

## Diagnosing covert A-movement

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Covert movement is movement that is not phonologically visible in the syntactic derivation. While covert A'-movement is widely proposed, covert A-movement is quite uncommon and difficult to identify. This chapter discusses diagnostics for covert A-movement and ways in which it can be distinguished from non-movement. We propose that covert A-movement is found in subject-to-subject raising in the Northwest Caucasian language Adyghe (Potsdam and Polinsky 2012). We compare the Adyghe construction with unaccusatives in Russian, which we show do not involve covert A-movement (contra Babyonyshev, Ganger, Pesetsky, and Wexler 2001). We demonstrate that a range of mostly theory-independent phenomena can be used to determine whether covert A-movement occurs in a given construction, using Adyghe and Russian as contrasting test cases.

*Keywords:* covert movement, A-movement, subject-to-subject raising, unaccusatives, Adyghe (Circassian), Russian

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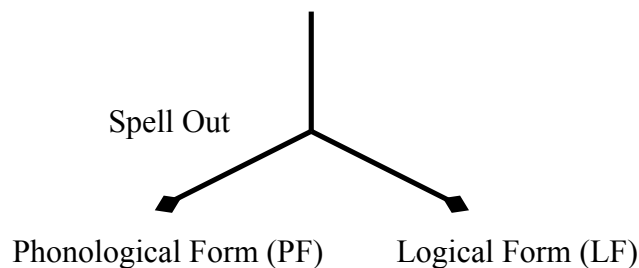
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Our data presentation follows the Leipzig glossing rules. The Adyghe transcription follows the convention adopted in Smeets 1984:111, with minor modifications: the subscript *w* indicates labialization, the lowered dot indicates velarization. The same transcription convention is currently used by Russian researchers working on the language (Arkadiev et al. 2009).

## 1 Introduction

It is widely recognized that there are movements in the syntax that cannot be seen. We use the term COVERT MOVEMENT (Huang 1982, May 1985) to refer to such displacement operations in the grammar that have syntactic and semantic consequences but no visible phonological reflex. The exact modeling of covert movement is a matter of some debate as it is intimately tied to the architecture of the grammar (see Potsdam and Polinsky 2012 for discussion). The current Minimalist Y/T-Model of grammar (Chomsky 1995 and later work) assumes that at some point in the derivation, namely Spell Out, the derivation branches, continuing on to Phonological Form (PF) on one branch and to Logical Form (LF) on another branch.

### (1) *T/Y-Model* (Chomsky 1995)



Covert movement is movement that takes place on the branch of the derivation to LF. The distinction between overt and covert movement then is one of timing with respect to Spell Out, with covert movement taking place afterwards. As a result, covert movement is expected to have characteristics of syntactic movement, with syntactic and semantic consequences, but the phonological aspects of the movement cannot be seen because the derivation had already split.

An alternative model, the Single Output Syntax model (Bobaljik 2002), assumes that PF and LF are the same and constitute the single endpoint of the syntactic derivation:

(2) *Single Output Syntax* (Bobaljik 2002)

Phonological Form (PF) &amp; Logical Form (LF)

Under this approach, the difference between overt and covert movement cannot be one of timing. Instead, the theory makes crucial use of the copy theory of movement (Chomsky 1993, 1995) and the idea that a chain of movement consists of links, all of which have full phonological, morphological, and syntactic representations. Under this approach, the difference between covert and overt movement is which link in the chain is pronounced. Overt movement is the pronunciation of the highest chain link while covert movement is the pronunciation of a non-highest copy in a chain.

We will not try to decide between these two models of covert movement, or others, but will stick with the minimum assumptions that are necessary for our purposes. As in both of the above models, we assume that covert movement is just movement, and shows the same opportunities and restrictions as overt movement. We also adopt the copy theory of movement, at least in our structural representations. Finally, for perspicuity, we will show syntactic structures that combine PF and LF information, when necessary. When movement has taken place, we will show all copies of the movement chain. This is how the chain would appear at LF in both models of grammar. We will represent PF information by crossing out, via strikethrough, any copies that are not ultimately pronounced. Representationally, then, overt movement will have all but the highest copy in a chain crossed out, (3a); covert movement will have all but a non-highest copy crossed out, (3b).

(3) a. *Overt movement representation*DP ...  $\bar{DP}$ b. *Covert movement representation* $\bar{DP}$  ... DP

In the domain of A'-movement, analyses appealing to covert analogues of most overt phenomena are easy to find: covert wh-movement (Srivastav 1991, Pesetsky 2000, Simpson 2001, Richards 2001, among others), covert scrambling (Mahajan 1990, 1997, Saito 1992, Nemoto 1993, Kawamura 2004, Cable 2007, 2009), and covert topicalization (Bayer 1996, Polinsky and Potsdam 2001), to name a few. For A-movement, the picture is rather different. Overt A-movement phenomena such as subject-to-subject raising, passives, and unaccusative advancement are robustly attested cross-linguistically; however, clear cases of covert analogues are exceedingly rare.

In this chapter, section 2 first presents a case of genuine covert A-movement in the Northwest Caucasian language Agyghe, which shows covert subject-to-subject raising (Potsdam and Polinsky 2012). Section 3 presents a picture of unaccusatives in Russian, which have also been claimed to involve covert A-movement (Babyonyshev et al. 2001). We offer an alternative non-movement analysis of the phenomenon. Section 4, the heart of the paper, develops a range of diagnostics for covert A-movement. It applies the diagnostics to Adyghe and Russian and shows that the two languages systematically contrast in their behavior. We conclude that Adyghe, but not Russian, instantiates covert A-movement, section 5.

## 2 *Adyghe subject-to-subject raising*

Adyghe is a Northwest Caucasian language spoken by approximately 500,000 people in Russia, Turkey, Iraq, and Syria (Lewis 2009). It is most closely related to Kabardian. Together, the two languages are often called Circassian (Smeets 1984, Colarusso 1992). Typologically, Adyghe is head-final with SOV basic word order. In matrix clauses, constituent order is relatively free; however, embedded clauses are normally verb-final. Adyghe has extensive pro-drop for both subjects and objects. The dialect described here is Temirgoy, which is close to the standard.

The morphological case system is ergative-absolutive (Smeets 1984, Kumaxov et al. 1996, Arkadiev et al. 2009), although with pronouns, only third person forms, which are strictly-speaking demonstratives, show this distinction. In first and second persons, there is syncretism of the ergative and absolutive. The ergative and absolutive morphemes for non-pronominals are *-m* ‘ERG’ and *-r* ‘ABS’. These are case markers merged with the specificity article *-r*. Ergativity is solely morphological, as the (ergative) subject is structurally superior to the (absolutive) object for purposes of binding, control, and coreference across clauses.

The verbal agreement paradigm is very complex. Verbs show agreement with the ergative and absolutive in person and number (Smeets 1984: ch. 5, Arkadiev et al. 2009, see also Colarusso 1992 for Kabardian, and O’Herin 2002 for Abaza, where the agreement systems are similar). The ergative marker is adjacent to the root/stem, while the absolutive occurs on the left edge of the verb complex. There is also optional agreement in number between the verb and the absolutive. This optional agreement suffix is *-ex* ‘3PL.ABS’. Examples illustrating these morphological patterns are in (4), with the verbal agreement markers boldfaced.

- (4) a. a-xe-me        se        **s-a-š'e**  
          DEM-PL-ERG   1SG.ABS   **1SG.ABS-3PL.ERG-lead**  
          ‘They are leading me.’
- b. thape-xe-r        **ø-pəzə-ɤ-(ex)**  
          leaf-PL-ABS    **3ABS-fall-PAST-3PL.ABS**  
          ‘(The) leaves fell down.’

A number of Adyghe verbs behave like English subject-to-subject raising predicates: *f(j)ež'en* ‘begin’, *wəblen* ‘begin, start’, *wəxən* ‘stop, be over’ (Say 2004, Kumaxov and Vamling 1998), *χwən* ‘become, turn out to’, and *qəč'eč'en* ‘happen to’. These verbs take a clausal complement with the embedded verb appearing in a non-finite supine form. When a transitive verb is embedded under these predicates, its subject can be either absolutive or ergative, as in (5). Regardless of case marking, the matrix verb shows agreement (boldfaced) with this subject as though it were absolutive (person agreement is obligatory, number agreement is optional, but we will not show this optionality below). Ergative agreement morphology, even when the subject is ergative, is impossible, as (5a) shows.



(5) a. *Agreement with ergative subject*

a-xe-me      pjəsmə-r      a-txə-new  
**DEM-PL-ERG** letter-ABS      3PL.ERG-write-INF  
 ø-fjež'a-ɤe-x/\*a-fjež'a-ɤ  
**3ABS-begin-PAST-3PL.ABS/3PL.ERG-begin-PAST**

b. *Agreement with absolutive subject*

a-xe-r      pjəsmə-r      a-txə-new      ø-fjež'a-ɤe-x  
**DEM-PL-ABS** letter-ABS      3PL.ERG-write-INF      **3ABS-begin-PAST-3PL.ABS**  
 'They began to write a letter.'

The analysis of (5b) is straightforward. It has an ordinary subject-to-subject raising syntax in which the subject raises from the complement clause, as in English. The subject is in the matrix clause and is absolutive because the raising verb is intransitive:

(6)      a-xe-r<sub>i</sub>      [a-xe-me<sub>i</sub>      pjəsmə-r      a-txə-new]  
          DEM-PL-ABS DEM-PL-ERG      letter-ABS      3PL.ERG-write-INF  
          ø-fjež'a-ɤe-x  
          3ABS-begin-PAST-3PL.ABS  
          'They began to write a letter.'

(5a) is unusual given that the subject is ergative but the matrix verb shows agreement with it as though it were an absolutive matrix subject. In Potsdam and Polinsky 2012, we defend a covert subject-to-subject raising analysis of (5a) in which the ergative subject is pronounced as the subject of the complement clause but has a silent absolutive copy in the matrix clause. The construction instantiates covert A-movement because there is an A-movement chain but a non-highest link in the chain is pronounced, as shown in (7). Other than pronunciation differences, however, the syntax of (5a,b) is identical.

- (7)     a-xe-r<sub>i</sub>           [a-xe-me<sub>i</sub>     pjəsmə-r   a-txə-new]  
           DEM-PL-ABS   DEM-PL-ERG   letter-ABS 3PL.ERG-write-INF  
           ø-fjež'a-ɣe-x  
           3ABS-begin-PAST-3PL.ABS  
           'They began to write a letter.'

The covert subject-to-subject raising analysis accounts for the agreement pattern: the verb is agreeing with the higher subject, just as in the ordinary subject-to-subject raising derivation in (6). The sole difference is that the raising is covert.

Potsdam and Polinsky 2012 defends key claims inherent in the analyses of the Adyghe construction in (7):

- (8)   a. the relevant verbs are unaccusative  
        b. the construction is bi-clausal  
        c. the case of the subject reflects its clause membership  
        d. both constructions have a syntactic representation of the raised DP in the matrix clause

The relevant verbs are unaccusative and do not have external arguments. This allows them to participate in a subject-to-subject raising syntax when there is a clausal complement and the embedded subject can raise into the matrix clause. Second, the construction is indeed bi-clausal in that the relevant verbs select a full complement clause. Third, the position of the subject alternates between the matrix clause and the embedded clause and this is reflected in its case marking. When the subject is ergative, it is in the embedded clause, as shown in (7). When the subject is absolutive, it is in the

matrix clause, as in (6).<sup>1</sup> Fourth, regardless of the pronounced position of the subject, there is a syntactic representation of this subject in the matrix clause. Thus, there is always A-movement, regardless of where the subject is pronounced. Some of these claims will be confirmed by the data below, however readers interested in further details about the language, the analysis, and particular analytical claims should consult Potsdam and Polinsky 2012.

### 3 *Russian unaccusatives*

Babyonyshev et al. 2001 (B et al. below) presents a similar covert A-movement analysis of unaccusative structures in Russian. In this section, we review the relevant Russian data and lay out B et al.'s analysis. We then present our alternative non-movement analysis, which will be confirmed by the diagnostics relevant for A-movement presented in Section 4.

The A-movement that B et al. investigates is the movement of the internal argument of an unaccusative predicate to subject position. In English and other languages, the theme of an unaccusative predicate begins as an internal argument and moves overtly to the subject position, seen in (9) (Perlmutter 1978, Pesetsky 1982, Burzio

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<sup>1</sup> Structural ambiguity naturally arises when the embedded verb is intransitive because then the subject is always marked absolutive, as required by the embedded verb and by the matrix raising verb:

(i)  $DP_{abs}$  begin [ $\overline{DP}_{abs}$   $V_{intr}$ ]

(ii)  $\overline{DP}_{abs}$  begin [ $DP_{abs}$   $V_{intr}$ ]

1986, Levin and Rappaport Hovav 1995). In some languages, this movement is optional, as in Italian, (10a,b) (Perlmutter 1983, Burzio 1986 and others).

(9) [TP snow [VP melted ~~snow~~]]

(10) a. [TP [VP arriveranno molti esperti]]

arrive.FUT many experts

b. [TP molti esperti [VP arriveranno ~~molti esperti~~]]

many experts arrive.FUT

‘Many experts will arrive.’

Russian has several diagnostics that identify unaccusative predicates (Chvany 1975, Pesetsky 1982), among them the Genitive of Negation (GN). GN is a phenomenon in which an underlying direct object may appear in the genitive case when licensed by negation.

Direct objects in Russian normally appear only in the accusative, (11a). The genitive case can also be used on direct objects when in the scope of negation, (11b).

(11) a. ja uvidel ptic-u/\*ptic-y

1SG saw bird-ACC/\*bird-GEN

‘I saw a/the bird.’

b. ja ne uvidel ptic-u/ptic-y

1SG not saw bird-ACC/bird-GEN

‘I did not see a/any/the bird.’

GN is impossible on subjects of transitive verbs, (12), or unergative verbs, (13), even in the presence of negation:

- (12) a. ni-kak-ie                      mal'čik-i        ne    polučili    podarki  
              NEG-kind-NOM.PL    boy-NOM.PL    not   received    gifts  
              'No boys received gifts.'
- b. \*ni-kak-ix                      mal'čik-ov    ne    polučilo    podarki  
              NEG-kind-GEN.PL    boy-GEN.PL    not   received    gifts  
              ('No boys received gifts.')

- (13) a. ni-kak-ie                      devočk-i        ne    tancevali  
              NEG-kind-NOM.PL    girl-NOM.PL    not   danced  
              'No girls/None of the girls were dancing.'
- b. \*ni-kak-ix                      devoček        ne    tancevalo  
              NEG-kind-GEN.PL    girl-GEN.PL    not   danced  
              'No girls/None of the girls were dancing.'

In contrast, GN is possible with themes of unaccusative verbs. In this case, GN alternates with the nominative. We illustrate this alternation with the themes of regular unaccusative verbs, (14), passive verbs, (15), and subject-to-subject raising verbs, (16).

- (14) a. ni-kak-ie                      grib-y                                      zdes'    ne    rast-ut  
              NEG-kind-NOM.PL    mushroom-NOM.PL    here    not   grow-PRES.3PL
- b. zdes'    ne    rast'-ot                      ni-kak-ix                                      grib-ov  
              here    not   grow-PRES.SG    NEG-kind-GEN.PL    mushroom-GEN.PL  
              'No mushrooms grow here.'

- (15) a. ni    odin           gorod       ne   byl               vzjat  
          NEG single-**NOM** city-**NOM**   not   was.MASC.SG   taken.MASC.SG  
       b. ne   byl-o               vzjat-o               ni   odn-ogo       gorod-a  
          not   was-NEUTER.SG taken-NEUTER.SG   NEG single-**GEN** city-**GEN**  
          ‘Not a single city was taken.’

- (16) a. ni-kak-ie           ten-i           ne   načali       polzat’   po   stene  
          NEG-kind-**NOM**.PL shadow-**NOM**.PL not   began.PL   crawl.INF over wall  
       b. ne načalo           polzat’   po   stene   ni-kak-ix       ten-ej  
          not began.NEUTER   crawl.INF over wall   NEG-kind-**GEN**.PL shadow-**GEN**.PL  
          ‘No shadows began to crawl over the wall.’

In addition to the case difference, there is also a difference in agreement: the nominative triggers agreement on the verbal predicate or adjectival predicate. When the theme is in the genitive case, however, the verb assumes default agreement (NEUTER in the past, 3SG elsewhere).

B et al. suggest that the GN examples above instantiate covert movement. (17) shows their proposed derivation with a simple unaccusative verb. The GN theme is pronounced in its base position as the direct object of the verb; however, as a result of covert A-movement, there is an unpronounced copy of the theme in the subject position.

- (17) [TP ~~nikakix~~ ~~gribov~~       zdes’   ne [VP rast’ot nikakix   gribov]]  
          kind   mushrooms here   not   grown kind.GEN   mushroom.GEN.PL  
          ‘No mushrooms grow here.’

(18) shows their proposed derivation for a subject-to-subject raising verb. Here, too, the GN theme is pronounced in the object position in the lower clause, while there is a covert







representing subject-to-subject (or subject-to-object) raising. The pronounced DP is an argument of the embedded predicate. We combine the two schematically as follows:

(22) *Covert A-movement analysis*

$$[_{TP} \overline{DP} \ v \ [_{VP/TP} \dots DP \dots ]]$$

The covert A-movement analysis should be contrasted with a non-movement analysis of some kind in which the lower DP does not move:

(23) *Non-movement analysis*

$$[_{TP} \dots v \ [_{VP/TP} \dots DP \dots ]]$$

In this section we discuss diagnostics that can be used to distinguish (22) from (23). Because A-movement is so relatively local and is covert in this case, such diagnostics can be subtle. They fall in to three classes: locality diagnostics (section 4.1), c-command diagnostics (section 4.2), and movement-restriction-related diagnostics (section 4.3). Each section lays out the relevant diagnostics in general terms and then applies them to the Adyghe and Russian constructions. They confirm the covert movement analysis of Adyghe and a non-movement analysis of Russian.

#### 4.1 *Locality diagnostics*

Locality relations are widespread in syntax. In order for two elements to participate in some kind of syntactic relationship, they must often be sufficiently “close” to one another. For example, they may have to be in the same clause, the same phase, or the same projection. Locality can be used to differentiate (22) from (23), repeated here:

(22) *Covert A-movement analysis*

$$[_{TP} \text{ } \overline{DP} \text{ } v \text{ } [_{VP/TP} \text{ } \dots \text{ } DP \text{ } \dots \text{ } ]]$$
(23) *Non-movement analysis*

$$[_{TP} \text{ } \dots \text{ } v \text{ } [_{VP/TP} \text{ } \dots \text{ } DP \text{ } \dots \text{ } ]]$$

Agreement is a canonical local relationship. In many languages, a head can only agree with elements that are structurally very “close”. This tendency has been captured in various ways. Within Relational Grammar, Aissen 1990 proposed the following generalizations, which, for agreement on a verb, claim that only clause-mate subjects, objects, or indirect objects can trigger agreement.

- (24) a. If X controls agreement, then X is a final term (that is, subject, direct object, indirect object)
- b. If Y agrees with X, then X and Y are dependents of the same (relational) node.

Although exceptions to these generalizations certainly exist—Aissen (1988, 1990) discusses several and attempts to systematically account for them within the context of Relational Grammar—they are a useful simplification of the agreement picture in many languages. If such generalizations are appropriate for the language under consideration, they can distinguish (22) from (23) in the case where the embedded constituent is a TP because this yields a bi-clausal structure. Assuming that agreement is between *v* and DP, only in (22) are the two clause-mates.

Principles and Parameters proposals for the agreement relationship are even more restrictive. At that stage of the theory, agreement was restricted to occurring between a head and a phrase in a specifier-head relationship (Mahajan 1989, Koopman and Sportiche 1991, Chomsky and Lasnik 1993). Under this assumption, we can still

distinguish (22) and (23). *v* and DP can agree under the covert movement analysis in (22) assuming that there is a point in the derivation at which *v* and DP are in a spec-head relation. This could occur in TP if *v* moves to T°, or it could occur during the derivation when the DP raises. In the non-movement structure, (23), there is never any spec-head relation between *v* and DP. With nothing further said, the Relational Grammar and Principles and Parameters conceptions of agreement lead to the prediction that agreement between the verb and the DP signals covert A-movement. Lack of agreement indicates no movement. We consider the minimalist view of agreement below.

Adyghe and Russian data support this contrast. In Adyghe, as we have seen, the matrix verb can agree with the non-local embedded DP, (25a), because there is covert movement and subsequent clause-mate locality between the matrix verb and the DP, (25b). In Russian, there is no agreement, (26a).<sup>3</sup> The embedded DP is plural but the matrix verb shows default singular neuter agreement. There is not the appropriate locality under the assumption that the embedded genitive does not undergo covert movement, (26b). If there were covert A-movement, (26c), the lack of agreement would be unexpected because the syntax is the same as in Adyghe and agreement locality is satisfied.

(25) *Adyghe*

- a. [a-xe-me      pjəsmə-r   atxənew]    ø-fjež'a-ʁe-x  
      DEM-PL-ERG   letter-ABS   write.INF    3ABS-begin-PAST-3PL.ABS  
      'They began to write a letter.'
- b. a-xe-r            [a-xe-me      pjəsmə-r   atxənew]    ø-fjež'a-ʁe-x  
      DEM-PL-ABS   DEM-PL-ERG   letter-ABS   write.INF    3ABS-begin-PAST-3PL.ABS

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<sup>3</sup> B et al. (2001:12) note this fact but do not explain it.

(26) *Russian*

- a. ne načalo [TP polzat' po stene nikak-ix ten-ej]  
 not began.NTR crawl.INF over wall kind-GEN.PL shadow-GEN.PL  
 'No shadows began to crawl over the wall.'
- b. *Non-movement analysis*  
*expl* ne načalo [TP polzat' po stene nikak-ix ten-ej]  
 not began.NTR crawl.INF over wall kind-GEN.PL shadow-GEN.PL
- c. *Covert movement analysis*  
 \*~~nikak-ix~~ — ~~ten-i~~ ne načali  
 kind-NOM.FEM.PL shadow-NOM.FEM.PL not began.PL  
 [TP polzat' po stene nikak-ix ten-ej]  
 crawl.INF over wall kind-GEN.PL shadow-GEN.PL

Despite the success of the movement diagnostic in predicting the presence or absence of agreement, assumptions about agreement within the Minimalist Program weaken its value. Agreement in minimalism is actualized via an operation Agree, which allows a head and a phrase to agree provided they are in a c-command relation and no closer potential agreement controller intervenes between the head and the phrase:

(27) *Agree* (following Haegeman and Lohndal 2010:196)

$\alpha$  Agrees with  $\beta$  if

- a.  $\alpha$  c-commands  $\beta$
- b.  $\alpha$  and  $\beta$  both have a feature F
- c. there is no  $\gamma$  with the feature F such that  $\alpha$  commands  $\gamma$  and  $\gamma$  c-commands  $\beta$

This is a much looser locality relation than a clause-mate relationship or a spec-head configuration. Agree in (27) would predict agreement equally in both Adyghe and in

Russian. The incorrectly predicted agreement in the Russian (26a) must, therefore, be ruled out for independent reasons not related to insufficient locality.

Under the non-movement analysis in (26b), this can be achieved by appealing to Moore and Perlmutter's (2000:396) claim that predicates in Russian only agree with subjects. Under the covert A-movement analysis, such an appeal is not available since there is a subject, which the verb does not agree with. An alternative must be offered but, to the best of our knowledge, no such alternative has been proposed.

#### 4.2 *C-command diagnostics*

A robust distinction between the covert A-movement and non-movement structures repeated below is the c-command relations that hold between the DP and other clause-internal elements at LF.

##### (28) *Covert A-movement analysis*

[<sub>TP</sub> ~~DP~~ v [<sub>VP/TP</sub> ... DP ... ]]

##### (29) *Non-movement analysis*

[<sub>TP</sub> ... v [<sub>VP/TP</sub> ... DP ... ]]

In (28), the DP, as a (raised) subject, c-commands everything else in the clause. In contrast, the in-situ DP in (29) will c-command nothing outside of the embedded constituent. For example, if the configuration is bi-clausal the DP will not c-command elements in the matrix clause in (29) but will do so in (28). In what follows, we explore three phenomena that are sensitive to c-command: control of PRO, binding of reflexives, and scope ambiguities. They can thus be used to tease covert A-movement apart from non-movement.

#### 4.2.1 Control

There is considerable work arguing that the unpronounced subject of various predicational (clausal) adjuncts is an element that is syntactically controlled by its antecedent. For convenience, we represent this null subject by PRO, (30). A standard assumption is that PRO must be bound by its antecedent (Chomsky and Lasnik 1993).<sup>4</sup>

- (30) a. John<sub>i</sub> left [PRO<sub>i</sub> alone].  
       b. John<sub>i</sub> talked on the phone [while PRO<sub>i</sub> reading a book].  
       c. John<sub>i</sub> cried [after PRO<sub>i</sub> hearing the news].  
       d. John<sub>i</sub> called AT&T [PRO<sub>i</sub> to complain].

If we insert a predicational adjunct in the matrix clause in (28) and (29), only in the former will its PRO subject be successfully bound. Thus, only the covert movement construction should license a higher adjunct.

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<sup>4</sup> There are adjuncts in which the unpronounced subject can be bound by an object (Jones 1991, Hornstein 2001:98):

- (i) a. They invited a clown<sub>k</sub> [PRO<sub>k</sub> to entertain us]  
       b. John arrested Bill<sub>k</sub> [for PRO<sub>k</sub> driving too fast]

Such constructions seem to violate the requirement that PRO be bound, on the assumption that the object is a sister of V and the adjunct is adjoined higher than V'. There are various analyses of the binding in these constructions, but we will not explore them here. In using this diagnostic, the simplest strategy is to confirm that the adjunct cannot have its subject bound by an object.

(31) *Covert A-movement analysis with clausal adjunct*

$$[_{TP} \overline{DP} \ v \ [PRO_i \ \dots] \ [_{VP/TP} \ \dots \ DP_i \ \dots]]$$
(32) *Non-movement analysis with clausal adjunct*

$$*[_{TP} \ \dots \ v \ [PRO_i \ \dots] \ [_{VP/TP} \ \dots \ DP_i \ \dots]]$$

This diagnostic confirms our distinct analyses for Adyghe and Russian with respect to the presence vs. absence of covert movement. For Adyghe, we illustrate with the emphatic depictive *jež’ə* ‘by himself/herself’ as a matrix clause adjunct. We assume that it is a secondary predicate with a PRO subject, which must be bound. The predicate agrees in case with PRO’s antecedent. Expectedly, the depictive can appear in the matrix clause of the overt subject-to-subject raising construction and be bound by the raised subject, (33a). The subject transparently c-commands PRO in the depictive, as shown schematically in (33b).

- (33) a. [wəse-r    ə-txə-new]                      a-r              jež’ə-r              fjež’aκ  
              poem-ABS DEM-ERG-write-INF    **DEM-ABS**    **by\_self-ABS**    began  
              ‘He began to write a poem himself.’
- b. [wəse-r    ə-txə-new]                      a-r<sub>i</sub>              [PRO<sub>i</sub> jež’ə-r]              fjež’aκ  
              poem-ABS DEM-ERG-write-INF    **DEM-ABS**                      **by\_self-ABS**    began

In the covert A-movement structure, the depictive is also possible, (34a). This is expected given the schematic in (28). Its PRO subject is bound by the covert raised subject, as shown in the structural representation in (34b).

- (34) a. %[a-š' wəse-r ə-txə-new] jež'ə-r fjež'aκ<sup>5</sup>  
           **3SG.ERG** poem-ABS **3SG.ERG-write-INF** **by\_self-ABS** began  
           'He began to write a poem himself.'
- b. [a-š' wəse-r ə-txə-new] a-ɸ<sub>i</sub> [PRO<sub>i</sub> jež'ə-r] fjež'aκ  
           **3SG.ERG** poem-ABS **3SG.ERG-write-INF** **DEM-ABS** **by\_self-ABS** began

Expectedly, the depictive is also possible in the embedded clause, where it is bound by the overt subject, (34).

- (35) [a-š' jež'ə-m wəse-r ə-txə-new] fjež'aκ  
           **DEM-ERG** **by\_self-ERG** poem-ABS **3SG.ERG-write-INF** began  
           'He began to write a poem himself.'

The presence of the depictive in the matrix clause apparently bound by the subject in the embedded clause supports the covert A-movement analysis and c-command relations as a diagnostic for covert A-movement. Without covert A-movement, PRO in (34a) would not be bound and the example should be ungrammatical. We will see this scenario in Russian.

For Russian, the clausal adjuncts that we will use are gerundives. Subjects, but not other arguments, can control the PRO subject of gerundives, an observation that has a long history (Peškovskij 1956, Pesetsky 1982, Kozinskij 1983, Neidle 1988, Perlmutter

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<sup>5</sup> The acceptability of (34a) and similar examples varies by individual speakers. We think that those speakers who find these examples unacceptable may require strict adjacency between the depictive and its host. This adjacency is preserved in the example in (35), which is accepted by all speakers.



and Moore 2002, and others). (36) shows control of PRO by a subject, while (37) shows that an object may not bind PRO.

- (36) [PRO<sub>i</sub> načavšis' iz-za erundy] ix ssory<sub>i</sub>  
 begin.GER because.of trifle their quarrels.NOM  
 uže ne prekraščalis'  
 already not stopped.3PL  
 'Having started out of nothing, their arguments would never stop.'

- (37) \*[PRO<sub>i</sub> načavšis' iz-za erundy] ona uže  
 begin.GER because.of trifle she already  
 ne mogla prekratit' ix ssory  
 not could stop.INF their quarrels.ACC  
 ('Having started out of nothing, she could no longer stop their arguments.')

In spoken Russian, dative subjects may control PRO in the gerundive, which suggests that this property is not tied to nominative case (Kozinskij 1983, Perlmutter and Moore 2002):

- (38) [PRO<sub>i</sub> putešestvuja] vam<sub>i</sub> udastsja uznat' mnogo novogo  
 travel.GER 2PL.DAT manage.3SG.FUT learn.INF much new  
 'As you travel you will be able to learn many new things.'

GN arguments of unaccusative verbs, however, cannot control the PRO subject of a gerund, (39). This suggests that the genitive DP does not in fact undergo covert movement; otherwise, it should be able to bind PRO. Instead, it remains an in-situ object, representing the ungrammatical non-movement configuration in (32).

- (39) \* $[\text{PRO}_i \text{ načavšis'} \text{ iz-za } \text{erundy}]$   
           begin.GER because.of trifle  
 uže      ne    prekraščalos'      ix      ssor<sub>i</sub>  
 already not stopped                    their quarrels.GEN  
 ('Having started out of nothing, their arguments would never stop.')

B et al. (2001:(12)) note this fact themselves and offer an explanation, which we discuss in the next subsection.

#### 4.2.2 Reflexive binding

Another phenomenon relying on c-command that can be used to tease apart the covert vs. non-movement accounts in (28) and (29) is reflexive binding. Condition A of the Binding Theory requires that reflexives be bound, typically in a local domain. If a reflexive is placed in a syntactic position where it is c-commanded by a subject but not an object, as schematized in (40), it is predicted to be grammatical under a covert A-movement analysis but not under the non-movement analysis.

- (40)  $[\text{TP } (\text{DP}) \text{ v } [ \dots \text{ reflexive } \dots ] [\text{VP/TP } \dots \text{ DP } \dots ]]$

Reflexive marking in Adyghe confirms the covert A-movement analysis. Reflexive in Adyghe is a bound morpheme on the verb, which indicates that two participants are coreferential. Reflexivization is a clause-bound phenomenon (Colarusso 1992:195, Smeets 1984:122, Arkadiev et al. 2009:63-65) and we assume that when the reflexive morpheme is present, it must be c-commanded by its antecedent.

In the raising construction under consideration, the matrix verb can show reflexive morphology even when the overt subject is in the complement clause. In (41),

the embedded ergative subject is coindexed with a null matrix benefactive. This reflexive relationship is indicated by the presence of the reflexive morpheme on the verb.

- (41) [a-xe-me      pjəsmə-r   a-txə-new]              zə-fjež'a-ɸe-x  
 DEM-PL-ERG   letter-ABS   3PL.ERG-write-INF   **REFL**-begin-PAST-PL  
 'They began to write a letter for themselves.'

The example is nonetheless grammatical because of the presence of the clause-mate, covertly-A-moved subject which c-commands the reflexive morpheme, as shown in (42).

- (42) a-xe-r<sub>i</sub>              [a-xe-me      pjəsmə-r   atxə-new]      zə<sub>i</sub>-fjež'a-ɸe-x  
 DEM-PL-ABS      DEM-PL-ERG   letter-ABS   write -INF      **REFL**-begin-PAST-PL

Again, Russian contrasts with Adyghe with respect to this diagnostic. Russian has a subject-oriented possessive anaphor *svoj* 'REFL' which is licensed locally or long-distance, (43). As (44) shows, however, it must be bound (Rappaport 1986 and references therein, Bailyn 2007).

- (43) odna   feja<sub>i</sub>              ljubit   svoj<sub>i</sub>   kraj  
 one   fairy.NOM   loves   REFL   land.ACC  
 'A certain fairy<sub>i</sub> loves her<sub>i</sub> land.'

- (44) \*soobščili              v   svoem<sub>i</sub>   kraju      [čto   odna   feja<sub>i</sub>      uletela]  
 announced.3PL   in   REFL   land.LOC   that   one   fairy.NOM   flew.away  
 ('They announced in her<sub>i</sub> land that a certain fairy<sub>i</sub> flew away.')

The subject binder need not be nominative however. A dative subject can also bind the reflexive, (45a), as can a genitive (small clause) subject, (45b).

- (45) a. Ivanu<sub>i</sub> bylo žal' sebja<sub>i</sub> i svoju<sub>i</sub> sobaku  
 Ivan.DAT was.NEUT.SG sorry.for self.ACC and REFLACC dog.ACC  
 'Ivan was sorry for himself and for his dog.'

(B et al. 2001:13, from Chvany 1975:67)

- b. ja lično ne našol [ni odnoj učenicy<sub>i</sub>  
 I personally not find NEG single.GEN.SG female\_student.GEN.SG  
 v klasse črezmerno ozabočennoj svoimi<sub>i</sub> otmetkami]  
 in class too worried REFL.INSTR grades.INSTR  
 'I personally didn't find a single girl in the class too worried by her grades.'

(following B et al. 2001:13)

Crucially, a GN object cannot bind the reflexive, which B et al. (2001:13, example (11b)) observe, although the nominative subject of course can:

- (46) a. \*ne bylo ubito ni odnogo mal'čika<sub>i</sub>  
 not was.NEUT.SG killed.NEUT.SG NEG single.GEN.SG boy.GEN.SG  
 v svoem<sub>i</sub> dome  
 in REFL.LOC home.LOC  
 b. ni odin mal'čik<sub>i</sub> ne byl  
 NEG single.NOM.SG boy.NOM.SG not was.MASC.SG  
 ubit v svoem<sub>i</sub> dome  
 killed.MASC.SG in REFL.LOC home.LOC  
 'Not a single boy was killed in his own house.'

(46a) suggests that the GN does not undergo covert A-movement to subject position. If it had, the reflexive would be bound, as it is in (46b).<sup>6</sup>

As indicated above, B et al. are aware of both the control and binding facts as being problematic for their analysis. As a solution, they suggest in a footnote that the covert A-movement applies later in the derivation than binding theory. This would be possible if, for example, Binding Theory applied at surface structure, before covert movement. In minimalist work, which does not recognize the existence of surface structure, (1), such an ordering solution is not available. Furthermore, it seems less likely that the interpretation of PRO, which is fundamentally a semantic phenomenon, takes place at surface structure rather than LF. Thus, the facts are rather recalcitrant for a covert A-movement analysis in the current theoretical climate, as B et al. acknowledge. They suggest that “various technical solutions could still be devised” but they do not offer any. These data are not problematic for the non-movement analysis of Russian since the GN does not undergo A-movement at any level of representation.

#### 4.2.3 Scope

The final phenomenon we consider that can diagnose c-command relations is scope. It is widely assumed that a quantificational element A can take scope over a quantificational element B only if A c-commands B. For concreteness, we adopt Aoun and Li’s (1993) analysis of scope, which formalizes this observation. As is standard, the analysis assumes that quantified noun phrases (QPs) undergo the rule of Quantifier Raising (QR), which

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<sup>6</sup> Russian binding is subject to rather subtle interpretive conditions and judgments change significantly under scrambling (see Bailyn 2007 and references therein), which may undermine its value as a Russian-particular diagnostic.

adjoins them to some maximal projection (May 1977, 1985). This syntactic representation is then subject to two principles, the Minimal Binding Requirement and the Scope Principle. The first principle requires that variables left behind by QR be bound by the most local potential antecedent. It thus prohibits a quantifier from binding its variable across another quantifier.

(47) *Minimal Binding Requirement* (Aoun and Li 1993)

Variables must be bound by the most local potential antecedent (A'-binder)

The second principle indicates how the relative scope of QPs is read off of the syntactic structure. It crucially refers to c-command:

(48) *Scope Principle* (Aoun and Li 1993)

A quantifier A may have scope over a quantifier B iff A c-commands a member of the chain containing B

The system predicts a scope difference between (28) and (29), repeated below, when DP is a quantifier,  $QP_1$ , and a second quantifier,  $QP_2$ , is present:

(49) *Covert A-movement analysis with two QPs*

[<sub>TP</sub>  $QP_2$   $QP_1$  v [<sub>VP/TP</sub> ...  $QP_1$  ... ]]

(50) *Non-movement analysis with two QPs*

[<sub>TP</sub> ...  $QP_2$  v [<sub>VP/TP</sub> ...  $QP_1$  ... ]]

The representation in (49) has three possible LFs depending on where  $QP_1$  and  $QP_2$  adjoin when they undergo QR. In (51a,b), both  $QP_1$  and  $QP_2$  undergo QR to the highest TP. In (51c),  $QP_1$  quantifier-raises to the highest TP but  $QP_2$  raises to a position just

above its base position.  $x$  indicates the variable (the trace of A'-movement) while  $t$  indicates the trace of A-movement.

(51) *Possible LFs in covert A-movement analysis*

- a.  $*[_{TP} QP_2 [_{TP} QP_1 [_{TP} x_{QP1} x_{QP2} v [_{VP/TP} \dots t_{QP1} \dots ]]]]$
- b.  $*[_{TP} QP_1 [_{TP} QP_2 [_{TP} x_{QP1} x_{QP2} v [_{VP/TP} \dots t_{QP1} \dots ]]]]$
- c.  $[_{TP} QP_1 [_{TP} x_{QP1} [ [ QP_2 [ x_{QP2} v [_{VP/TP} \dots t_{QP1} \dots ]]]]]]$

Of these three representations, only (51c) obeys the Minimal Binding Requirement. In both (51a,b), one of the variables is not bound by the closest QP. According to the Scope Principle, the LF in (51c) will be ambiguous.  $QP_1$  can scope over  $QP_2$  because  $QP_1$  c-commands  $QP_2$ . Likewise,  $QP_2$  can take scope over  $QP_1$  because  $QP_2$  c-commands the trace of  $QP_1$ .

The situation is different in the non-movement analysis in (50). The crucial difference is that there is no A-trace. The three possible LFs are derived similarly:

(52) *Possible LFs in non-movement analysis*

- a.  $*[_{TP} QP_2 [_{TP} QP_1 [_{TP} x_{QP2} v [_{VP/TP} \dots x_{QP1} \dots ]]]]$
- b.  $*[_{TP} QP_1 [_{TP} QP_2 [_{TP} x_{QP2} v [_{VP/TP} \dots x_{QP1} \dots ]]]]$
- c.  $[_{TP} QP_2 [_{TP} x_{QP2} v [ [ QP_1 [_{VP/TP} \dots x_{QP1} \dots ]]]]]]$

(52a,b) are once again ruled out by the Minimal Binding Requirement, leaving only (52c) as well-formed. Unlike in the A-movement case, however, the Scope Principle predicts that (52c) will be unambiguous because the movement chains do not interleave.  $QP_2$  can only take scope over  $QP_1$ .  $QP_1$  cannot take wide scope over  $QP_2$  because no element of the  $QP_1$  chain c-commands an element in the  $QP_2$  chain.

The Adyghe and Russian constructions bear out these scope predictions. We begin with Adyghe. Monoclausal sentences as in (53) with two QPs show surface and inverse scope, just like in English (see also Testelefs 2009:684-685):

- (53) a.  $st_{w\acute{o}dent\acute{o}}-xe-m$      $ze\check{c}'emj\acute{o}$      $zada\check{c}\acute{o}-r$      $q'-a-\hat{s}\acute{o}-\kappa$   
 student-PL-ERG    all.ERG    problem-ABS    DIR-3PL.ERG-do-PAST  
 ‘There is a problem that all the students solved.’     $A > ALL$   
 ‘All the students solved some problem or other.’     $ALL > A$
- b.  $\check{c}'eleje\kappa a\check{z}e$      $pep\check{c}$      $\check{c}'eleje\check{z}a\check{c}'_{we}-r$      $\acute{o}-\lambda e\kappa_{w\acute{o}}-\kappa$   
 teacher    each(ERG)    school.student-ABS    3SG.ERG-see-PAST  
 ‘There is a student that each teacher saw.’     $A > EACH$   
 ‘Each teacher saw some student or other.’     $EACH > A$

The ambiguity is predicted in Aoun and Li’s system assuming that the subject raises from a predicate-internal position, where it leaves an A-trace. The structure of (53a) is (54a). After QR, we have (54b) (English words and word order substituted).

- (54) a.  $[_{TP} [all\ students]_i [_{VP} t_i [_{VP} solved [a\ problem]_k ]]]]$   
 b.  $[_{TP} [all\ students]_i [_{TP} x_i [a\ problem]_k [_{VP} t_i [_{VP} solved t_k ]]]]$

The LF in (54b) is ambiguous according to the Scope Principle. The  $A > ALL$  reading arises because *a problem* c-commands the vP-internal trace of *all students*. The  $ALL > A$  reading arises because *all students* c-commands *a problem*.

Returning to the covert A-movement construction, we expect that it too will be ambiguous for parallel structural reasons. This expectation is borne out. In (55), the embedded quantificational subject ‘each student’ may take wide or narrow scope with respect to a quantificational adverbial ‘twice’ in the matrix clause.



- (55) [st<sub>w</sub>ədentə pepč zadačə-r q'-a-šə-new] t<sub>w</sub>e fjež'ak  
 student each(ERG) problem-ABS DIR-3PL.ERG-do-INF twice began  
 'Each student twice had a go at solving a problem.' EACH > TWICE  
 'It happened twice that each student began to work on a problem.'  
 TWICE > EACH

The account of the ambiguity within Aoun and Li's system is as follows. The LF that complies with the Minimal Binding Requirement is (56) (English words and word order). The QP moves covertly to the matrix subject position from where it QRs to adjoin to the matrix TP. We assume that the quantificational adverb 'twice' does not need to undergo QR. Because the QP c-commands the quantificational adverb and the adverb c-commands the trace of the QP in the embedded clause, ambiguity results.

- (56) [TP [each student]<sub>i</sub> [TP x<sub>i</sub> began twice [TP t<sub>i</sub> do problem]]]

Potsdam and Polinsky 2012 shows that scope interactions and thus QR are clause-bound in Adyghe, which rules out an analysis of this phenomenon in which the embedded ergative undergoes QR directly to the matrix clause without first undergoing covert A-movement. The wide scope reading of the embedded subject must be obtained by A-moving the subject into the matrix clause first.

The picture in Russian is once again different. With no covert A-movement, there should be no scope interactions. As in Adyghe, monoclausal Russian sentences with two quantifiers are scopally ambiguous, (57a,b), and the explanation is the same as the one surrounding (53).

- (57) mnogie/kakie-to      devočki      často      zdes'      tancujut  
 [many/some.NOM      girls.NOM      often      here      dance.3PL  
 'There are many/some girls who often dance here.'      MANY/SOME > OFTEN  
 'It's often the case that many/some girls dance here.'      OFTEN > MANY/SOME

The relevant examples with unaccusatives are in (58) and (59).

- (58) iz-za      postojannoj      speški      so      sdačej      rukopisej      u      nego  
 because of      constant      rush      with delivery of.manuscripts      by him  
 podčas      ne      povotorjaetsja      ni-kakix      vtorostepennyx      geroev  
 occasionally not      repeat.3SG      NEG-some.GEN      secondary      characters.GEN  
 'Because he was constantly in a rush to finish his manuscripts on time, ...  
 occasionally no secondary characters show up again in his work.'  
 OCCASIONALLY > SOME  
 \*no secondary characters show up occasionally in his work.'  
 \*SOME > OCCASIONALLY

- (59) togda      často      ne      publikovalos'      mnogix      knig  
 then      often      not be\_published.PAST.NEUTER      many.GEN      books.GEN  
 'Back then it was often the case that not many books were published.'  
 OFTEN > MANY  
 \*'Many books were often not published back then.'      \*MANY > OFTEN

The examples are unambiguous because the GN theme of the unaccusative verb does not undergo covert movement to a position above the quantification adverb before undergoing QR. This yields the unambiguous LF shown in (60), for (59). Given the

Scope Principle, there is only the reading where the adverb takes scope over the GN theme. The lack of ambiguity thus supports a non-movement analysis.

- (60) [TP *expl* often NEG [VP [many.books]<sub>i</sub> [VP be published *x<sub>i</sub>* ]]]

That the object QRs to VP and no higher in (60) is forced by the observation that objects, whether they are GN or accusative, do not take scope over sentential negation:<sup>7</sup>

- (61) Vanja ne prines {vsex knig / vse knigi}  
 Vanya not brought all.GEN.PL books.GEN.PL all.ACC.PL books.ACC.PL  
 ‘Vanya did not bring all (the) books.’ NEG > ALL  
 \*‘Vanya did not bring any (of the) books.’ \*ALL > NEG

The same patterns surface in Adyghe and Russian when the second scopal element is negation, instead of a quantificational adverb. In both Adyghe and Russian, a matrix subject scopally interacts with negation:

- (62) *Adyghe*  
 ašʔ ʔ<sub>w</sub>ef pepč qər<sub>w</sub>ərəʔ<sub>w</sub>a-ɬ-ep  
 s/he.ERG work each(ABS) understand-PAST-NEG  
 ‘S/he understood no undertaking.’ EACH > NOT  
 ‘It’s not the case that s/he understood each undertaking.’ NOT > EACH

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<sup>7</sup> The object can get wide scope if scrambled to the left edge of the clause, but then the scope ambiguity is available regardless of case marking. See Bailyn 2004 for extensive discussion. The interaction between scrambling and scope in Russian is complex but is orthogonal to the derivations here, which do not invoke scrambling.

(63) *Russian*

vse/nekotorye    obidy    ne    zabyvajutsja  
all/some.NOM    hurts.NOM    not    be forgotten.3PL

‘All/some hurts are such that they do not disappear from memory.’

ALL/SOME > NEG

‘It’s not the case that all/some hurts disappear from memory.’    NEG > ALL/SOME

The LF for both languages is as follows:

(64)     $[_{TP} \text{subject}_i \ [_{TP} x_i \ \text{NEG} \ [_{VP} t_i \ [_{VP} V \ \dots ]]]]$

In (64), NEG intervenes between links of the chain of the subject, yielding wide and narrow scope interpretations of the subject with respect to negation according the Scope Principle: the QR-ed subject c-commands NEG and NEG c-commands the vP-internal trace of the subject.

In the putative covert movement constructions, the two languages diverge. In Adyghe, such examples are still ambiguous. An embedded quantificational subject in the covert A-movement configuration can take wide or narrow scope with respect to matrix negation:

(65) [a    ʔ<sub>w</sub>əfə-r    zeč’emjə    a-ʃə-new]    wəxe-ʁ-ep  
this    work-ABS    all.ERG    3PL.ERG-do-INF    stop-PAST-NEG  
‘Everyone did not stop doing this work.’    ALL > NEG  
‘Not everyone stopped doing this work.’    NEG > ALL

The LF is given in (66). ‘all’ c-commands negation, which in turn c-commands the trace of the subject in the embedded clause, yielding ambiguity under the Scope Principle. The fact that the raising of the embedded subject takes place covertly is irrelevant.

(66) [TP all<sub>i</sub> [TP x<sub>i</sub> stop-NEG [TP t<sub>i</sub> do this work ]]]]

The facts are different in Russian because, as we claim, the GN theme does not undergo covert movement. Such examples are unambiguous, with the QP necessarily taking narrow scope with respect to negation:

- (67) togda ne zagruzitsja nekotoryx/ni-kakix fajlov  
 then not upload.3SG.FUT some/NEG-some.GEN files.GEN  
 ‘No files will upload.’ NEG > SOME  
 \*‘Some files won’t upload.’ \*SOME > NEG
- (68) na sobranii ne prisutstvovalo vsex sotrudnikov  
 on meeting not be\_present.PAST.NTR all.GEN employees.GEN  
 ‘Not all employees were present at the meeting.’ NEG > ALL  
 \*‘All employees were not present at the meeting.’ \*ALL > NEG

The LF for (67) is (69). The Scope Principle correctly predicts that only the NEG > ALL reading is possible.<sup>8</sup>

(69) [TP *expl* NEG [ [some.file]<sub>i</sub> [VP upload x<sub>i</sub> ]]]

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<sup>8</sup> The low scope behavior of GN is well known (see Harves 2002 for an overview, and references therein). A number of researchers account for this pattern (Pesetsky 1982, Bailyn 1997, Brown 1999, Pereltsvaig 1998, 1999, Harves 2002, Kagan 2007 among others), but they do not simultaneously raise the GN above negation, either overtly or covertly. We do not know of any analyses that adopt raising of the GN and explicitly address the low scope behavior of GN nominals.

In summary, covert A-movement creates new binding relations that signal its presence.

### 4.3 *Movement-related diagnostics*

The final set of diagnostics that is useful in identifying covert movement are those related to restrictions on displacement. These include island constraints, Relativized Minimality, and ECP effects. Since only the covert A-movement analysis in (70) involves movement, only it should be sensitive to these restrictions.

#### (70) *Covert A-movement analysis*

$$[_{TP} \text{ } \overline{DP} \text{ } v \text{ } [_{VP/TP} \dots \text{ } DP \text{ } \dots ]]$$

#### (71) *Non-movement analysis*

$$[_{TP} \dots v \text{ } [_{VP/TP} \dots \text{ } DP \text{ } \dots ]]$$

To take a concrete example, covert movement will exhibit island effects; non-movement will not. Because islands typically involve cross-clausal movement and A-movement tends to be rather local, it can be difficult to show that A-movement is sensitive to islands. Nevertheless, one island constraint that is relevant is Ross's (1967) Coordinate Structure Constraint (CSC). One half of the CSC bars movement out of a conjunct. If we coordinate the VP/TP in (70) and (71), we obtain the following structures:

#### (72) *Covert A-movement analysis with coordination*

$$[_{TP} \text{ } \overline{DP} \text{ } v \text{ } [_{VP/TP} \text{ } [_{VP/TP} \dots \text{ } DP_1 \text{ } \dots ] \text{ } conj \text{ } [_{VP/TP} \dots \text{ } DP_2 \text{ } \dots ]]]$$

$$DP_1 \neq DP_2$$

(73) *Non-movement analysis with coordination*

[TP ... V [VP/TP [VP/TP ... DP<sub>1</sub> ... ] conj [VP/TP ... DP<sub>2</sub> ... ]]]

The structure in (73) is clearly licit because neither DP<sub>1</sub> nor DP<sub>2</sub> is moving out of the bold-faced coordinate structure. In (72), however, if either DP<sub>1</sub> or DP<sub>2</sub> alone tries to undergo covert movement to the position marked by  $\overline{\text{DP}}$ , this will violate the CSC.<sup>9</sup> Moving both DPs in an across-the-board (ATB)-like derivation would also be illicit because ATB movement must apply to the same constituent in both conjuncts (Ross 1967, Williams 1978, Munn 1998, and others).<sup>10</sup>

Russian data illustrate the state of affairs in (73). Two infinitival clauses containing a genitive of negation, bracketed in (74), can be coordinated under a single raising verb.

- (74)   pora priznat'   čto   ne   možet  
          time admit.INF that not can.3SG  
          [[pojavit'sja nov-yx   idej]           ili   [pribavit'sja vdoxnoveni-ja]]  
          appear.INF new-GEN.PL idea.GEN.PL or   increase.INF inspiration-GEN  
          ‘It is time to admit that new ideas cannot appear or inspiration cannot  
          increase.’

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<sup>9</sup> See Lin 2001 for evidence that A-movement is subject to CSC effects.

<sup>10</sup> This suggests that the derivation would succeed if DP<sub>1</sub> and DP<sub>2</sub> were identical; however, Bošković and Franks 2000 argues that covert ATB movement does not exist, which would independently rule out such a derivation.

Given that the result is grammatical, we have further evidence that there is no covert A-movement here, as we have claimed.<sup>11</sup> We do not have the relevant data for Adyghe, but we predict that examples like (74) will be ungrammatical in that language.

A second diagnostic based on movement restrictions involves Rizzi's (1990) Relativized Minimality (RM) and its descendents (including the Minimal Link Condition). It is widely accepted that a moving element cannot cross another element that is sufficiently similar to it. Rizzi's (2002) recent formulation of RM is as in (75). A moving element must be in a Minimal Configuration with its trace:

(75) *Relativized Minimality* (Rizzi 2002)

Y is in a Minimal Configuration with X iff there is no Z such that

- a. Z is of the same structure type as X, and
- b. Z intervenes between X and Y

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<sup>11</sup> In addition, a GN can be trapped in one of the conjuncts under coordination, with the other conjunct being an impersonal construction with a null expletive subject.

- (i) nesmotrja na remont ne perestalo [expl kapat' s potolka]  
 despite repairs not stopped.NEUTER drip.INF from ceiling  
 i [voznikat' mokr-yx pjaten vokrug ljustry ]  
 and appear.INF wet-GEN.PL stain-GEN.PL around chandelier  
 'Despite the repairs, the ceiling did not stop leaking and wet spots did not stop appearing around the chandelier.'

A-movement of the GN theme, covertly or overtly, should be impossible, as it is again a violation of the CSC.



Early formulations of RM proposed that being of “the same structure type” was relativized to position types: A-, A'- and X°. For example, Y could A-move to X only if it did not cross a Z in an A-position. More recent work has shown this formulation to be too crude, and characterization of “the same structure type” has been recast in terms of features (Rizzi 2002):

- (76) Z is of the *same structural type* as X iff it occupies a specifier licensed by features of the same class:
- a. Argumental: person, number, gender, Case
  - b. Quantificational: wh-, neg, measure, focus, ...
  - c. Modifiers: evaluative, epistemic, neg, frequentative, celerative, etc.
  - d. Topic

In the domain of A-movement, the relevant class of features is Argumental, (76a). An element Y moving to check an argumental feature F at X cannot cross a Z containing F.

One widely-cited instantiation of a RM violation in the A-movement domain is the impossibility of subject-to-subject raising over an experiencer in numerous languages (Chomsky 1995, Torrego 1996, McGinnis 1998, Boeckx 1999, 2000, Collins 2005, Bošković 2007, and many others):

(77) a. *Icelandic*

hestarnir<sub>i</sub>                  virðast                  (\*mér)                  [t<sub>i</sub>    vera    seinir]

horse.NOM.PL.DEF    seem.3PL    me.DAT                  be                  slow

‘The horses seem (to me) to be slow.’                  (Holmberg & Hróarsdóttir 2004:998)

b. *Spanish*

este    taxista<sub>i</sub>                  parece                  (\*a    Maria)                  [t<sub>i</sub>    estar    cansado]

this    taxi.driver    seem.3SG    to    Maria                  be                  tired

‘This taxi driver seems (to Maria) to be tired.’                  (Torrego 1996:102)

RM can be used to distinguish covert A-movement (70) from non-movement (71) if the matrix verb takes an oblique argument. Covert movement should trigger an RM violation and result in ungrammaticality. No movement should be acceptable. Although we do not have the appropriate data for either Adyghe or Russian, the prediction of the diagnostic seems clear.<sup>12 13</sup>

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<sup>12</sup> The picture is complicated by the fact that some languages, like English, do not show this experiencer intervention effect. It thus also has to be independently verified that the language has such restrictions before it is applied to the putative covert A-movement construction.

<sup>13</sup> See Potsdam and Polinsky 2011 for an argument against covert movement in Russian based on subject-object asymmetries in scrambling. This is another kind of movement-based diagnostic.

## 5 *Conclusion*

Known instances of covert A-movement are currently rare. They do exist, however, as exemplified by covert subject-to-subject raising in Adyghe. At the same time, they are difficult to diagnose, as they are largely indistinguishable from non-movement constructions. In this paper, we laid out diagnostics for identifying genuine covert A-movement and distinguishing it from impostor instances. Cases of covert A-movement are ultimately no different, semantically and syntactically, from cases of overt A-movement; there is simply no phonological evidence that shows us that the movement has taken place.

If the diagnostics are appropriate, a clear result is that Russian unaccusative constructions, whether they have an embedded genitive of negation or not, do not involve covert A-movement, contra the analysis of unaccusatives in Babyonyshev et al. 2001. The presentation thus supports the claim made in Potsdam and Polinsky 2011 regarding Russian.

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