that married him'

Similarly, Demirdache (1991:43ff.) reports the following facts

from Standard Arabic. (Tuller 1986:157ff. provides similar facts

for Hausa.) RPs inside islands like the Complex NP constraint in

interrogatives give rise to a deviant output ((116)).

(116)   *ʔman raʔayta l-fataata llatii ðarabat-hu

          who saw-you the-girl that hit-him

          'Who did you see the girl that hit him'

No such deviance is observed in the case of relative clauses, as

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[33]Rouveret (1994: 412 n. 50) attributes to Awberry 1977 the

observation that the marginality of (114) disappears if a clitic

form of the RP is used, as in (i).

(i)   dyma 'r ffenestr y   bwrais   i 'r bachgen a   'i

      here the window   that have-hit I the boy   that her

      dorrodd

      has-broken

      'Here is the window that I hit the boy that broke it'

The improvement may be an effect of the Avoid Pronoun principle.

shown in (117).

(117)   qara?tu l-maqaalata llatii saafara   S-Saabu

read-I the-article that   travelled the-young-man

llaðii kataba-ha

that   wrote-it

'I read the article that the young man that wrote it

traveled'

Interestingly, Demirdache points out that the deviance observed
in (116) disappears if a cleft-structure is used (as in (118)).

(118)   man *(llaðii) ra?ayta l-fataata llatii ðarabat-hu

who   that   saw-you the-girl   that   hit-him

'Who is it that you saw the girl that hit him'

Further, the island disappears if a default nominative Case is
used (no cleft structure is necessary), as in (119).

(119)   ?ayy-u rajulin ra?ayta l-fataata llatii

who-Nom girl-Gen saw-you the-girl   that

ðarabat-hu

hit-him(Acc)

'Who is it that you saw the girl that hit him'

The island reappears in such case if accusative Case is used on
the wh-phrase (?ayy-a instead of ?ayy-u).

(120)   *?ayy-a rajulin ra?ayta l-fataata llatii ðarabat-hu

I see no obvious way of capturing such facts in frameworks that
rely on Merge vs. Move without reintroducing construction-
specific processes (as does Tellier 1991). By contrast, the
present theory appears to have the right tools to make the

relevant distinctions.

It seems to be a fact that RPs in questions are not as natural as in relative clauses, except in those languages like Irish or Palauan, where questions are structurally identical to relative clauses (or clefts). It is significant that in the interrogative examples in Yiddish, Welsh, and Arabic, one does find an agreeing complementizer next to the antecedent of the RP. As soon as an invariant complementizer is used (as in the cleft example in Arabic), or non-agreement is marked elsewhere (Case mismatch in Arabic), the sentence improves. What these facts point to is that the use of a non-agreeing (matching) C is more readily available in relative clauses. It is worth noting that cross-linguistically V-movement to C is often found in questions, but not in relatives. (For example, in Spanish and Bulgarian one finds a V2 effect in questions, but not in relatives.) It will also be remembered that in cases of [+wh] relatives, island effects are felt (see sections 3.6.2 and 3.6.3). This again suggests that [+wh] C tends to retain some (possibly defective) Agree requirement, which would account for why island effects are detected in such cases. Although the reason behind the different nature of C is not completely clear, at least the present analysis allows us to technically capture the asymmetry.

4.7. Conclusion

In conclusion, I have analyzed further, arguably more marked aspects of resumption, ranging from 'mixed' chains (co-occurrence of agreeing and matching complementizers), to RP-fronting, quasi-

adjunct RPs, interacting A-bar dependencies, and intrusion. The basic analysis of resumption developed in previous chapters was shown to extend straightforwardly to such cases. Towards the end of this chapter, I also raised several issues which I hope future research will tackle and shed light on.

5. Conclusion

In the present work I have examined several mechanisms of chain formation made available by Universal Grammar. I have claimed that the interfaces impose an Unambiguous Chain requirement on the computational system. Chains are unambiguous if they contain at most one strong occurrence (one EPP-checking site). Narrow syntax provides essentially two ways of meeting the Principle of Unambiguous Chains (PUC) in situations where multiple EPP-checking demands arise: (i) agreement between strong occurrences and (ii) splitting of a complex element, which allows for different portions of the latter to each check one EPP-feature.

I have examined possibility (ii) in great detail, as it arises in the realm of resumption. In chapter 2 I claimed that resumptive pronouns and their antecedents are first merged as constituents, and are separated via movement. Resumptive chains are thus akin to Sportiche's 1988 stranding analysis of quantifier float. On the basis of data involving Strong Cross-Over, D-linking and partitivity, superiority, non-agreement effects, resumptive pronoun fronting, and other phenomenona, I have shown that neither a base-generation analysis of resumption nor a 'resumptive pronoun as lexicalized trace' analysis can cover the whole range of properties of resumptive elements. A stranding analysis like the one pursued here provides a unified analysis of resumption across languages, which I take to be desirable in light of the many similarities one finds among

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languages despite apparent asymmetries.

In chapter 3 I developed a theory of extraction that can capture the well-attested insensitivity of many resumptive pronouns to islands within a movement-based approach to resumption. I showed how the mechanisms of chain formation (i) and (ii) above conspire to predict the distribution of resumptive pronouns across languages; how, when coupled with independent properties of natural languages, they allow us to account for classic island effects (in non-resumption contexts); and how they allow movement to cross islands under resumption in many, but not in all cases. If correct, the theory of islandhood proposed here is not only consistent with central minimalist tenets, but it is also the first to date that reconciles island insensitivity with a movement analysis of resumption. A central conclusion that emerges from our discussion is that agreement relations are central in defining possible extraction domains.

In chapter 4 I analyzed more marked instances of resumptions, and showed how these can be accounted for at no additional cost. In particular, cases of mixed chains, resumptive pronoun fronting, clitic left dislocation, and interacting A-bar dependencies were incorporated into the present framework. Instances of so-called intrusive pronouns (resumption restricted to island contexts) were also examined, and formally distinguished from cases of genuine resumption. The chapter ended with a discussion of some implications of the present analysis of resumption for domains like Weak Crossover, parasitic gaps,

reconstruction, and asymmetries between interrogative and relative clauses.

The present work confirms some crucial assumptions of the minimalist program such as Last Resort and the role of features in establishing syntactic relations. It also provides a strong argument for a movement-based account of at least one rule of construal (A-bar binding), and is thus fully in line with recent attempts such as Kayne 2000b, 2001 and Hornstein 2000 that seek to capture interpretive mechanisms via movement.

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