Reanalysis as Raising to Object[*]

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1 Introduction

Two central components of GB theory, the Binding Theory and the Case-theoretic account of A-movement, crucially depend on reanalysis. If binding in (1a) is to respect c-command, *to* must somehow "reanalyze" with the verb. Similarly, in the derivation of psuedopassives such as (1b), the Case-assigning powers of the preposition must transfer to the verb for subsequent removal by the passive morpheme.

(1)   a.   John talked to Mary$_1$ about herself$_1$.

        b.   John$_1$ was talked to t_1.

This paper has two primary aims. The first is to develop an account of reanalysis adequate to the phenomena in (1). Previous attempts to do so have run into serious empirical and conceptual problems, as pointed out by Baltin & Postal (1996). Our account is designed to addresses these problems, and can be summarized as follows. Reanalysis occurs when a preposition raises covertly to a v/V-medial Agr projection to form a complex [P-Agr] head. This head plays essentially the same role as the [V-Agr] head in Lasnik's (1999a) theory of objective Case assignment. After the preposition has raised, its erstwhile complement raises covertly to check case in the specifier of [P-Agr]. For (1a), the resulting LF is given in (2):[1]

(2)   LF: John$_1$ ... [$_{V-vP}$ t_{John} [$_{v-V}$ talked] [$_{P-AgrP}$ Mary$_2$ [$_{P-Agr}$ to] [$_{VP}$ t_{to} [$_{PP}$ t_P t_{Mary}]]]]

Raising of the the complement of the preposition is "raising to object" of the kind undergone by ECM subjects under Lasnik's analysis.[2]

The second aim of the paper is to explain why pseudopassivization is typologically linked to preposition stranding under *wh*-movement:

(3)   Who$_1$ did you talk to t_1?

As is well known, most languages do not allow preposition stranding, and pseudopassivization is rarer still (both constructions being limited for the most part to the Germanic languages).[3] Thus German and Spanish – (4)-(5) – permit neither preposition stranding nor pseudopassivization; Icelandic – (6) – permits preposition stranding but not pseudopassivization; and Norwegian – (7) – is one of few languages apart from English with both pseudopassivization and preposition stranding:

(4)   **German** (Abels 2003, 193)

    a.   * *Wem hast du mit geredet?*
          Who have you with spoken?

    b.   * *Frank wurde vom Präsidenten mit geredet.*
          Frank was by-the President with talked.

(5)   **Spanish**

    a.   * *Quien hablaste con?*
          Who speak.2S-PAST with?

    b.   * *Frank fue hablado con por el presidente.*
          Frank was spoken with by the President.

(6)   **Icelandic** (Maling & Zaenen 1990, 156)

    a.   *Hvern hefur Pétur talað við?*
          Who has peter talked with?

    b.   * *Ég tel Vigdísi vera oftast talað vel um.*
          I believe Vigdis be.INF most-often spoken well of.
          (Maling & Zaenen 1990)

(7)   **Norwegian** (Merchant 2001, 93)

    a.   *Hvem har Per snakket med?*
          Who has Peter talked with?

    b.   *Han ble ledd av.*
          He was laughed at.

We propose that there is one prerequisite that reanalysis and preposition stranding have in common: the presence of independent Agr projections. In most languages, ϕ-features (if present)

are bundled onto lexical heads such as V, T and P. Other languages (such as English) project separate Agr heads above PP; these associate with the P head via head movement. Building on a proposal of Abels (2003), we argue that the presence of this separate Agr projection within PP suffices to permit *wh*-extraction. Reanalysis occurs when P's Agr projection is merged above VP, giving the structure in (2).

The paper is structured as follows. §2 explains the derivation in (2) in greater detail and provides evidence to support it. §3 outlines the implications for existential constructions, pseudopassives and Case. §4 deals with the binding facts (as exemplified in (1a)). §5 responds to Baltin & Postal's (1996) criticisms of reanalysis hypotheses. §6 defends our assumption that covert movement can license new binding relations (and hence license binding in (1a)). Finally, §7 contains some further remarks on the typology of preposition stranding and pseudopassivization.

2 The analysis

2.1 Starting assumptions: Agr and the structure of vP

In common with most accounts of reanalysis, we propose that the complements of reanalyzed prepositions receive Case in the same manner as ordinary direct objects. Adopting the proposals of Koizumi (1993) and Lasnik (1999a), we take this to be raising to the specifier of an Agr projection located between v and V. Thus, an ordinary direct object receives Case from a V-Agr complex derived by movement of V to Agr:

(8) $[_{V-Agr-vP}$ Subj V-Agr-v $[_{V-AgrP}$ Obj t_{V-Agr} $[_{VP}$ t_V $t_{Obj}]]]$
     (Configuration for assignment of objective Case to a direct object.)

We assume that Case is typically assigned by the combination of a lexical head (e.g. V, T) and an Agr head. Though we remain neutral on the question of whether this configuration is responsible for *all* Case assignment (in particular, all *inherent* Case assignment), we necessarily assume that it extends at least to those prepositions which may be reanalyzed. For example, the complement of *to* in (9b) – a structure in which reanalysis has *not* occurred – will be assigned Case in the configuration shown in (9b):

(9) a. John talked to Bill.

     b. LF: $[_{V-vP}$ John $[_{V-v}$ talked] $[_{VP}$ t_V $[_{P-AgrP}$ Bill $[_{P-Agr}$ to] $[_{PP}$ t_P $t_{Bill}]]]]$.

It seems that the "strong" or "weak" nature of the complex Case-assigning head is determined by its lexical component. Thus in English, V-Agr is optionally strong or weak, with the consequence that overt movement of the object to [Spec,V-AgrP] is optional (Lasnik 1999a). In contrast, English P-Agr must be obligatorily weak if (9b) is not to surface as (10):

(10) * SS: John talked $[_{P-AgrP}$ Bill$_1$ $[_{PP}$ to $t_1]]$.

For our purposes, it will not matter a great deal whether covert raising is treated as post-Spellout movement (Chomsky 1995), pronunciation of a lower copy (Bobaljik 1995), or Agree without subsequent remerger (Chomsky 2000). The subsequent exposition will be given in terms of the traditional analysis.[4]

We will assume that the strength of the requirement for a lexical head to adjoin to an Agr head is always correlated with the strength of the requirement for the specifier of the resulting complex to be filled. Thus in English, movement of T to Agr is always overt, movement of P to Agr is always covert, and movement of V to Agr is optionally either overt or covert. These assumptions regarding the strength of Case-assigning heads are summarized in the following table:

(11)

Complex head	Strength
T-Agr	Always strong.
V-Agr	Optionally strong/weak.
P-Agr	Always weak.

It will be necessary to specify the precise featural motivation for raising of a lexical head to an Agr projection. Following Chomsky (1995, 197),[5] we take the relevant feature to be a category feature on the Agr head itself (e.g. a 'V' feature). Movement of the lexical head to Agr therefore falls under Enlightened Self-interest (Lasnik 1999a, 78).

As indicated in (11), movement of V to Agr should in principle be covert when raising of the object to [Spec,V-AgrP] is covert. In practice, however, the need for v and V to associate forces overt movement of V through Agr and then to v; this movement will occur whether or not Agr is strong. The assumption here is that "opportunistic" movement to check a weak feature is permitted if it is a step in a successive-cyclic movement which will eventually lead to the checking of a strong feature. This assumption is independently required in order to account for, e.g., the instance of *wh*-movement in (12):

(12)   Who did you see *t*?

If, owing to a strong interpretation of Procrastinate, the *wh*-phrase in (12) were required to skip the weak Agr position, then it would never be able to check Case (assuming subsequent lowering to be impossible), and there would be no convergent derivation of (12) available.

2.2   Reanalysis

Given the preceding assumptions regarding the structure of "normal" PPs, we can now consider the "reanalysis" structure in more detail. Reanalysis occurs when a P head raises covertly to a v/V-medial Agr head (the latter bearing unchecked 'P' features):

(13)   a.   John talked to Bill.

       b.   LF: $[_{V-vP}$ John $[_{V-v}$ talked$]$ $[_{P-AgrP}$ Bill $[_{P-Agr}$ to$]$ $[_{VP}$ t_V $[_{PP}$ t_P $t_{Bill}]]]]$

Since P-Agr complexes are obligatorily weak, raising of both *to* and *Bill* is necessarily covert. There are two "exceptional" features of the structure shown in (13b). First, the presence in an intransitive vP of a v/V-medial Agr head bearing 'P' features. Second, the absence of an Agr projection attached to the PP itself (compare (9b)). We take these exceptional features to be the preconditions for reanalysis (see §7 for further discussion). We will continue to refer to preposi-tions such as *to* in (13b) as "reanalyzed" prepositions, but it should now be clear that we postulate no reanalysis operation as such. (That is, we do not make use of any operations other than ordinary head/phrase movement.)

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The structure in (13b) makes apparent the motivation for taking a feature of Agr to drive movement of V/P to Agr. If movement were driven by a requirement of P/V, then Minimality would presumably preclude movement of P over V in (13b). On the other hand, if the Agr merged in (13b) has a 'P' category feature (i.e. an instruction to "attract" the closest P) then Minimality is satisfied.

The term DCRP ("DP Complement of a Reanalyzed Preposition") will be a useful shorthand. For example, *Bill* in (13b) is a DCRP. If the derivation shown in (13b) is correct, direct objects and DCRPs are similar in that they both receive Case in essentially the same position. However, there are nonetheless some important differences between DCRPs and direct objects:

(i) DCRPs cannot raise to their Case position overtly, whereas direct objects may optionally raise overtly.

(ii) A DCRP is initially merged as the complement of a preposition, whereas a direct object is initially merged as a complement of V.

(iii) The vP containing a DCRP is still in some sense marked as intransitive (the V head does not have a DP complement).

The ability to distinguish between direct objects and DCRPs in these respects will make it possible to account for those cases where the two do not behave alike.

3 Passives, unnacusatives, existentials and partitive Case

Our account of pseudopassivization can be summed up as follows. The complement of a reanalyzed preposition raises to the same position as an ordinary direct object: the specifier of a v/V-medial Agr projection. The addition of the passive morpheme renders this a Case$'$ position (for whatever reason it does so in ordinary passives). Subsequently, the complement of the reanalyzed preposition moves to [Spec,TP] to receive Case.

The remainder of this section is organized as follows. We first show how our analysis accounts for the adjacency requirement on pseudopassivization (§3.1); this first subsection is largely inde-

pendent of any specific technical implementation of passivization. To place the subsequent discussion in a more concrete theoretical context, we go on to outline a specific analysis of passivization in §3.2. This subsection is not intended as an original contribution to the study of passivization, but rather as an indication of the type of analysis which jibes best with our account of pseudopassives. We conclude by addressing the implications of idiomatic passives such as *take advantage of* (§3.3), arguing that certain restrictions on these follow from the theory of "partitive" Case.

3.1   Existentials, locality and adjacency

Movement of P to Agr is, as would be expected, subject to locality conditions. Thus, the presence of a closer PP in (14c) blocks pseudopassivization:

(14)   a. $John_1$ was spoken to t_1 about Mary.

   b. $John_1$ was spoken about t_1.

   c.   * $John_1$ was spoken to Mary about t_1.

Under analyses such as that of Bresnan (1982), (14c) is ruled out by a linear adjacency constraint. (That is, a requirement that V and P must be adjacent in order for V+P to reanalyze as a complex verb.) However, if it is reanalysis that permits binding in (15), there can be no adjacency constraint on reanalysis as such:

(15)   a.   John spoke (frequently) to $Bill_1$ (frequently) about $himself_1$.

   b.   LF: $[_{V-vP} \text{spoke}_{v-V} [_{P-AgrP} Bill_1 \text{ P-Agr} [_{VP} t_V [t_P t_1]]]]$

Something must therefore be said to explain the deviance of (16):

(16)   * John was spoken frequently to.

In contrast to (14c), which is plausibly ruled out as a violation of Minimality or some similar condition on movement, (16) appears to exemplify a genuine linear adjacency constraint on pseudopassivization. If this constraint does not follow from a condition on reanalysis itself, it must derive from some property of English passives. We suggest that the relevant property is the position of V. Caponigro & Schütze (2003) propose that V does not raise overtly to v in English

passives. They point out that this accounts for the DP-V order in sentences such as (17):

(17)   There were (three fish) caught (* three fish).

   (Idealized judgments; see subsequent discussion.)

Interpreting C&S's analysis within the present framework, we have two possible structures for active sentences – (18a/b) – and one for passives – (19):

(18)   a.   SS: [$_{V-Agr-vP}$ Subj V-Agr-v [$_{V-AgrP}$ **Obj** t_{V-Agr} [$_{VP}$ t_V t_{Obj}]]]

       (Active with overt raising to Agr and [Spec,Agr])

       b.   SS: [$_{V-Agr-vP}$ Subj V-Agr-v [$_{V-AgrP}$ t_{V-Agr} [$_{VP}$ t_V **Obj**]]]

       (Active with covert raising to Agr [Spec,Agr])

(19)   SS: [$_{vP}$ v [$_{AgrP}$ Obj Agr [$_{VP}$ V t_{Obj}]]]

       (Passive; raising to Agr and [Spec,Agr] is always covert.)

C&S are not explicit regarding the nature of the Case assigned to the DP in [Spec,V-AgrP] in passive clauses, but it would seem natural to follow Belletti (1988) and Lasnik (1992, 1995) in assuming that it is partitive Case. (In the next subsection, we will argue that this is the only Case which can be assigned by the defective form of Agr present in passive vPs.) Given the structure in (19), the adjacency requirement on pseudopassivization in (16) now follows. If the VP has the structure in (20), then there is no "room" for an adverbial expression to be infixed between V and its PP sister:

(20)   [$_{VP}$ talked [$_{PP}$ to Bill]]

In contrast, V raises to v in (15) (repeated here as (21a)). Thus, an adverb left-adjoined to P-AgrP in (15b) can appear between V and P, as shown in (21b):

(21)   a.   John spoke (frequently) to Bill $_1$ (frequently) about himself$_1$.

       b.   LF: [$_{V-vP}$ spoke$_{v-V}$ [$_{P-AgrP}$ **Adverb** [$_{P-AgrP}$ Bill$_1$ P-Agr [$_{VP}$ t_V [$_{tP}$ t_1]]]]]

This explains why pseudopassivization in (16) is subject to adjacency, and why binding in (15) is not.[6]

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Returning briefly to (17), it should be noted that the judgments indicated in this example are an idealization. Many English speakers find a postverbal DP in such cases at least marginally acceptable:

(22)   % There were caught three fish.

However English speakers uniformly reject (23a), showing a clear preference for (23b):

(23)   a.   There were three men spoken to.

       b.   * There were spoken to three men.

In §5.6, we will argue that this is because Heavy DP Shift may apply to the associate in (23a) but not in (23b).

3.2   A very sketchy analysis of the English passive

Following Jaeggli (1986), Baker, Johnson & Roberts (1989), we will assume that the passive morpheme is responsible for absorbing the external theta-role of v and blocking assignment of accusative Case. BJ&R propose that the passive morpheme is itself a theta and Case assignee. We prefer to assume that the passive vP is headed by a special "defective" v* head which does not assign a theta-role to its specifier (Chomsky 2000, 2001).[7] This v* head is spelled out as the passive morpheme, and selects an AgrP as its sister just like an ordinary v.[8] However, the Agr head selected is correspondingly defective (we'll call it Agr*). Like any other Agr head, Agr* may attract a lexical head such as P, T or V, but the resulting P/T/V-Agr complex is not capable of assigning structural accusative Case. Rather, it assigns partitive Case – the Case which licenses the associate of *there* in existentials (Belletti 1988; Lasnik 1992, 1995). As mentioned in the introduction to §3, we will assume that the surface subject of a (pseudo-)passive sentence transits through [Spec,X-Agr*P] (for X $\in$ {V,P}) on its way to [Spec,TP].

Compared to BJ&R's analysis, ours differs principally in the extent to which it admits the syntactic presence of a nominal expression bearing the external argument theta role. For BJ&R, the passive morpheme is precisely such an expression, and this is taken to explain instances where the suppressed external argument appears to enter into syntactic relations such as control:

(24)   The ship was sunk (by John$_1$) [PRO$_1$ to collect the insurance].

(PRO can be controlled by the agent of the matrix event whether or not the 'by' phrase is present.)

On our account, the suppressed external argument has a more spectral presence. It may in some sense be expressed by v*, but since v* is not a nominal (and has no nominal specifier), it cannot enter into ordinary DP-DP relations. This may well be an advantage over BJ&R's analysis, since there is little hard evidence that the suppressed external argument may do so. For example, we have seen in (25) that it cannot bind:

(25)   John was arrested *(by the police officers$_1$) using each other$_1$'s handcuffs.

And there is evidence that the apparent cases of control – such as (24) above – are really a separate phenomenon (see e.g. Landau 1999, 195-211).

To exemplify our analysis of the passive, (26) gives the structures for two active sentences, and (27) the structures for their corresponding passives. (The active sentence (26b) is shown with reanalysis having applied, but reanalysis is not obligatory here.)

(26)   a.   John saw Bill.

LF: [$_{V-Agr-vP}$ John [$_{V-Agr-v}$ saw] [$_{V-AgrP}$ Bill t_{V-Agr} [$_{VP}$ t_V t_{Bill}]]]]

b.   John talked to Bill.

LF: [$_{V-vP}$ John [$_{V-v}$ talked] [$_{P-AgrP}$ Bill [$_{P-Agr}$ to] [$_{VP}$ t_V [$_{PP}$ t_P t_{Bill}]]]]]

(27)   a.   Bill was seen.

LF: [$_{TP}$ Bill ... [$_{V-Agr*-v*P}$ [$_{V-Agr*-v*}$ saw] [$_{V-Agr*P}$ t_{Bill} t_{V-Agr*} [$_{VP}$ t_V t_{Bill}]]]]]

b.   Bill was talked to.

LF: [$_{TP}$ Bill ... [$_{V-v*P}$ [$_{V-v*}$ talked] [$_{P-Agr*P}$ t_{Bill} [$_{P-Agr*}$ to] [$_{VP}$ t_V [$_{PP}$ t_P t_{Bill}]]]]]]

3.3   Paying attention to taking advantage

A classic puzzle in the study of passivization is illustrated in (28)-(30):

(28)   a.   John took advantage of Bill.

b.   John made fun of Bill.

(29)   a.   John was taken advantage of.

       b.   Advantage was taken of John.

(30)   a.   John was made fun of.

       b.   (Much) fun was made of John.

If we take passivization to be driven by the Case requirements of the surface subject, the possibility of the (a) structures in (29) and (30) is surprising.[9] The addition of the passive morpheme ought to absorb the Case of whichever DP it is that receives Case from the verb in (28) (presumably *advantage*); it ought therefore to be *advantage* that raises to subject position, not the complement of *of*. An informal notion of reanalysis offers the sketch of a solution to this problem. I.e., the (a) passives result if reanalysis applies, and the (b) passives result if it does not (Bach 1980, 323-324). The problem of refining this analysis further has essentially been a technical one: just how is it that *of* can reanalyze with the verb (or any neighboring projection) when a DP intervenes? And how is the postverbal DP Case-licensed? An advantage of the analysis presented here is that the first question receives a straightforward answer in terms of head movement, since movement of the preposition is not subject to an adjacency requirement.[10]

The second question has previously been addressed by the hypothesis that *take advantage of* forms a single complex predicate, thus exempting *advantage* from the Case filter (Chomsky 1973, Hornstein & Weinberg 1981). Rather than taking this approach, we follow Mills (2008) in assuming that *advantage* is licensed by partitive Case.[11] Partitive Case is compatible only with certain classes of DP (roughly, weak quantifiers; Belletti (1998), Lasnik (1992, 1995)). As expected, this restriction applies to the postverbal DPs in the pseudopassive constructions under consideration:

(31)   a.   John was paid attention to.

       b.   John was paid a great deal of attention to.

       c.   * John was paid every possible attention to.

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Though judgments are difficult in this area owing to the idiosyncrasies of the various idioms involved, the restriction to weak quantifiers tends to be relaxed in passives where the idiomatic DP is the subject. So for example, (32) is detectably better than (31c):[12]

(32)   ? Every possible attention was paid to John.

This contrast crucially shows that the restriction to bare nouns is not imposed by the requirements of the *pay attention* idiom. The idiomatic DP can often appear preverbally in a passive existential:

(33)   a.   There was much fun made of John at the conference.

        b.   There was much attention paid to John at the conference.

        c.   (The court ruled that) there was no unfair advantage taken of John.

In (33a), *made fun of* is not even a string (and likewise for *paid attention to* and *taken [no unfair] advantage of* in (33b/c)). Thus, passivization in cases such as (31a/b) cannot be conditioned on formation of a complex predicate, implying that the postverbal DP in (31a/b) cannot be exempted from Case licensing by means of incorporation within such a complex. This provides further support for the hypothesis that the postverbal DP is licensed by partitive Case. On this hypothesis, the derivation for (31a) is along the lines shown in (34):

(34)   LF: $[_{TP}$ John$_1$ ... $[_{v*P}$ v* $[_{P-Agr*P}$ $[_{DP}$ fun$]_2$ P-Agr* $[_{XP}$ $[_V$ made$]$ ... t_2 ... $[_{PP}$ of $t_1]]]]]$

Here Agr* has 'P' features. Thus, P raises covertly to Agr* to create a complex P-Agr* head. This head assigns partitive Case to *fun* following covert raising to [Spec,P-Agr*P].[13]

   In sum, the postverbal DP in a passive such as (31a/b) is subject to two sets of constraints: (i) those imposed by partitive Case; and (ii) those imposed by the idiom itself (e.g., that the DP must contain an NP headed by *fun*).[14] This amounts to the following claim:

(35)   If a DP α ...

            (i) Meets the requirements imposed by partitive Case; and

            (ii) can be the subject of a passivized ...V α PP... type idiom (as in (32))

            ...then α will also be permissible in a passive such as "...V α P t..."

To illustrate the need for stating the claim in this somewhat complex form, note that the contrast in (36) does *not* constitute a counterexample to it:

(36) a. There was a significant advantage (in arriving early).

      b. * John was taken a significant advantage of.

The argument here would be that since *a significant advantage* is compatible with the requirements imposed by partitive Case – as shown by (36a) – we ought therefore to expect the postverbal DP in (36b) to be licensed. However, this argument fails to impugn the claim in (35) because *a significant advantage* is never able to participate in the *take advantage* idiom:

(37) * A significant advantage was taken of John.

Thus, (35ii) is not met.[15]

3.3.1 Two non-existent pseudopassives

The hypothesis that *advantage* receives partitive Case in (38) may offer an explanation for the impossibility of the pseudopassives in (39):

(38) John$_1$ was taken advantage of t_1.

(39) a. * Mary$_1$ was said to t_1 that Bill is intelligent.

      b. * Mary$_1$ was said that Bill is intelligent to t_1.

Given the semantic reflexes of partitive Case, it is reasonable to assume that it is incompatible with clauses. If so, the derivation given above for (38) will not be available in (39).[16]

Unaccusative pseudopassives such as (40) are also correctly predicted to be impossible, since no Agr projection can be present within an unaccusative vP:

(40) * [This bed]$_1$ was died in t_1.

4 Reanalysis and binding

We assume that covert movement of a DCRP to [Spec,P-AgrP] is sufficient to license binding (see §6 for argument in support of this assumption). Thus in a sentence such as (1a), with the derivation shown in (41), the antecedent c-commands the anaphor at LF and binding is possible:[17]

(41)   LF: [$_{V-vP}$ John [$_{V-v}$ talked] [$_{P-AgrP}$ Mary$_1$ [$_{P-Agr}$ to] [$_{VP}$ [$_{VP}$ t_V [$_{PP}$ t_P t_1]] [$_{PP}$ about

herself$_1$]]]]]

Baltin & Postal (1996) object to reanalysis accounts of these binding phenomena on the grounds
that the set of PPs which permit pseudopassivization is not identical to the set of PPs which are
transparent for binding. Rather, the latter are a proper superset of the former. For example, whereas
talk to permits both pseudopassivization and binding – (42) – pseudopassivization is degraded for
talk with despite binding being perfect – (43):[18]

(42)   a.   John was talked to.

b.   John talked to Mary$_1$ about herself$_1$.

(43)   a.   ? John was talked with.

b.   John talked with Mary$_1$ about herself$_1$.

We agree with B&P that (43a) is degraded as compared to (42a). However, we suggest that the
relevant comparison cases for judging the acceptability of pseudopassives are examples such as
(44b), where the complement of a preposition which is not the closest to the verb is passivized:

(44)   a.   John was talked about.

b.   * John was talked to Bill about.

For all the speakers we have consulted, (44b) is considerably worse than (43a). This is perhaps
the level of unacceptability to be expected if reanalysis is truly impossible. With regard to (43a),
we note that while reanalysis is a precondition for pseudopassivization, it is surely not the *only*
precondition. It may well be that reanalysis does successfully apply in (43a), and that passivization
is degraded for some other reason.

One possible source of the degradation of (43a) is a constraint blocking the passivization of
symmetric predicates (Bach 1980, 332-333; Dowty 1991; Hallman 2000, 58). As an illustration
of this constraint, note that the verb *marry* has two possible meanings in the active sentence (45a),
but in the passive sentence (45b) has only the reading where the surface subject stands in an asym-
metric relation to the logical subject:[19]

(45) a. John married Mary.

(Ambiguous: either "John and Mary (got) married," or "John presided over Mary's marriage ceremony.")

b. Mary was married by John.

(Has only the reading "John presided over Mary's marriage ceremony.")

Regarding the contrast between (42a) and (43a), note that *talk with* is arguably "more symmetric" than *talk to*, since the former strongly suggests (without perhaps implying) a two-way conversation. For example, (46a) can be roughly glossed as (46b):

(46) a. I talked TO John but not WITH him.

b. I said things to John, but John didn't reciprocate.

The mild degradation of (42a) may therefore follow from the fact that *talk with* is a "mildly" symmetric predicate. More generally, it appears that *with* pseudopassives are fully acceptable only with robustly asymmetric predicates. Thus, predicates such as *bargain with* and *dance with* (which describe events in which the participants play more-or-less identical roles) pseudopassivize poorly, whereas clearly asymmetric predicates such as *dispense with* and *do away with* pseudopassivize perfectly:

(47) **Symmetric (or near-symmetric)**

a. ? John was bargained with.

b. ? John was argued with.

(48) **Asymmetric**

a. John was dispensed with.

b. John was done away with.

4.1 Non-c-command-based theories of binding

As B&P note, an appealing feature of the reanalysis account of binding from within PPs is the explanation it offers for the contrast in (49) (van Riemsdijk & Williams 1988, 203):

(49) a. Who$_1$ did Mary talk to t_1 about himself$_1$?

   b. * [To whom$_1$]$_2$ did Mary talk t_2 about himself$_1$?

   c. * [To Mary$_1$]$_2$, John talked t_2 about herself$_1$.

The traditional explanation is that reanalysis destroys the constituency of the PP, barring it from undergoing subsequent *wh*-movement in (49b/c). On our account, P-AgrP is a constituent following reanalysis, but the intervention of VP between P-Agr and the *wh*-phrase nonetheless blocks pied-piping of P-AgrP:[20]

(50) a. $[_{P-AgrP:\textbf{+wh}}$ P-Agr $[_{PP:\textbf{+wh}}$ P Wh]]

      (Percolation of +wh up to P-AgrP is possible; pied-piping of P-AgrP is possible.)

   b. $[_{P-AgrP:\textbf{+wh}}$ P-Agr $[_{VP:\textbf{+wh}}$ V $[_{PP:\textbf{+wh}}$ P Wh]]]

      (Percolation of +wh is blocked by VP; pied-piping of P-AgrP is impossible.)

To our knowledge, no means of accounting for the data in (49) has yet been proposed which does not appeal to reanalysis in one form or another. Thus, (49a/b) poses a significant empirical challenge to theories of binding which attempt to accommodate (49a)/(1a) by abandoning the c-command condition on binding altogether.

   A representative example of such a theory is that presented by Pollard & Sag (1992). P&S argue that Conditions A and B are stated over ARG-ST lists, which are essentially ordered lists containing the arguments of a given predicate. Argumenthood here is to be understood in a syntactic rather than semantic sense, such that *John* in (51) is taken to be an argument of *believe*:[21]

(51)   John believes Bill to like Mary.

The ARG-ST list for *believe* in (51) is approximately as follows:

(52) $<$ *John*, *Bill*, $[_{VP}$ to like Mary] $>$

Since ARG-ST lists are ordered, it is straightforward to define an asymmetric precedence relation over them; in P&S's terminology, *John* in (51) "o-commands" *Bill*. Condition A is stated as the requirement that an anaphor have an o-commanding antecedent in the same ARG-ST list (and conversely for Condition B). P&S's crucial further assumption is that the complement of a preposition

can appear on the ARG-ST list of the verb which takes the relevant PP as a complement. So for example, the ARG-ST list for *talk* in (53a) is approximately as shown in (53b):

(53) a. $John_1$ talked to $Bill_1$ about $himself_{1/2}$.

b. $< John, Bill, himself >$

The anaphor *herself* therefore has two potential o-commanding antecedents on the same ARG-ST list, and the attested binding possibilities are correctly predicted.

We have already seen that the data in (49) are problematic for argument structure theories of binding.[22] A further difficulty for P&S's analysis is posed by the contrast in (54):

(54) a. John talked to $Mary_1$ about $herself_1$.

b. * John talked t_2 about $herself_1$ [to $Mary_1$]$_2$.

For P&S, the ARG-ST list is identical for (54a) and (54b) ($< John, Mary, herself >$), so their Condition A is not able to make any cut between the two. P&S recognize this difficulty, and postulate a linear precedence requirement on anaphoric binding to rule out (54b) (p. 266). However, English does not impose any such requirement on anaphoric binding in the general case, as shown by the acceptability of (55b) and (55d):[23]

(55) a. $John_1$ talks to $himself_1$ frequently.

b. To $himself_1$, $John_1$ talks frequently.

c. $John_1$ would like $himself_1$.

d. $Himself_1$, $John_1$ would like.

The reanalysis account of the contrast in (54) is relatively unproblematic. Following P&S, we assume that *to...about* is the base order, and that the order in (54b) is derived via extraposition of the *to* PP. Movement of P to Agr is obligatorily covert, and thus must follow overt extraposition of the PP. On the assumption that extraposition targets an adjoined position in (54b),[24] head movement of P to Agr (and phrasal movement of P's complement to [Spec,P-Agr]) would therefore violate the adjunct island condition.

With regard to examples such as (56), which are correctly ruled out by P&S's o-command condition, we note that binding is also predicted to be impossible under our account. This is because *about* is not structurally the closest preposition to the verb and hence cannot reanalyze with it:

(56)   * Mary talked [to himself₁] about John₁ to himself₁.

As expected, pseudopassivization from within an *about* PP is is also degraded whenever a *to* PP is present, whatever the surface word order:

(57)   a. ?? Mary was talked about *t* to John.

        b.   * Mary was talked to John about *t*.

4.1.1   More arguments against argument structure theories of binding

In addition to the empirical problems just mentioned, there are some conceptual problems with the use of argument structure to obviate the problem posed by binding from within PPs. Often when argument structure theories of binding are presented, the details of the mapping from constituent structure to argument structure are left tacit. This is of course understandable, given the range of highly complex and controversial issues that arise in this connection. Nonetheless, once one begins to spell out in detail a mapping procedure (or set of mapping constraints), it becomes necessary to make an exception for PPs very much like the exceptions typically made in c-command-based theories of binding. Clearly, it is not the case that for any verb V, any DP that is contained within a sister of V can be one of its arguments. For example, the subject of an embedded finite clause which is the sister of V cannot under any circumstances be one of its arguments. In English at least, it seems that the only thing that can be an argument of V (apart from one of its sisters) is the complement of a prepositional phrase that *is* one of its sisters. Unless this fact can be given some principled explanation, one must resort to making an exception for PPs in the theory of the syntax/argument-structure mapping. Precisely such an exception is made, for example, in the theory of subcategorization and binding presented in Sag, Wasow & Bender (2003, 211-12) (which is a revised version of that presented by P&S).[25] Thus, the apparent absence of stipulation

in P&S's account may be illusory: the stipulation has merely been shifted to another component of the grammar.

4.1.2 *About* PP reflexives as logophors

Reinhart & Reuland (1993) and Büring (2005) offer a different explanation for the possibility of binding in (41). They suggest that reflexives in *about* PP's are "exempt" or "logophoric" reflexives which are not subject to Condition A. Since logophors do not require c-commanding antecedents (see the next subsection), it is no surprise that *about* PP reflexives may be bound by antecedents embedded within another PP.[26] The hypotheses that *about* PP reflexives are logophors correctly predicts predicts the absence of a strong Condition B effect when the reflexive in (41) is replaced by a pronoun:

(58)   ? Mary talked to John$_1$ about him$_1$.

However, it seems unlikely that the logophoric status of the reflexive can be the true explanation for the relative acceptability of (58). This hypothesis overgenerates, incorrectly predicting the absence of a Condition B effect with subject antecedents:

(59)   * John$_1$ talked (to Mary) about him$_1$.

A more plausible explanation for the ungrammaticality of (58) is simply that reanalysis of *to* is optional. If reanalysis does not occur, then the complement of *to* (*John*) will not c-command *him*.

4.2   A reciprocal red herring

Examples with possessive reciprocals such as (60) have often been cited in support of the claim that English PPs do not block binding (see e.g. Pesetsky 1995):

(60)   John talked to the boys$_1$ on each other$_1$'s birthdays.

In a certain sense (60) clearly does support this claim: the antecedent is contained in a PP and the indicated interpretation is not blocked. However, there is reason to think that the reciprocal in (60) is a logophor rather than an anaphor bound under Condition A. Pollard & Sag (1992) present a number of persuasive arguments to this effect; there follow three additional arguments.

(i) Though *each other* generally permits both animate and inanimate antecedents, possessive *each other* is compatible only with animate antecedents:

(61)   a.   I placed the boys$_1$ next to each other$_1$.

      b.   I placed the pens$_1$ next to each other$_1$.

(62)   a.   I placed the boys$_1$ next to each other$_1$'s mothers.

      b.   # I placed the pens$_1$ next to each other$_1$'s cases.

This is expected if possessive *each other* is a logophor, since logophors typically seek prominent animate antecedents.

(ii) Fronting of the PP in sentences such as (60) does not block binding, in contrast with (49c) above:[27]

(63)   To the boys$_1$, John talked on each other$_1$'s birthdays.

This suggests that reanalysis is not required to license binding in this configuration. Again, this is expected if the possessive reciprocal is a logophor, since as shown in (64), logophors do not require strict c-command for binding:[28]

(64)   John$_1$'s nervous disposition suggests that pictures of himself$_1$ are on display again.

(iii) There are additional examples suggesting that possessive *each other* does not require a strictly c-commanding antecedent:

(65)   Pictures of the boys$_1$ were taken at each other$_1$'s birthday parties.

If possessive reciprocals are indeed logophors, this has the important consequence that examples such as (66) are not as problematic as they may first appear:

(66)   John talked to Bill about the boys$_1$ on each other$_1$'s birthdays.

In this configuration, *about* cannot reanalyze (since *to* intervenes), and thus *the boys* cannot A-move to a position c-commanding *each other*. However, since possessive *each other* does not require a strictly c-commanding antecedent, there is no reason to suppose that this movement is necessary to license the relevant interpretation.

5 The Baltin & Postal phenomena

We have already discussed some of objections to reanalysis presented in Baltin & Postal (1996).[29] However, B&P present an entire battery of arguments against reanalysis, and it is the aim of this section to address them comprehensively. The arguments in question are primarily based on a single kind of observation: that in various respects, the DP complements of reanalyzed prepositions (DCRPs) do not behave like ordinary direct objects. B&P are entirely correct in observing that previous reanalysis theories cannot explain these differences in behavior, since these theories essentially claim that DCRPs just *are* ordinary direct objects. On our account, however, DCRPs are syntactically distinct from ordinary direct objects insofar as they have a different base position. (They initially merge as the complement of P rather than V.) In §5.1-§5.7 we argue that this distinction is sufficient to explain the differences in behavior noted by B&P. We conclude in §5.8 with a brief discussion of a distinction between DCRPs and direct objects that is not noted by B&P.

5.1 Syntactic independence of stranded prepositions

B&P note that given examples such as (67), it is implausible to maintain that reanalyzed prepositions are in any way attached to the associated verb:

(67)   The bridge was flown both under and over.

Under our analysis, cases such as (67) have a straightforward derivation involving across-the-board covert movement of the preposition and the DCRP. The vP is shown in (68), with the traces of the passivized DP in [Spec,P-AgrP]:

(68) $[_{vP}$ v $[_{P-AgrP}$ t_{DP} $[_{P-Agr}$ $[_{P-Agr}$ under] $[_{VP}$ $[_V$ fly]]]] and $[_{vP}$ v $[_{P-AgrP}$ t_{DP} $[_{P-Agr}$ $[_{P-Agr}$ over] $[_{VP}$ $[_V$ fly]]]]

5.2 Floating quantifiers

B&P note that whereas direct objects sometimes allow floating quantifiers, DCRPs do not:

(69)   The airforce struck **(* at)** those targets both in the morning.

This is expected under an extension of the analysis of floating quantifiers first proposed in Sportiche (1988). According to Sportiche, subject-oriented floating quantifiers originate together with the subject in a quantificational phrase (QP). This QP receives a thematic role in [Spec,VP] (which we will anachronistically take to be [Spec,vP]). The subject then raises out of the QP to the matrix subject position:

(70)   [The boys]$_1$ [$_{vP}$ [$_{QP}$ all t_1] saw the girls].

For floating quantifiers associated with objects, it is easy enough to extend Sportiche's analysis to make use of the v/V-medial Agr projection. The QP begins as the complement of V, and the DP then extracts from the QP to raise to [Spec,V-AgrP]. In the case of V-AgrP, this raising may be overt, whereas in the case of P-AgrP (the reanalysis case), raising is obligatorily covert. Thus, reanalysis will be incompatible with quantifier float:[30]

(71)   [The airforce]$_1$ ... [$_{V-Agr-vP}$ t_1 [$_{V-Agr-v}$ struck] [$_{V-AgrP}$ [$_{DP}$ those targets] [$_{V-AgrP'}$ t_{V-Agr} [$_{VP}$ t_V [$_{QP}$ both [$_{DP}$ ~~those targets~~]]]]]]].
        (Raising to [Spec,V-AgrP] is (optionally) overt; quantifier is stranded.)

(72)   [The airforce]$_1$ ... [$_{V-vP}$ t_1 [$_{V-v}$ struck] [$_{P-AgrP}$ ~~[$_{DP}$ those targets]~~ ~~[$_{P=Agr}$ at]~~ [$_{VP}$ t_V [$_{PP}$ [$_P$ at] [$_{QP}$ both [$_{DP}$ those targets]]]]]]].
        (Raising to [Spec,P-AgrP] must be covert; quantifier cannot be stranded.)

5.3 Heavy DP Shift

B&P note that DCRPs cannot undergo Heavy DP Shift (HDPS):

(73)   a.   I described t_1 to himself$_1$ [the victim whose sight had been impaired by the explosion]$_1$.

        b.   *I talked to t_1 about himself$_1$ [the victim whose sight had been impaired by the explosion]$_1$.

Since the source of the ban on extraposing DPs from within PPs is still poorly understood, we will have little to say on this point. We suggest two possible explanations:

  (i) Extraposition is a PF process. At PF, the complement of a reanalyzed preposition is in

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exactly the same configuration as the complement of an ordinary preposition. Thus, there is no reason to expect a difference in behavior w.r.t. extraposition.

(ii) Drummond, Hornstein & Lasnik (2010) attempt to explain the ban on Heavy DP Shift out of PP in a manner which should extend to the reanalysis structure, if P-Agr is taken to be a phase (see §7 for further discussion).

5.4 Ellipsis phenomena

B&P note a number of respects in which DCRPs do not behave like direct objects with respect to ellipsis/deletion. Most significantly, DCRPs do not permit gapping – (74) – or pseudogapping – (75):[31]

(74) a.   Frank called Sandra and Arthur __ Louise.

 b.   * Frank talked to Sandra and Arthur (to) __ Sally.

(75) a.   Frank called Sandra and Arthur did Louise.

 b.   * Frank talked to Sandra and Arthur did Louise.

As we will now explain, these differences between DCRPs and direct objects are not unexpected under our analysis.
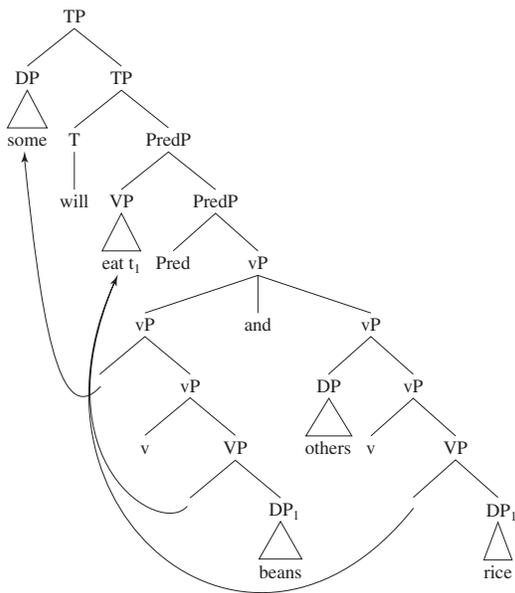
5.4.1 Gapping and pseudogapping

We assume pseudogapping of direct objects is predicated on extraction of the object to [Spec,AgrP] prior to elision of VP (Lasnik 1999b). Thus, pseudogapping is correctly predicted to be degraded in (75b). The structures for (75a/b) are shown respectively in (76a/b):[32]
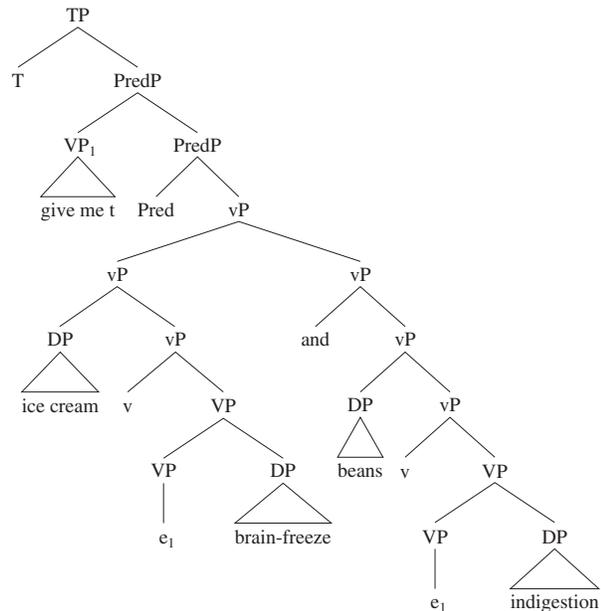
(76) a.   Frank called Sandra and Arthur did Louise.

 SS: ... [$_{v'}$ v [$_{AgrP}$ Louise$_1$ [$_{VP}$ [$_{V}$ called] t_1]]]

 ('Louise' raises overtly and escapes the ellipsis site.)

 b.   Frank talked to Sandra and Arthur did Louise.

 SS: ... [$_{v'}$ v [$_{AgrP}$ [$_{VP}$ [$_{V}$ talked] [$_{PP}$ to Louise]]]]

 ('Louise' remains as the complement of V at SS and can't escape the ellipsis site.)

If gapping has a broadly similar derivation to pseudogapping (i.e. one involving extraction of the object from VP; see e.g. Sag 1976, Coppock 2001), then the same logic applies. If, on the other hand, gapping has the derivation proposed in Johnson (2009), a different explanation for the ill-formedness of (74b) will be required. According to Johnson, simple cases of gapping are derived by across-the-board raising of the verb to a higher Pred head, as in (77) (tree from p. 307). More complex cases are derived by across-the-board raising of a VP to [Spec,PredP], as in (78) (tree from p. 318):

(77)

(78)

Tree (77):
TP
- DP: some
- TP
  - T: will
  - PredP
    - VP: eat t_1
    - PredP
      - Pred
      - vP
        - vP
          - vP
            - v
            - VP
              - DP_1: beans
          - and
        - vP
          - DP: others
          - vP
            - v
            - VP
              - DP_1: rice

Tree (78):
TP
- T
- PredP
  - VP_1: give me t
  - PredP
    - Pred
    - vP
      - vP
        - DP: ice cream
        - vP
          - v
          - VP
            - VP: e_1
            - DP: brain-freeze
      - vP
        - and
        - vP
          - DP: beans
          - vP
            - v
            - VP
              - VP: e_1
              - DP: indigestion

Let us consider these two possibilities in relation to (74b): If the verb moves across-the-board to Pred, we straightforwardly derive the grammatical case of gapping in (79):

(79)   Frank talked to Sandra and Arthur to Louise.

In contrast, to derive (74b), it would be necessary to create a VP constituent with the string yield *talked to* (i.e. a VP excluding the complement of the preposition). We have seen in §5.3 that the complement of a reanalyzed preposition cannot extrapose, so no such VP constituent can be created.

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5.4.2 A problem raised by the interaction of pseudogapping and binding

It is possible to bind out of PPs which are remnants of pseudogapping:

(80)   John talked to Mary$_1$ about herself$_1$ and Jane did to Bill$_2$ about himself$_2$.

On the assumption that pseudogapping is a form of VP ellipsis, the *to* and *about* PPs in the second conjunct must somehow have extracted from VP (we will assume via movement of some kind; Jayaseelan 1990). The problem to be discussed in this subsection is raised by the contrast between (80) and examples such as (49b)/(54b), repeated here in (81):

(81)   a.   * [To whom$_1$]$_2$ did you talk t_2 about himself$_1$.

        b.   * I talked t_2 about himself$_1$ [to Bill$_1$]$_2$.

We have argued on the basis of such examples that movement of a PP blocks reanalysis, and hence binding. On the face of it, the PPs in (81) would appear to have extraposed out of the ellipsis site, so it is surprising that binding is not blocked.

    A clue to the correct analysis of (80) is that the relative order of the *to* and *about* PPs affects binding precisely as it does in the absence of ellipsis. For example, the contrast in (54) is mirrored in (82):

(82)   a.   John talked to Mary$_1$ about herself$_1$ and Jane did to Bill$_2$ about himself$_2$.

        b.   * John talked to Mary$_1$ about herself$_1$ and Jane did about himself$_1$ to Bill$_2$.

This suggests that the *to* and *about* PPs in (82) have not extraposed independently. We suggest that AgrP is in fact the extraposed constituent in these cases, and V-vP the elided constituent:

(83)   PF: [[...did [~~$_{V=vP}$ talk$_{V=V}$ t_{AgrP}~~]] [$_{AgrP}$ Agr [$_{VP}$ [$_{VP}$ t_V [$_{PP}$ to$_P$ Bill] [$_{PP}$ about himself]]]]]]

            LF: [[...did [~~$_{V=vP}$ talk$_{V=V}$ t_{AgrP}~~]] [$_{P-AgrP}$ Bill to$_{P-Agr}$ [$_{VP}$ [$_{VP}$ t_V [$_{PP}$ t_P t_{Bill}] [$_{PP}$ about himself]]]]]]

In (83), AgrP extraposes overtly to a position above vP, and reanalysis applies subsequently. If such a derivation is available, we also gain some insight into the contrast between (84a) and (84b):

(84)   a.   John spoke yesterday to Mary$_1$ about herself$_1$.

        b.   * John was spoken yesterday to.

So far, we have assumed that *yesterday* can be base-generated between *talked* and *to Mary* in (84a), and that this is not possible in (84b) because the verb is in a lower position (§3.1). (See e.g. Johnson (1991), Pesetsky (1989) for analyses in which the order in (84a) is derived without movement of the *to* PP.) If AgrP is able to extrapose, a different account of this contrast becomes available: the order in (84a) is derived via extraposition of AgrP.[33] Such a derivation is not possible for (84b), because in a pseudopassive the DCRP must eventually move to subject position. If AgrP has extraposed, this movement will violate the adjunct island constraint.

5.5 Passivization and object raising

B&P point out a striking parallel between passivization and *tough*-movement.[34] The extent to which pseudopassivization is acceptable correlates with the acceptability of the corresponding *tough*-movement construction:

(85)   a.   * The chair was stood next to.

       b.   * The chair is difficult to stand next to.

(86)   a.   ?? John was stood up to (by Bill).

       b.   ?? Bill is tough to stand up to.

(87)   a.   John was spoken to (by Bill).

       b.   John is tough to speak to.

B&P use these data as the basis for an argument against reanalysis. Though the data are very interesting, we find B&P's argument, summarized in the following quotation, to be somewhat unclear:

> In all these cases [examples similar to our (85)-(87) above] the PP object is [able to undergo *wh*-movement]; thus, there is no general ban on extraction or P-stranding that can be used to block the [(b)] form. The constraints on the [(b)] cases seem linked to the pseudopassive restrictions in the [(a)] cases. **If pseudopassives involved "reanalysis," the unacceptable [(b)] cases would presumably have to be attributed to failures of "reanalysis".** But if it exists, "reanalysis" must be optional...Therefore, whatever "reanalysis" restrictions exist would leave

a full PP analysis available, and full PPs are in general not incompatible with object raising.

Thus, a "reanalysis" view of pseudopassives provides no way to link the pseudopassive and

object-raising restrictions in a range of cases like [(85)-(87)].

(p. 132, our emphasis)

The bolded claim is questionable. Successful reanalysis is but one requirement for an acceptable

pseudopassive. It therefore seems reasonable to assume that something other than failure of reanal-

ysis is responsible for the deviance of (85a) and (86a). This is particularly so given the well-known

fact that pseudopassives of this sort can be rescued by a pragmatic context in which the subject is

"affected." For example:

(88)   The chairs in this room are very fragile, and can be damaged if someone so much as

         stands next to one. Thus, you will easily be able to identify the chairs that have been

         stood next to (or otherwise disturbed) by the small fatigue cracks in the legs.

         (Compare (85a))

Unless the reanalysis operation itself is subject to pragmatic constraints (which seems unlikely),

something else must be at work. In fact, what the illicit pseudopassive and *tough*-movement cases

appear to have in common is that they are both violations of the "affectedness" constraint on

certain kinds of subject-predicate construction.[35] This constraint applies to pseudopassives and

passive nominalizations, but not to ordinary passives (or at least, not as strongly[36]):

(89)   **Pseudopassives**

     a.   John spoke to Mary $\Rightarrow$ Mary was spoken to (by John).

     b.   John stood next to Mary $\nRightarrow$ * Mary was stood next to (by John).

(90)   **Passive nominalizations**

     a.   Bill's arrest of John $\Rightarrow$ John's arrest (by Bill).

     b.   Bill's avoidance of John $\nRightarrow$ * John's avoidance (by Bill).

(91)   **Ordinary passives**

     a.   John arrested Bill $\Rightarrow$ Bill was arrested (by John).

b.   John avoided Bill $\Rightarrow$ Bill was avoided (by John).

Intriguingly, those forms of the passive constrained by affectedness are precisely those restricted to agentive *by* phrases:

(92)   **Pseudopassives**

      a.   John stood on the desk $\Rightarrow$ The desk was stood on by John.

      b.   A lamp stood on the desk $\nRightarrow$ # The desk was stood on by a lamp.

(93)   **Passive nominalizations**

      a.   The surrounding of the city by the barbarians.

      b. # The surrounding of the city by trees.

(94)   **Ordinary passives:**

      a.   John grabbed Bill $\Rightarrow$ Bill was grabbed by John.

      b.   John grabbed the lamp $\Rightarrow$ The lamp was grabbed by John.

Similarly, it has been noted that the subject of the non-finite clause in *tough* constructions must be agentive, whether it is null or overt (Jackendoff 1975):

(95)   a.   This ledge is easy to fall off.

           *(Has only the reading "...is easy for **people** [not plants etc.] to fall off.")*

      b.   This ledge is easy for careless people to fall off.

      c. # This ledge is easy for large potted plants to fall off.

This effect is seen only when the application of *tough*-movement derives a subject-predicate structure. The effect disappears when the subject is an expletive, as shown in (96); and the affectedness constraint likewise fails to hold, as shown in (97):

(96)   a.   It is easy for a careless person to fall off this ledge.

      b.   It is easy for large potted plants to fall off this ledge.

(97)   It is difficult to stand next to this chair.

These facts may be a clue to the source of the correlation between pseudopassivization and *tough*-movement in (85)-(87). It seems that there is some link between the affectedness constraint and the agentivity requirement (though we have no insight to offer regarding what this link might be). Descriptively, this link can be stated as follows:

(98)　　In the configuration $[_\gamma\ \alpha_\iota\ [_\phi\ ...\ \eta\ ...\ t_\iota\ ...\ ]]$,

　　　　where

　　　　　　　α a is a subject,

　　　　　　　ϕ is a predicate containing a trace co-indexed with α, and

　　　　　　　ϕ contains an external argument η distinct from α and its trace,

　　　　α must be affected and η must be agentive.

(Following Chomsky (1986), we assume that the subject of a tough predicate is co-indexed with the trace of the null operator.[37]) As we have seen, the one exception to this generalization is the ordinary verbal passive. We do not know why (98) holds insofar as it does. However, we see no reason to suspect that the ultimate explanation for (98) will be incompatible with an account of pseudopassivization in terms of reanalysis.

5.6　Pseudopassives, *there* existentials and locative inversion

Citing examples such as (99b), B&P note that pseudopassives are incompatible with locative inversion. Postal (2004, 47) cites examples such as (99c) to show that pseudopassives are incompatible with *there* existentials:[38]

(99)　a.　　Many famous revolutionaries were shot **(at)** in this very building.

　　　b.　　In this very building were shot **(*at)** many famous revolutionaries.

　　　c.　　In this very building there were shot **(*at)** many famous revolutionaries.

The unacceptability of pseudopassives in (99b/c) is arguably unexpected under reanalysis accounts, which seem at first blush to imply that pseudopassives ought to have all the properties of ordinary passives. In this subsection, we will argue that on closer inspection, the data in (99) do not in fact pose a serious challenge to reanalysis theories.

Consider first (99c). We have already seen (in connection with (23) above) that pseudopassive existentials require the associate of *there* to appear preverabally. We therefore expect (99c) to become acceptable if the DP is placed in a postverbal position. This is indeed the case, so long as a "light" DP is used:[39]

(100)   In this building there were many revolutionaries shot at.

The only remaining problem pertaining to (99c) is that of explaining why (100) is unacceptable with a heavy DP. This is so whether the associate is pre- or post-verbal:

(101)   a. ?? In this building there were a number of revolutionaries who'd fought for years shot

           at.

         b. * In this building there were shot at a number of revolutionaries who'd fought for

           years.

The degradation in (101a) is likely due to prosodic awkwardness; and as for (101b), we have already seen that the lack of V-to-v raising in English passives implies that the order in (101b) cannot be straightforwardly generated (§3.1). The question, then, is why the word order in (101b) cannot be derived via Heavy DP Shift:

(102)   * In this building there were t'_1 shot at t_1 [a number of revolutionaries who'd fought for

           years]$_1$.

There is no general ban on HDPS of the associate of *there* – as demonstrated by examples such as (103) – so some explanation is required for why HDPS is blocked in (102).

(103)   There were (t_1) arrested (t_1) on Tuesday [a number of low-level drug dealers]$_1$.
         (Bracketed traces indicate two possible base positions.)

   We suspect that this restriction may fall under the descriptive generalization in (104):[40]

(104)   Heavy DP Shift cannot apply to a DP which was ever – at any stage in the derivation –

           the complement of a preposition.

In (101b), the DP is initially the complement of a (reanalyzed) preposition, and is thus barred by (104) from undergoing HDPS. Independent evidence for (104) comes from certain properties of ECM subjects of pseudopassive clauses. As shown in (105a), subjects of ECM clauses are marginally able to extrapose. However, when an ECM subject originates as the complement of a (reanalyzed) preposition, as in (105b), extraposition is more severely degraded:

(105)   a.   ? I believe t'_1 to have been shot t_1 [every soldier in the unit]$_1$.

        b.   * I believe t'_1 to have been shot **at** t_1 [every soldier in the unit]$_1$.

The same contrast can also be seen in certain kinds of small clause construction. For example in (107b), *every prisoner* cannot extrapose from the subject position of the small clause because it originates as the complement of *at*:

(106)   a.   I'll have [every prisoner who tries to escape]$_1$ shot t_1 on sight.

        b.   I'll have [every prisoner who tries to escape]$_1$ shot **at** t_1 on sight.

(107)   a.   ? I'll have t'_1 shot t_1 on sight [every prisoner who tries to escape]$_1$.

        b.   * I'll have t'_1 shot **at** t_1 on sight [every prisoner who tries to escape]$_1$.

Thus, given that there is no means of shifting the associate of *there* to the right in pseudopassive existentials, the only word order possible is one in which the associate is pre-verbal.[41]

Turning now to (99b), we will follow Bruening (2011) in assuming that locative inversion is banned in pseudopassives because the derivation of locative inversion involves rightward extraposition of the postverbal subject DP. Without going into the details of Bruening's analysis, the claim is essentially that the postverbal subject in an instance of LI such as (108) obligatorily undergoes Heavy DP Shift:

(108)   Into the room t_1 walked [a man]$_1$.

We have just seen that the complements of prepositions (whether reanalyzed or not) cannot undergo Heavy DP Shift, so Bruening's analysis correctly predicts that locative inversion is incompatible with pseudopassivization. As would be expected, other DPs which resist Heavy DP Shift, such

as the first object in the double object construction, likewise fail to appear postverbally in locative inversion. Thus, locative inversion is barred in (109a), presumably because Heavy DP Shift is barred in (109b).[42]

(109)   a.   * In this room were given the best students in the class books.

        b.   * I gave t_1 books [the best students in the class]$_1$.

5.7   Pronoun binding restrictions

B&P argue (i) that reanalysis must, if it exists, be optional, but that (ii) this optionality leads to overgeneration. We agree with (i), but are not persuaded by (ii). In support of their argument, B&P present the following paradox:

(110)   a.   To whom did you talk about that issue?

        b.   * I talked to Thelma$_1$ about her$_1$.

           (B&P's judgment.)

The possibility of pied-piping in (110a) appears to show that reanalysis is not obligatory, but if reanalysis is optional, the Condition B violation in (110b) is unexpected (since if reanalysis does not apply, *Thelma* will not c-command *her*). Thus, neither optional nor obligatory reanalysis seem to be consistent with the facts.

    The logic of B&P's argument is undoubtedly correct. However, as we have seen in connection with (59) above, it is likely that the judgment shown in (110b) is not correct. A number of authors (e.g. Reinhart & Reuland 1993, Büring 2005) have reported these sentences to be acceptable, or at least marginally so. Furthermore, there is a detectable contrast in the strength of the Condition B effect between (111a) and (111b):

(111)   a.   ? John talked to Thelma$_1$ about her$_1$.

           (Our judgment; compare (110b).)

        b.   * Thelma$_1$ talked to John about her$_1$.

Thus, given that the acceptability judgments are rather fuzzy in these cases, we see no clear indication that reanalysis theories make the wrong predictions regarding grammaticality. Indeed, they

appear to account for the otherwise puzzling contrast in (111).

A more serious problem is raised by the following example given by B&P, which they take to be a Condition B violation:

(112)   * The person to whom$_1$ I talked about him$_1$.

There may also be a weak crossover effect in (112).[43] However, it seems at least plausible on the face of it that Condition B is also at work, given that (112) is clearly far less acceptable than (113):

(113)   ? The person to whom$_1$ I talked about his$_1$ mother.

The same pattern is found in simple questions:

(114)   a.   * To whom$_1$ did you talk about him$_1$.

         b.   ? To whom$_1$ did you talk about his$_1$ mother?

These facts are puzzling and have no explanation for them. However, we believe that B&P's argument against reanalysis based on these data ultimately fails because the phenomenon in question turns out to be much broader. For example, an apparent Condition B effect obtains in (115b), despite the complete absence of any Condition B effect in the underlying configuration (115a):

(115)   a.   I talked about John$_1$ near him$_1$.

         b.   * About whom$_1$ did you talk near him$_1$?

Thus, it seems that obviation in cases such as (112), (114a) and (115b) is simply not predicated on the existence of a Condition B configuration in the underlying structure. For this reason, it is difficult to draw any firm conclusions from (112a) and (114). To add to the puzzle, we conclude this section by noting that the absence of pied-piping seems to improve these examples somewhat:[44]

(116)   a.   ?? Who$_1$ did you talk about near him$_1$?

         b.   ?? Who$_1$ did you talk to about him$_1$?

5.8   Secondary predication

Ad Neeleman (p.c.) points out that one reason to doubt that DCRPs have the same structural position as direct objects is that they do not permit secondary predication:

(117) a. I_1 met John$_2$ nude$_{1/2}$.

      b. I_1 talked to John$_2$ nude$_{1/??2}$.

Given the discussion of (104) above, the crucial question is whether secondary predication possibil-
ities are determined by the final positions of the DPs in question or by their underlying positions. If
reanalysis occurs in (117b), then *John* is in essentially the same final position in (117a) as in (117b)
([Spec,V-AgrP] vs. [Spec,P-AgrP]). Thus, any distinction in behavior must be determined by the
difference in underlying position (complement of V vs. complement of P). In fact, this seems to be
the case. As shown in (118a), the subject of a passive is a suitable target for secondary predication,
but this is not so for the subject of the pseudopassive in (118b):

(118) a. The meat$_1$ was cut raw$_1$.

      b. ?? The meat$_1$ was cut through raw$_1$.

Thus, whatever the correct analysis of secondary predication, the difference in the underlying po-
sition of *John* in (117a) vs. (117b) should suffice to explain the difference in secondary predication
possiblities.

    We note in passing that the preceding facts weigh against an otherwise-tempting analysis of
certain English prepositions as DP-internal Case markers. The idea here would be that in struc-
tures which appear to show binding out of a PP, the preposition in question is really DP-internal
and does not project a prepositonal phrase. A problem for this analysis is that true dummy prepo-
sitions appear not to block secondary predication. For example, Demonte (1987, 151) notes that
the Spanish dummy preposition *a* (which marks animate/specific direct objects) is unique among
Spanish prepositions in failing to block secondary predication.

6 Binding and covert movement

We have argued that raising to [Spec,P-AgrP] places a DCRP in a position to bind other elements
in the clause. This explains why binding is possible in (1a), repeated here as (119):[45]

(119) John talked to Mary$_1$ about herself$_1$.

There is, however, a snag. Lasnik (1999a) presents evidence that *covert* raising to [Spec,V-AgrP] (i.e. v/V-medial Agr) is not sufficient to establish new binding relations. This implies that binding should not in fact be possible in (119). Lasnik's argument is based on evidence from English verb-particle constructions and English existential constructions. These arguments were strong given the prevailing theoretical assumptions at the time of publication, but recent shifts have rendered them somewhat less compelling, as we will now explain.

6.1 English verb-particle constructions

The most straightforward evidence for Lasnik's position is the contrast in (120):

(120) a.   The boys made themselves/each other out to be idiots.

       b.   * The boys made out themselves/each other to be idiots.

Lasnik takes (120) to show that an ECM subject cannot be bound by an antecedent in the matrix clause unless it raises overtly to matrix [Spec,V-AgrP]. This suggests that only overt A-movement is sufficient to license new binding configurations. This conclusion has been challenged by van Craenenbroeck & den Dikken (2006), who point to Lasnik's (2001) observation that covert raising in (120b) can be analyzed not as the presence of a weak Agr, but rather as the complete absence of a separate Agr projection. Thus, the data in (120) do not rule out the possibility that covert A-movement can license new binding configurations, since the anaphor may not undergo A-movement at all in (120b).

6.2 *There* existentials

Lasnik (1999a, 2001) also considers the question of whether the associates of *there* expletives can bind from [Spec,TP], as might be expected if associates move covertly to replace or adjoin to the expletive (Chomsky 1986, 1995). On the basis of contrasts such as (121), he concludes that covert movement does not feed binding:

(121) a.   The DA proved [two men$_1$ to have been at the scene] during each other$_1$'s trials.

       b.   * The DA proved [there to have been two men$_1$ at the scene] during each other$_1$'s
              trials.

This argument depends on an analysis of existential constructions in which the associate of *there* raises to subject position at LF. Though there have long been alternatives to this kind of analysis (see e.g. Williams 1994), these alternatives were not straightforwardly compatible with early Minimalist assumptions. In particular, given the assumption that agreement is established in a Spec-Head configuration, it was difficult to see how the subject/verb agreement pattern illustrated in (122) could be explained unless the postverbal DP endend up in subject position:

(122)   There *is/are three men in the room.

More recent work has shown that covert raising of the associate is not the only possibile analysis. Most obviously, the Agree operation provides a means of checking T's ϕ-features against the associate which does not require the associate to raise (Chomsky 2000, 2001, 2008). This development is not, however, as relevant to the issue at hand as it may first seem, since Agree-without-subsequent-remerger is intended as a *replacement* for covert movement. Thus, adopting the Agree-based framework as-is would rule out the possibility of covert A-movement altogether (see footnote 4). If, then, Agreee is not available to establish agreement between T and the associate, and if the associate of *there* does not raise at LF, agreement must be established indirectly. The obvious hypothesis is that *there* itself bears ϕ-features valued by those of the subject. This is proposed, for example, in the doubling analysis of *there* existentials presented in Hornstein & Wiktos (2003), Hornstein (2009, 139). According to this analysis, an existential sentence such as (123a) has the derivation in (123b):

(123)   a.   There is a man in the room.

         b.   [$_{TP}$ There$_1$ is [$_{vP}$ [$_{?P}$ t_1 [a man]] in the room]]

The doubling relation allows ϕ-features on *there* to be valued by those of [a man]. When *there* subsequently raises to T, the ϕ-featurs of *there* value those on T. Since no direct relation is established between T and [a man], we do not expect [a man] to behave as if it c-commands the region of the tree c-commanded by T. Binding is therefore predicted to be impossible in (121b), as desired.

6.3 Conclusion: the present status of covert A-movement and its interaction with binding

It appears that there is currently little empirical evidence either for or against the hypothesis that covert A-movement is able to license new binding configurations. As noted in footnote 4, recent Agree-based approaches to binding, according to which anaphoric binding is effected via Agreement with a head c-commanding both antecedent and anaphor, seem to imply that overt movement should not be necessary for binding.

7 Typological remarks

7.1 Preposition stranding

Reanalysis has been claimed by some authors (e.g. Hornstein & Weinberg 1981) to account for preposition stranding under *wh*-movement:

(124)   Who did John talk to *t*?

We do not think that reanalysis is involved in the derivation of P-stranding. However, it seems likely that both phenomena are linked to a language's ability to use P-Agr complexes to assign Case to prepositional complements.[46]

Abels (2003) presents an account of P-stranding based on the hypothesis that P is a phase head only in non-P-stranding languages.[47] If P is a phase, it follows that any *wh*-phrase extracted from a PP must move through [Spec,PP]. But Abels argues that movement of the complement of P to [Spec,PP] is a violation of an anti-locality condition on movement. Thus, preposition stranding is possible only when P is not a phase (so that the *wh*-phrase is not obliged to stop off in [Spec,PP]).

We cannot make use of Abels' analysis in precisely this form. However, Abels mentions a variant of it according to which P is a phase head in all languages (p. 227). In this version, the locus of variation is the presence or absence of an additional projection within PP. If this projection is present, then movement of the complement of P to [Spec,PP] does not violate anti-locality, and preposition stranding is permitted:

(125)   a.   * [$_{PP}$ wh [$_{P'}$ P *t*]]

> *(Non-preposition-stranding language; movement from the complement of P to [Spec,PP]*
>
> *violates Anti-locality.)*

b.   [$_{PP}$ wh [$_{P'}$ P [$_{XP}$ ... *t*]]]

> *(Preposition stranding language; presence of XP circumvents Anti-locality.)*

We suggest that Agr may be this additional projection. The only caveat is that Agr is outside, rather than inside, the lexical PP. Thus, languages without preposition stranding have the structure shown in (126a), and languages with preposition stranding have the structure shown in (126b):

(126)   a.   [$_{PP}$ wh [$_{P'}$ P *t*]]

> *(PP is a phase, movement of the wh-phrase violates anti-locality – non-preposition-stranding language.)*

       b.   [$_{AgrP}$ wh [$_{Agr'}$ Agr [$_{PP}$ ... *t*]]]

> *(AgrP is a phase, movement of the wh-phrase respects anti-locality – preposition-stranding language.)*

It follows that both preposition stranding and reanalysis require Agr to project a head separate from P. The alternative is for the relevant ϕ-features to be bundled onto the lexical P head, in which case the structure in (126b) is not available. If the presence of a full set of ϕ-features plays a role in determining phasehood (as it does for C/T) then it is expected that Agr (or P-Agr) will be the phase head in (126b), and P the phase head in (126a).[48]

     For pseudopassives, the question arises whether Agr*P can form a phase. If it can, then pseudopassivization will, like *wh*-movement, proceed via [Spec,P-Agr*P]. This would be consistant with a number of recent arguments that A-movement proceeds via the left edge of vP (see e.g. Sauerland 2003, and Legate 2003 for a related argument based on A′ movement). Alternatively, it may be that defective Agr* does not have sufficient ϕ-specification to be phase-creating. We will remain neutral between these two alternatives (though see footnote 4, and (ii) of §5.3).

     As mentioned in the introduction, pseudopassivization is attested in a proper subset of those languages which permit preposition stranding. This is to be expected given that pseudopassiviza-

tion requires a v/V-medial Agr head bearing P-features. The availability of independent Agr pro-jections is necessary, but not sufficient, to ensure that v* is able to select an Agr* head.

7.1.1 Abels (2003) on pseudopassives

Abels (2003) does not give a detailed analysis of pseudopassivization, but he hypothesizes that languages with pseudopassives have P heads which assign Case only optionally. Abels notes that this analysis – unlike reanalysis accounts – does not have "the virtue [of capturing] the fact that there needs to be a close relation between the verb and the preposition to allow pseudopassives..." (p. 246). Abels' theory also fails to explain why there are no "pseudo-unaccusatives" or "pseudo-middles":[49]

(127) * [This bed]$_1$ was died in t_1.

 (Unaccusatives cannot pseudopassivize.)

(128) a. Paper cuts easily.

 (Ordinary middle.)

 b. * Paper cuts through easily.

 (Impossible "pseudo-middle.")

On our analysis, (127) and (128b) are impossible because the passive morpheme is crucially im-plicated in removing the Case-assigning powers of a reanalyzed preposition. Given Abels' as-sumptions, the only function of the passive morpheme in pseudopassives is to supress the external argument. The Case-assigning powers of the preposition are removed by an independent (and op-tional) process. This predicts, all else being equal, that impersonal pseudopassives such as (129) shoud be possible in English:

(129)   * It was spoken to John.

Abels does not attempt to explain why (129) is out in English. However, he argues that it is not clear how serious a problem this sort of overgeneration is for his theory, given that impersonal passives are attested in many other languages (p. 234fn141). While this is true, it should be noted that many attempts to explain cross-linguistic variation in the availability of impersonal passives

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have focused precisely on cross-linguistic differences in the Case-absorbing role of the passive morpheme (see e.g. Baker, Johnson & Roberts (1989, 234), Svenonius (2001, 9)). Abels' account of pseudopassives appears to shut off this promising line of analysis.[50]

7.2 Binding out of PP

Binding out of PP appears to be possible in some languages which have neither preposition stranding nor pseudopassivization. For example, the Spanish reflexive *si mismo/a* can be bound by an antecedent contained in a PP (Demonte 1987, 151):

(130)   *Juan$_1$ le$_2$ habló a Jorge$_2$ de   si mismo$_{1/2}$.*
         John   him spoke to George about himself.
         'John spoke to George about himself.'

Moreover, as in English, A$'$-movement of the relevant prepositional phrase blocks binding by the object (compare (49) above):

(131)   a.   *[A quién$_2$] le   habló Juan$_1$ t$_{PP}$ de   si mismo$_{1/*2}$.*
               To whom   him spoke John   about himself.
               'To whom did John speak about himself.'

         b.   *[A Jorge$_2$] Juan$_1$ le$_2$ habló t$_{PP}$ de   si mismo$_{1/*2}$.*
               To George John   him spoke   about himself.
               'To George John spoke about himself.'

As in the case of the corresponding English examples, the data in (131) suggest that reanalysis is implicated in (130). Since Spanish has neither pseudopassivization nor preposition stranding,[51] it seems that the mere availability of reanalysis cannot be sufficient to guarantee the possibility of preposition stranding and pseudopassivization. Conversely, we know of no languages which have preposition stranding or pseudopassivization but which do not permit binding out of PP (except where this is independently explained by the subject-orientation of the relevant anaphor). Thus, these phenomena appear to stand in the following implicational hierarchy:

(132)   Pseudopassivization ⇒ preposition stranding ⇒ binding out of PP.

The second implication is expected for the reasons outlined in the preceding subsection; the first is more problematic. If Spanish has binding out of PP then it must permit reanalysis. But the availability of reanalysis ought to license pseudopassivization – and if (132) is correct, pseudopassivization implies preposition stranding. What all this suggests is that the complements of Spanish prepositions may undergo covert A-movement to a v/V-medial position, but that this movement is not predicated on formation of a complex P-Agr head.

We suggest that in languages such as Spanish, P's complement raises soley in order to check an EPP feature. More precisely: the v/V-medial Agr head has no 'P' feature that needs to be checked, assigns no Case, and has only the requirement that its specifier be filled by a phrase bearing ϕ-features. The idea here is that a "bare" Agr head has the following properties as compared to a complex formed of Agr and a lexical head:

(133)   For λ a lexical head:

Agr	Requires a phrase bearing ϕ-features in its specifier.
Agr + λ	Requires a phrase bearing ϕ-features in its specifier **and** assigns a structural Case determined by λ to this phrase.

Given these assumptions, the DP complement of a Spanish preposition may receive Case from the preposition and then undergo covert A-movement to check the EPP feature of a v/V-medial bare Agr head. As in English, this places the DP in a position where it can c-command into VP-adjoined phrases on its right. Similarly, fronting of the preposition blocks covert movement of the DP to [Spec,AgrP], so the contrast in (131) is accounted for.

This bare Agr head is not involved in Case assignment, so passivization of the verb cannot have the effect of leaving P's complement without Case. Pseudopassivization is therefore impossible. Given the assumptions regarding phasehood outlined in the preceeding subsection, preposition stranding is also ruled out, as we will now explain. Recall that in a preposition stranding language such as English, an Agr head bearing 'P' features is merged immediatley above PP. P then raises to Agr, and the resulting P-AgrP is a phase (owing to its full ϕ specification). In Spanish, by contrast, P has a full phi-feature specification of its own, and thus forms a phase by itself. From the version

of Abels' theory that we have adopted, it follows that extraction of P's complement can never occur in Spanish without violation of the ban on short movement.

8   Conclusion

We have argued that reanalysis theories are correct in their intuition that certain DPs which appear to be prepositional complements are really direct objects at some level of representation. The key to overcoming the problems with previous analyses has been the hypothesis that there is also a level of representation at which the DPs in question are not direct objects (namely DS, in GB-theoretic terms).

Preposition stranding and pseudopassivization each depend on a "split" PP, in which the lexical P head is separated from its associated ϕ-features, which project a separate Agr head. Languages which lack pseudopassivization and preposition stranding project a single P head bearing both the lexical content and the ϕ-features.

We have suggested that covert raising to [Spec,AgrP] is sufficient to license new binding configurations. This provides a straightforward explanation for the possibility of anaphoric binding out of PP, and one which is compatible with a robust c-command constraint on anaphoric binding. In some languages (such as Spanish), raising to [Spec,AgrP] is driven by a pure EPP feature; these languages have neither pseudopassivization nor preposition stranding.

A principal goal of this paper has been to defend the Case-theoretic account of A-movement as applied to passivization. Pseudopassivization is a *prima facie* counterexample to this theory (as pointed out by Marantz 1991). The typological rarity of pseudopassivization suggests that this is in some sense the right result. That is, it should not be too easy to derive pseudopassives, or it will be difficult to explain why pseudopassives are not automatically possible in all languages with more-or-less-English-like passive constructions. The Case-theoretic account of A-movement has the virtue that it provides a principled account of why pseudo-passivization should be difficult. We have attempted to supplement this with an explanation for why pseudopassivization is possible in languages whose prepositional phrases have a certain structure.

Notes

[1] Pseudopassivization is possible with complex PPs:

(i)   John$_1$ was stood on top of t_1.

It is difficult to say whether or not these PPs block binding, since the only examples that can be constructed are such as (ii):

(ii)   John stood on top of the boys$_1$ on each other$_1$'s birthdays.

Though binding in these cases is clearly acceptable, there is strong evidence that possessive reciprocals are logophors which do not require a strictly c-commanding antecedent (see §4.2). We will therefore limit our discussion in this footnote to pseudopassivization.

We suggest that complex PPs have the following abstract structure:

(iii)   [$_{AgrP}$ ... [$_{P_1P}$ ... [$_{P_2P}$ ... [$_{P_3P}$ ...]]]]

That is, a sequence of lexical P projections topped by a single Agr projection. The highest lexical P head raises to the Agr head, and the resulting P-Agr complex assigns Case in the usual way. As usual, reanalysis occurs if the Agr head merges within vP, rather than immediately above the highest P head.

[2] The association of P with Agr is also reminiscent of Kayne's (1994, 195) proposal that the Case of an English verb is sometimes able to "percolate" to a lower P head. At a more abstract level, our analysis is further inspired by analyses of pseudopassivization within Relational Grammar (e.g. Perlmutter & Postal 1983).

[3] There are, however, claims that pseudopassives exist outside the Germanic languages. For example, Ishizuka (2011) presents examples such as (iv) of what appear to be pseudopassive-like structures in Japanese (though there are no overt prepositions):

(iv)   *Bokusi-ga Ken-ni   tumi-o kokuhaku_s-are-ta.*
       priest-NOM Ken-DAT sin-ACC confess_DO-PASS-PAST.
       'The priest was confessed a sin to by Ken.'

[4] It would not be difficult to recode the theory presented in this paper in terms of Agree. Covert head movement translates to Agreement between two heads; covert phrasal movement translates to Agreement between a head and a phrase. Admittedly, our account of binding facts such as (1a) depends on the hypothesis that covert A-movement feeds binding. Thus, it may appear at first that replacing covert movement with Agree would scupper our analysis.

However, within the Agree-based binding literature, it has been proposed that binding of an anaphor by an antecedent in [Spec,XP] is effected via Agree between X and the anaphor (Reuland 2006, Chomsky 2008). To a large extent, then, our adoption of "early Minimalist" assumptions regarding movement and feature checking is not a substantial commitment.

Similar considerations apply to our use of phases in §7. Historically, the adoption of phases coincides with the abandonment of covert movement (Chomsky 2000). However, there is no logical incompatibility between phase theory and the "Y model" of GB theory and early Minimalism: the complement of a phase head is sent to PF, covert movement then applies, and the resulting structure (minus the phase head and its complement) goes to the LF interface.

Given that the analysis presented here can be implemented within a wide range of GB/Minimalist frameworks, our expository adoption of a particular set of technical assumptions should not be interpreted as an endorsement of these assumptions over others which might work equally well.

[5] Chomsky (1995, 197): "...Agr must in fact have two kinds of features: V-features that check V adjoined to Agr, and NP features that check NP in [Spec,AgrP]."

[6] Truswell (2009) notes that there are some exceptions to the adjacency requirement. We find his examples marginal, but there is no doubt that e.g. (v) is much better than (vi):

(v)   ? John was spoken sternly to.

(vi)   * John was spoken yesterday to.

This suggests that there may be "room" for a certain restricted class of adverbials to adjoin between V and its PP complement. If adjuncts must adjoin to maximal projections, this would imply that the structure of the lower VP is somewhat more articulated than we have been assuming.

[7] We remain neutral on the question of whether or not v*P is a "strong" phase (and hence a Spellout domain).

[8] Note that verbs can appear in the passive voice without any accompanying auxiliary (*I saw John arrested by the police*), so it is more plausible to locate the passive morpheme on v than on a higher head.

[9] It is worth noting that these cases are less surprising given other views of the passive, such as that of Chomsky (1973, 236).

[10] It has been proposed that reanalysis is possible in (29a) because *take advantage (of)* forms an idiomatic complex predicate of some sort (Hornstein & Weinberg 1981; Chomsky 1973; Chomsky 1974 credited by van Riemsdijk & Williams 1988, 148). Although intuitively appealing, this sort of analysis faces a few problems. The formation of such complex predicates must presumably be optional, given the possibility of (29b) and (30b). Thus, the claim would be that there are *two* optional operations at work here: optional complex predicate formation, and optional reanalysis of the preposition, the latter conditioned (in the cases at hand) on complex predicate formation. On the face of it, having these two optional operations is overkill, since in principle a single binary optionality should be sufficient to explain

the existence of the two different passive versions of (28).

¹¹ See also Lødrup (1991): "...The generalization [is that] the indefiniteness requirement holds of an unaccusative object whose verb has a non-thematic subject."

¹² Judgments are quite variable for (31), (32) and other such cases. We do not think this variation should be taken too seriously as a grammatical phenomenon. For example, while some English speakers find (32) distinctly odd, the construction appears to have been unexceptionable in 19th century English, as shown by a Google search for "every attention was paid to" (quotes included), which returns many matches from books published in this period (together with a few contemporary examples). In contrast, a search for "was paid every attention to" returns only two relevant matches as of 03/01/2011. It seems unlikely that any deep grammatical distinction could be responsible for the differing judgments of modern English speakers. The important point here is that virtually everyone finds (32) noticeably better than (31c).

¹³ Raising of the DCRP to the surface subject position "crosses over" [Spec,P-Agr*P]. Not all formulations of Minimality/Shortest Move would permit this, but in general this kind of "nested" dependency is what is predicted by the conjunction of Shortest Move and Cyclicity (Richards 1999; Kitahara 1994, 1997). With regard to Cyclicity, a complication here is that the "nested" movement is covert, implying that it occurs *after* the overt outer movement. Since virtually all covert movement is *prima facie* countercyclic, it is unclear what the conjunction of Shortest Move and Cyclicity predicts in the case at hand. This issue will not, however, arise within "single-cycle" theories, which take covert movement to be pronunciation of a lower copy, movement of formal features, or Agree without subsequent remerge. This would provide some motivation for interpreting our analysis within a single-cycle framework.

¹⁴ A similar observation is made in Taraldsen (1979).

¹⁵ Judgments in this area are occasionally difficult. For example, we have no explanation for why (134c) is slightly worse than (134a/b) for many speakers:

(134)   a.   There was much fun to be had playing billiards.

        b.   There was much fun made of John.

        c.   ? John was made much fun of.

On the whole, however, those DPs which are good associates of *there* in existentials are good when they appear postverbally in idiomatic pseudopassives.

¹⁶ We have not yet addressed the question of why non-idiomatic pseudopassives such as (viii) are barred:

 (vii)   John was taken advantage of.

 (viii)   * John was given a book to.

On the face of it, it should be possible for *a book* to be licensed by partitive Case in the same way that *advantage*

is licensed in (viii). The only principled explanation for the impossibility of (vii) that we are aware of is the afore-mentioned hypothesis that passives of this sort are conditioned on complex predicate formation (which in turn is conditioned on the idiomaticity of the complex predicate). However, we have seen that examples such as (33) con-stitute decisive evidence against complex predicate formation as a process applying in the narrow syntax. All we can offer here is the weaker hypothesis that there is nonetheless some semantic process of complex predicate formation that is subject to Hornstein & Weinberg's (1981) "natural predicate" condition. This condition seems to extend to subject-predicate constructions more broadly. For example, the contrast between (vii) and (viii) is mirrored in the (albeit weaker) contrast in the acceptability of *tough*-movement between (ix) and (x):

(ix)   It is tough to take advantage of John ⇒ John is tough to take advantage of.

(x)   It is tough to throw books at John ⇏ ? John is tough to throw books at.

Since *tough*-movement and passivization appear to have little in common syntactically, this supports the hypothesis that the natural predicate condition is syntax-external. In §5.5, we will develop further the idea that subject-predicate constructions are a natural class with respect to a certain family of extrasyntactic conditions. Within generative syntax, the idea that the subject-predicate relation has a special interpretative significance is often associated with Chomsky (1975)'s discussion of the difference in meaning between *Beavers build dams* and *Dams are built by beavers*. Only the latter can be paraphrased as "It is a general property of dams that they are built by beavers." (See Standop 1981 for a contrasting view.)

It should also be noted that, according to Taraldsen (1979) and Lødrup (1991), Norwegian is slightly more permis-sive than English with respect to postverbal DPs in pseudopassives, sometimes allowing them without any supporting idiomatic interpretation:

(xi)   *Brevet   ble klistret frimerker på.*
         The letter was pasted stamps   on.

We have no idea why Norwegian should differ from English in this respect, but the Norwegian facts do hint that (viii) may not be ruled out in the narrow syntax.

[17] In (41), the *about* PP is taken to be an adjunct right-adjoined to VP. An alternative would be a more Larsonian structure in which the *about* PP is the sister of the lowest verbal projection (Larson 1988).

[18] Baltin & Postal's other examples are somewhat difficult to assess. In their (5c-f), they present a number of examples based on (xii):

(xii)   ? The detective worked from Mary$_1$ back to herself$_1$.

         (B&P's judgment.)

However, all English speakers we have consulted find binding to be highly degraded in this example. The failure of pseudopassives such as B&P's (5e) (* *Mary was worked back from to Sally*) has, on our account, the same explanation

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as in (57a).

[19] To simplify the exposition, we gloss over the fact that the symmetric reading can usually be coerced out of the passive given a supporting context (e.g. "If I hadn't been married by Mary all those years ago..."). The relevant point here is simply that the symmetric reading is very clearly dispreferred in the passive.

[20] No special assumptions regarding pied-piping are required here, since typically pied-piping can never extend up to a maximal projection which is not a PP. This generalization is easily stated in approaches to pied-piping which do not assume feature percolation (e.g. in terms of the subcategorization/selection properties of Cable's (2007) Q head). Though +*wh* features may percolate as far as PP, pied-piping of PP would cause the derivation to crash, since it would block subsequent covert movement of P's complement to [Spec,P-AgrP], and of P to Agr. Apart from this, there may be a more general ban on ϕ-incomplete phrases undergoing A$'$-movement.

[21] One might dispute the standard assumption that *John* in (51) is not the semantic object of *believe* (see e.g. Klein & Sag 1985), in which case one might consequentially maintain that ARG-ST lists have more semantic significance than would be thought given standard assumptions.

[22] See also Baltin (2006) for further arguments against o-command theories.

[23] For important early discussions of binding facts of this type, see Lakoff (1968) and Reinhart (1976, 1983).

[24] This assumption is plausible given that extraction from extraposed phrases tends to have about the level of unacceptability of typical adjunct island violations:

(xiii)   ? Which man did you talk yesterday to *t*?

On "freezing" effects of this type, see Rochemont & Culicover (1990).

[25] Sag, Wasow & Bender (2003, 211-12): "For prepositions that function as argument markers, we need to find some way by which they can transmit information about their object DP up to the PP that they project...If the object's MODE and INDEX values can be transmitted up to the PP, then the higher verb that takes the PP as its complement will have the MODE and INDEX information from the object DP in its ARG-ST, within the PP's SEM value." (In SW&B's theory it is the MODE and INDEX values of DPs which are crucially involved in binding dependencies.)

[26] For the record, we note here that Büring does not advocate a c-command-based theory of binding. Pollard & Sag (1992) also argue for the existence of exempt reflexives in English, but do not treat the reflexive in (41) as exempt.

[27] Here we do not give an example with *wh*-movement since *wh*-movement of a PP seems to degrade even variable binding:

(xiv)   Who$_1$ did you talk to on his$_1$ birthday.

(xv)   ?? To whom$_1$ did you talk on his$_1$ birthday.

[28] It is necessary for the antecedent to be contained in an inanimate DP such as *John's disposition*, since an animate

DP would be a more prominent logophoric antecedent than its possessor. There appears to be some connection here to the notion of "sub-command" that has arisen in the analysis of long-distance reflexives in Chinese (Tang 1989).

[29] We unfortunately do not have space to give a proper reaction to Postal (2011). Postal (2011, 200) presents a new analysis of pseudopassivization which does not involve promotion to direct object (or "2-object" in Postal's terms). Our "raising to object" analysis has more in common with earlier relational grammar accounts of passivization (e.g. Perlmutter & Postal 1983), which likewise assumed that only direct objects can passivize. We agree with Postal (p. 202) that the absence of "pseudo-middles" is a crucial fact which any adequate theory of pseudopassivization must account for; this is discussed further in §7.1.1. We also agree that *make fun of* passives argue decisively against traditional reanalysis theories. (In fact, Postal's analysis of the licensing of the postverbal DP is abstractly reminiscent of the analysis in Mills (2008), which we have adopted.) Our disagreements with Postal stem primarily from his his (often ingenious) attempts to capture virtually all constraints on passivization in grammatical terms. As will be clear from some of the preceding discussion, our approach is more in the spirit of Bach (1980). We take passivization to be a more-or-less "blind" syntactic process whose output is subject to a number of semantic/pragmatic filters (some of which may apply to Subject-Predicate constructions more generally).

[30] To highlight the relevant contrasts between the two derivations, (71)-(72) use a mix of trace/copy notation. This is not intended to imply a theoretical commitment to any particular analysis of movement. Traces (*t*) in these examples are always traces of overt movement. A striken-through copy is, if it is the higher copy, the landing site of a covert movement, and if it is the lower copy, the initial position of an overtly moved phrase.

[31] The judgment on (75b) is somewhat controversial. E.g., Lasnik (1999b) has suggested that such examples are relatively acceptable. Most speakers we have asked find (75b) distinctly worse than (74a). B&P also discuss comparative subdeletion. We will have little to say about this phenomenon, since the analysis of comparative subdeletion remains controversial, and it is difficult to make any general comments.

[32] Note that – atypically – V does not raise overtly to v in (76a), even though *Sandra* does raise overtly to [Spec,AgrP]. Lasnik's analysis of pseudogapping relies on the hypothesis that V's strong features are permitted to remain unchecked at spellout so long as V is eventually elided.

[33] Absent a theory of extraposition, it is somewhat unclear whether it is more stipulative to assume that AgrP *can* extrapose or to assume the converse. In the reanalysis structure, Agr eventually becomes P-Agr, so in a sense, extraposition of AgrP is just extraposition of PP (given that ordinary English PPs are really P-AgrPs on our account). Much depends on the "timing" of overt vs. covert operations. For example, in a single-cycle Agree-based framework, Agr may already have received features from P prior to its extraposition.

We will argue in §7 that P-AgrP is a phase. A relevant generalization here may be that all phases are able to undergo extraposition. This is uncontroversial for CP, DP and PP. Howard Lasnik (p.c.) points out that there is also some evidence for vP extraposition. Placement of the adverb in the first position indicated in (xvii) is prosodically

marked, and is plausibly derived via extraposition of the vP *have spoken to the manager*. This analysis is supported by the difficulty of extracting from the putatively extraposed vP, shown in (xvii), which parallels similar "freezing" effects found for DP/PP extraposition:

(xvi)   John should (in theory) have spoken to the manager (in theory).

(xvii)   Who should John have (?? in theory) spoken to (in theory)?

[34] We have found that many of B&P's starred examples are in fact acceptable for most English speakers, so we give different examples here. As far as we can tell, B&P are nonetheless correct regarding the correlation between the acceptability of pseudopassivization and the acceptability of *tough* movement.

[35] The affectedness constraint was first formulated by Anderson (1979, 43) in relation to passive nominalizations (though Anderson does not propose that passivization as such is restricted by this constraint). See also Ramchand & Svenonius (2004) for recent discussion.

[36] There are examples demonstrating an apparent affectedness constraint on verbal passivization, such as the well-known contrast between the following active/passive pair:

(xviii)   John left Sweden.

(xix)   * Sweden was left by John.

However, the contrast between (90b) and (91b) appears to show that the affectedness constraint is (for reasons we do not understand) weaker for the verbal passive. Alternatively, one might conclude that there are two entirely distinct constraints at work here.

[37] I.e.:

(xx)   John$_1$ is tough [$_{CP}$ Op$_1$ to talk to t_1].

[38] Postal's actual claim is slightly more subtle than this. He argues that pseudopassives are incompatible with locative inversion just when they are incompatible with the corresponding *there* existential. However, it is clear from his example (127b), p. 47, that he takes sentences such as (99c) to be unacceptable (as do all native English speakers we have consulted). These observations go back to Bresnan (1994). See also Postal (2004, 46) for further discussion.

[39] See Bruening (2011), Chomsky (2001) for arguments that *shot at* in (100) cannot be a reduced relative attached to *revolutionaries*.

[40] This generalization is abstractly reminiscent of Postal's (1974) claim that phrases that are subjects at *any* point in a derivation are islands for extraction.

[41] Intriguingly, (104) cannot be strengthened to the following generalization:

(xxi)   If a DP cannot undergo Heavy DP Shift from its initial Case/θ position, then it cannot undergo Heavy DP Shift from any subsequent position.

For example, it is well known that the first object in the double object construction cannot undergo Heavy DP Shift:

(xxii)   * I'll give t_1 a free book [every student in my class]$_1$.

But when the first object is promoted to an ECM subject position via passivization, Heavy DP Shift is then possible:

(xxiii)   I expect t'_1 to be given t_1 a free book [every student in my class]$_1$.

This contrasts with (105b), where raising to ECM subject position fails to improve extraposition of the erstwhile complement of a preposition.

These facts might be accommodated within the analysis of Drummond, Hornstein & Lasnik (2010). DH&L propose that PP is a strong phase in English. This implies that anything which extracts from a PP must pass through [Spec,PP]. DH&L point out that if specifiers are always on the left, then the linearization algorithm of Fox & Pesetsky (2004) predicts that no phrase α which has passed through [Spec,PP] should be able to undergo subsequent rightward movement. (Since when the PP is Spelled Out, the linearization statement "α precedes P" will be transferred to the PF interface.) It follows that pseudopassivization cannot follow Heavy DP Shift in (105b)/(107b). In contrast, if passive vP is a weak phase (Chomsky 2001, c.f. Chomsky 2009), then both passivization and Heavy DP Shift may occur within the same strong phase in (xxiii); if so, there will be no linearization conflict. Suppose now that Heavy DP Shift of the first object in (xxii) is blocked by some condition on A$'$ movement (perhaps the same condition that in many dialects blocks *wh*-movement and *tough*-movement of the first object). Then this condition will be inoperative once *a free book* has reached [Spec,V-AgrP] in the matrix clause of (xxiii), and Heavy DP Shift may proceed from this position.

[42] The deviance of examples such as (109a) is noted by Postal (2004, 47), Bresnan (1994, 79fn9).

[43] Whether or not (112) instantiates a WCO configuration will depend on the extent to which WCO is linearly or structurally conditioned.

[44] Note that on our account, full reanalysis is not required to obtain preposition stranding, so we do not predict that reanalysis must necessarily occur in (116) (though of course it *may* optionally occur, yielding a structure where the trace of *who* c-commands the pronoun). Thus, while the contrast between e.g. (115b) and (116a) is puzzling, the mere absence of Condition B effects in (116a/b) does not pose a problem for our account, since a derivation is available without reanalysis (and hence without c-command of the pronoun by the *wh*-phrase).

[45] There appear to be cases parallel to (119) in the nominal domain:

(xxiv)   A letter to Mary$_1$ about herself$_1$.

Since reanalysis is clearly not involved in (xxiv), examples of this sort appear to argue that reanalysis is not a precondition on binding out of PP. (We would like to thank Richard Larson for drawing our attention to this issue.) The

argument is, however, weakened by the observation that reflexives in this configuration behave as logophors (Pollard & Sag 1992, Reinhart & Reuland 1993):

(xxv)   Letters about herself$_1$ frighten Mary$_1$.

(xxvi)   Mary was worried. A private letter about herself was circulating.

Since logophors need not be structurally bound at all, the lack of c-command in (119) will not prevent the reflexive receiving the indicated interpretation. (See also §4.1.)

[46] See Truswell (2009) for another attempt to link preposition stranding to pseudopassivization without implicating reanalysis in both (or indeed either, in his case).

[47] Abels' theory builds on that of van Riemsdijk (1978), though it is crucially different in several respects.

[48] This does raise a technical question regarding anti-locality. If P eventually raises to Agr in (126a), then one might expect movement from the complement of P to [Spec,P-AgrP] to count as movement from the complement of a head to the specifier of that very same head (and hence violate anti-locality). We will assume that it does not count as such, on the grounds that P-Agr is not the same head as P. Note that P-Agr must be distinct from Agr to at least some extent, since verbs can subcategorize for P-Agr to the exclusion of (e.g.) T-Agr.

[49] We thank members of the audience at a 2011 LSA talk for pointing out the significance of unaccusatives in this connection. The absence of pseudo-middles is noted by Fagan (1988) and Postal (2011), amongst others. See Abels (2003, 234fn141) for a very brief discussion of overgeneration with pseudopassives. This discussion does not, so far as we can see, consider the cases in (127)-(128).

[50] In a modification of Abels' analysis, Truswell (2009) proposes that V may assign Case to the complement of P when P does not assign Case. Thus in pseudopassives (where P does not assign Case), the addition of the passive morpheme to V is required to prevent P's complement receiving Case from V. It is not entirely clear that (129) is blocked on this account, since some further condition preventing the passive morpheme from vacuously absorbing Case would be required. (Otherwise, we are free to choose a Case-assigning P in (129), and the passive morpheme will harmlessly absorb V's accussative Case, which would not have been assigned to anything anyway.) A condition of this sort would not obviously follow on general "economy" grounds, since the passive morpheme in (129) would still serve the useful purpose of supressing the external argument.

[51] Though on preposition stranding in Spanish, see Campos (1991).

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