

INTERPRETING CLAUSAL MOVEMENT*

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1 Introduction

It has been claimed for English that whether an embedded clause can move is related to whether the embedding verb takes DP complements (Alrenga, 2005, Takahashi, 2010). Verbs like *believe*, which can combine with DPs, allow CPs to undergo topicalization, but verbs like *reason*, which disallow DP complements, also disallow CP topicalization (1).

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|-----|----|--|----------------------|
| (1) | a. | Most baseball fans believed/reasoned
[that the Giants would probably win the World Series]. | <i>no movement</i> |
| | b. | [That the Giants would probably win the World Series],
most baseball fans believed/*reasoned. | <i>CP movement</i> |
| | c. | Most baseball fans believed/*reasoned that. | <i>DP complement</i> |

There is evidence supporting the claim that clausal subjects like those in (1b) are indeed the head of a movement chain and not base-generated high, *pace* Koster 1978 and Alrenga 2005: the pronoun *his* in (2) is internal to a clausal subject, yet may still be bound by the quantifier phrase *every professor* which surfaces lower in the matrix clause. This suggests that clausal subjects may reconstruct to their base-generated position – presumably the complement of the embedding verb.¹

- (2) [That some student from his_i class cheated on the exam] $_j$ seems
to [every professor] $_i$ to be captured t_j by this document. (Takahashi, 2010:p.350)

Takahashi (2010) proposes that the contrast between *believe*-class and *reason*-class embedding verbs illustrated in (1b) ultimately follows from whether the embedding verb is compatible with DP complements (1c). He argues that in (1b), the constituent undergoing topicalization is not just

*We wish to thank our consultants Tamari Berulava, Ana Chutkerashvili, Luka Edgveradze, Nino Mamisashvili, Natia Nachkebia, Luka Ratiani, Irakli Salia, Zurab Tato-Baratashvili, and Ketil Tchilaia for contributing the Georgian data that is presented in this paper. We also would like to express gratitude to our two anonymous reviewers for their insightful and invaluable feedback. All remaining errors are our own.

¹See (Takahashi, 2010:p. 351) for three arguments that the bound-variable interpretation of *his* in (2) does not arise by Quantifier Raising of *every professor* to a position that c-commands the clausal subject.

a bare CP, but rather a DP headed by a silent determiner $\emptyset_{\text{THE}}$ with a CP complement, (3). Verbs like *believe* can take DP complements, and thus the structure in (3) — in which a base-generated DP containing CP has topicalized — is accessible to them. But verbs like *reason* cannot take DP complements to begin with, and hence derivations like (3) are ruled out by selectional constraints.

- (3) $[[\text{DP } \emptyset_{\text{THE}} [\text{CP } \dots]] \dots [\dots \text{V } [\text{DP } \emptyset_{\text{THE}} [\text{CP } \dots]]]]$ *Trace Conversion possible*

If the embedding verb is not compatible with a DP complement, its CP complement may remain *in situ*, but may not move, (4). The question arises: why is bare CP movement not allowed?

- (4) $* [[\text{CP } \dots] \dots [\dots \text{V } [\text{CP } \dots]]]$ *Trace Conversion impossible*

Takahashi's answer stems from Fox's (1999, 2002) influential proposal that movement chains are interpreted with the help of Trace Conversion, (5).

- (5) *Trace Conversion* (Fox, 2002:p.67)
 a. Variable Insertion: $(\text{Det}) \text{Pred} \rightarrow (\text{Det}) [\text{Pred } \lambda y(y=x)]$
 b. Determiner Replacement: $(\text{Det}) [\text{Pred } \lambda y(y=x)] \rightarrow \text{the } [\text{Pred } \lambda y(y=x)]$

Trace Conversion is applicable only when a moved constituent is headed by a D-type head: *i.e.*, a head of type $\langle \langle \alpha, t \rangle, \langle \langle \alpha, t \rangle, t \rangle \rangle$ or $\langle \langle \alpha, t \rangle, \alpha \rangle$.² CPs, however, are more plausibly of type $\langle \alpha, t \rangle$: they have been claimed to denote a set of worlds (Hintikka, 1969), a predicate of individuals (Kratzer, 2006, Moulton, 2009), or a predicate of events (Elliott, 2020)—and these meanings simply don't meet the structural description for the application of Trace Conversion.

What if CPs move in a semantically vacuous way? Predicative phrases can also be topicalized, (6), but require total reconstruction—they are interpreted as if they've never moved, which can be achieved either by entirely deleting the higher copy at LF (*syntactic reconstruction*), or by leaving a higher type trace (*semantic reconstruction*).³ Why is this not a viable option for CPs?

- (6) [Proud of John], I think Mary is. (Takahashi, 2010:p. 371)

Takahashi suggests that CPs don't undergo semantically vacuous movement due to *an economy constraint*: unlike verbal or adjectival predicates, CPs can compose with the covert determiner $\emptyset_{\text{THE}}$, opening up the possibility for movement that is semantically contentful. Since CPs *can* undergo contentful movement (when in a DP shell), they must do so. Hence, bare CPs do not move.

In this paper we will provide both support for, and a challenge to, Takahashi's account. Based on data from Georgian, we show that (i) bare CPs cannot move to the left—topicalization in the language is restricted to DPs, just like in English; (ii) CPs can move to the right, and in fact must do so when they are not encapsulated in the DP structure. We argue that rightwards extraposition of CPs is semantically vacuous and driven purely by a constraint on linearization: Georgian CPs are head-initial, while VPs are head-final, and thus remaining *in situ* would lead to the violation of the Final-Over-Final Constraint (FOFC) (Biberauer et al. 2009a,b, Biberauer and Sheehan 2012, a.o.). For this reason, Georgian bare CPs must vacuously move to conform to the FOFC. We discuss the implications of this conclusion for the ban on bare CP movement leftwards.

² α can range over individuals, degrees, times or worlds — see Takahashi (2010), fn. 11.

³See Fox (1999) and Poole (2024) for arguments that only syntactic reconstruction is available in the grammar. See (Lechner 1998, 2013, 2019, Poole and Keine 2024, a.o.) for the view that semantic reconstruction exists too.

2 Background on Georgian

Georgian (South Caucasian family) is considered to be underlyingly an SOV language (Pochkhua 1962, Aronson 1990, Nash 1995, Harris 1981, a.o.) with a head-final VP. One piece of evidence for this claim comes from the fact that post-verbal material in Georgian is prosodically separated from the rest of the clause, indicating that the verb delimits the right edge of a core intonational phrase and should be syntactically projected head-finally (Skopeteas et al., 2018).

We follow Borise's (2023) proposal that all higher projections of the verbal functional spine (*v*, auxiliaries, complementizers) are head-initial, and that SVO orders in default contexts are derived via V-to-*v* head movement. This account offers a suitable explanation for the pattern that both SOV and SVO orders are compatible with broad-focus contexts: because the object in both SOV and SVO sentences occupies its base-generated position, no semantic difference is detectable between them.

- (7) mariam-ma [c'igni] iqida
 Mariam-ERG book.NOM bought
 'Mariam bought a book.' ([SOV]_F)
 (Borise, 2023:ex. (2a))

- (8) mariam-ma iqida [c'igni]
 Mariam-ERG bought book.NOM
 'Mariam bought a book.' ([SVO]_F)
 (Borise, 2023:ex. (3a))

However, not all post-verbal DPs originate and stay within VP: Borise (2023) argues they can also be narrow foci (which she considers CP-adjuncts resumed by *pro*) or backgrounded topics.

This state of affairs leads to the following expectations regarding embedded clauses. First, bare CPs should be able to occur either before or after the verb: both S CP V and S V CP orders should be possible, paralleling the SOV and SVO orders that we observe with nominal objects. Second, if movement of bare embedded clauses is impossible, as Takahashi suggests, we predict that (i) CPs should only be able to undergo movement if embedded in a DP shell; (ii) CPs should not be able to undergo movement at all if they combine with verbs that cannot take DPs.⁴

As it turns out, these predictions do not reflect the Georgian data. Although the S V CP order is possible (9a), the S CP V order is not (9b). In section 4, we will argue that CPs like in (9a) do not in fact stay *in situ*, but undergo obligatory rightwards extraposition to a high landing site. But before we consider rightward movement, let us take a look at what happens with leftward extraposition.

- (9) a. mariam-s hgonia, [rom šota nene-s xat'av].
 Mariam-DAT thinks COMP Shota.NOM Nene-ACC paint.PRS.3SG
 'Mariam thinks that Shota is painting Nene.'
 b. *mariam-s [rom šota nene-s xat'av] hgonia.
 Mariam-DAT COMP Shota.NOM Nene-ACC paint.PRS.3SG thinks
 'Mariam thinks that Shota is painting Nene.'

⁴Like Takahashi (2010), we are only considering finite non-interrogative clauses with regards to CP movement in this paper. It should be noted, however, that interrogative CP complements in Georgian also cannot remain *in situ*, but must be extraposed to the right, contrasting with English where in certain environments like ECM subject position or complement of prepositions, the interrogative CP complement is allowed to remain *in situ* (Takahashi 2010, fn. 20).

3 Leftward movement is DP movement

When it comes to leftwards movement, Georgian provides new support for Takahashi's proposal. Unlike in English, the determiners that take CP complements in Georgian (e.g., *is/imas* 'that.NOM /ACC') can be overtly expressed in Georgian — and must be, if the clause is moved leftward (see §4 for additional discussion). That is, the same pattern that Takahashi proposes to hold in English with the null determiner $\emptyset_{\text{THE}}$ holds for leftward-moved clauses headed by an overt demonstrative in Georgian: verbs that can combine with DPs allow this kind of clausal movement (and furthermore require the demonstrative to be overt), whereas verbs that cannot combine with DPs do not.

In (10)–(15), we illustrate this generalization with two verbs formed from the same root *pikr* 'think': *gaipikrebs* 'will think (for a moment)' and *šepikriandeba* 'will think.' Although both verbs are compatible with what appears to be a bare clause, (10), they show different selectional restrictions according to their declension class. The former is a transitive predicate and must take a DP complement; the latter is intransitive and only compatible with CPs, not DPs (11).⁵

- (10) nino ga-i-pikr-eb-s /še-pikr-ian-d-eb-a, [rom šota-m
Nino.NOM PVB-PV-think-TS-PRS.3SG /PVB-think-IAN-D-TS-PRS.3SG COMP Shota-ERG
moigo čemp'ionat'i]
won competition
'Nino will think that Shota won the competition.'

- (11) nino [am idea-s]_{DP} ga-i-pikr-eb-s /*še-pikr-ian-d-eb-a.
Nino.NOM this idea-ACC PVB-PV-think-TS-PRS.3SG /PVB-think-IAN-D-TS-PRS.3SG
'Nino will think this idea.'

As we see in (12), *gaipikrebs* allows leftward displacement of the clause—but that clause must be contained inside a DP with an overt demonstrative. In (13), we see that leftward movement can also fix Principle C violations, i.e., referential expressions within such left-dislocated clauses can be coreferential with pronouns inside the matrix *vP*. We adopt Takahashi's (2010) Wholesale Late Merger to account for such sentences: only D merges as the complement of the verb, and the CP gets Late-Merged within the DP shell at the landing site of movement, (14a). The structure in which only CP moves is disallowed, (14b). Conversely, *šepikriandeba*, which can't take DP complements, doesn't allow clausal movement leftward regardless of the presence of the DP, (15).

- (12) [*(**imas**), rom šota-m moigo čemp'ionat'i] nino ga-i-pikr-eb-s.
that.ACC COMP Shota-ERG won competition Nino.NOM PVB-PV-think-TS-PRS.3SG
'That Shota won the competition, Nino will think.'
- (13) [imas [rom **šota**₁ aris k'argi mocek'vave]] mariami
that.ACC COMP **Shota.NOM** is good dancer Mariam.NOM
ga-i-pikr-eb-s **mis-da**₁ sabednierod
PVB-PV-think-TS-PRS.3SG **he.GEN-about** fortunately
'That Shota₁ is a good dancer, Mariam will think that about him₁ fortunately.'
- (14) a. [... [DP [D ***(imas)**] [CP ...]] [vP [DP Nino] ... [VP [DP [D imas]] [V ...]]]]
b. [... [CP ...]] [vP [DP Nino] ... [VP [DP [D (imas)] [CP ...]] [V ...]]]]

⁵PVB—preverb, PV—preradical vowel, IAN—suffix *-ian*, D—intransitive suffix *-d*, TS—thematic suffix.

- (15) *[(imas,) rom šota-m moigo čemp'ionat'i]
that.ACC COMP Shota-ERG won competition
 nino še-pikr-ian-d-eb-a.
 Nino.NOM PVB-think-IAN-D-TS-PRS.3SG
 Intended: 'That Shota won the competition, Nino will think.'

Thus, in Georgian—a language where overt demonstratives may encapsulate CPs—we find support for Takahashi's proposal that bare CP movement is impossible if to the left.

4 Rightward movement required for bare CPs

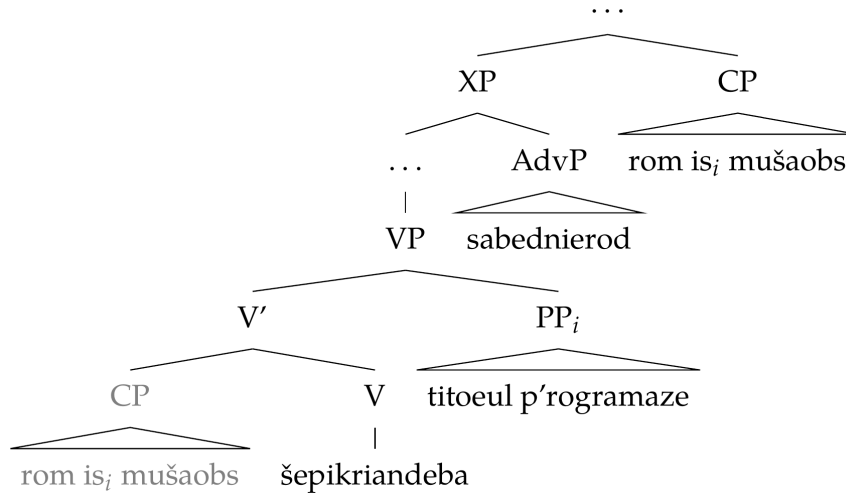
Unlike movement to the left, rightwards movement of clauses does not require them to be insulated inside a DP shell (17a). Moreover, this extraposition to the right is *obligatory* for bare CPs (16).⁶ The ungrammaticality of (17b) suggests that CPs extrapose relatively high, namely to a position that c-commands the speaker-evaluative adverb *sabednierod* 'fortunately'.

- (16) *nino [rom šota-m moigo čemp'ionat'i] še-pikr-ian-d-eb-a
 Nino.NOM COMP Shota-ERG won competition PVB-think-IAN-D-TS-PRS.3SG
 /ga-i-pikr-eb-s.
 /PVB-PV-think-TS-PRS.3SG
 Intended: 'Nino will think that Shota won the competition.'
- (17) a. mariami [titoeul p'rograma-ze]₁ še-pikr-ian-d-eb-a
 Mariam.NOM each program-LOC PVB-think-IAN-D-TS-PRS.3SG
 /ga-i-pikr-eb-s sabednierod [rom is₁ muša-ob-s].
 /PVB-PV-think-TS-PRS.3SG fortunately COMP it work-TS-PRS.3SG
 'Mariam will fortunately think about [every program]₁ that it₁ works.'
- b. *mariami [titoeul p'rograma-ze]₁ še-pikr-ian-d-eb-a
 Mariam.NOM each program-LOC PVB-think-IAN-D-TS-PRS.3SG
 /ga-i-pikr-eb-s [rom is₁ muša-ob-s] sabednierod.
 /PVB-PV-think-TS-PRS.3SG COMP it work-TS-PRS.3SG fortunately
 Intended: 'Mariam will fortunately think about [every program]₁ that it₁ works.'

Crucially, a bound variable interpretation of *is* 'it' by the quantificational PP *titoeul p'rogramaze* 'about each program' is accessible in (17a). Thus, although the CP gets pronounced in a position that c-commands the adverb *sabednierod* 'fortunately,' it is still interpreted as if it were in the c-command domain of the oblique PP *titoeul p'rogramaze* 'about each program', which we assume to be a VP adjunct. (18) illustrates; *vP* and the subject have been ignored for simplicity.

⁶Recall that Georgian VPs are right-headed: we follow Skopeteas and Fanselow (2010) and Borise (2023) in having SVO be derived from the basic SOV word order in default contexts via optional V-to-*v* head movement. This raises the question of whether head movement of the verb could simply be obligatory with CP complements. First, note that CPs occur to the right of high adverbs, (17), suggesting S V CP order does not correspond to a structure where CPs are *in situ*. Second, if an overt demonstrative appears with the embedded CP, it can remain *in situ* and not move to the right with the clausal complement (20). Moreover, it is difficult to see why head movement should be obligatory as a function of the syntactic category of the verbal complement.

(18)



Additional confirmation that the obligatory rightward extraposition of CPs is semantically vacuous in Georgian comes from its inability to obviate Principle C effects:⁷

- (19) *ar vet'qvi mas₁ c'veuleba-ze, [rom mariam₁-is ojax-ma qvelaperi
not tell.FUT.1SG 3SG.ACC party-LOC [COMP Mariam-GEN family-ERG everything.NOM
da-k'arg-a].
PVB-lose-AOR.3SG]

Intended: 'I won't tell her₁ at the party that Mariam₁'s family lost everything.'

One might wonder whether this semantically vacuous movement of bare CPs is restricted to complements of verbs that are incompatible with DPs. When the verb takes a [D CP] complement, could it be that movement of the CP by itself is banned, and the entire DP has to move? There is evidence that even with verbs that take DPs, the CPs inside them must undergo semantically vacuous extraposition to the right. This is illustrated in (20), where the determiner of the DP-CP structure stays *in situ* while the CP undergoes rightwards movement by itself to the position above *sabednierod* 'fortunately,' which reconstructs as evidenced by quantificational binding.

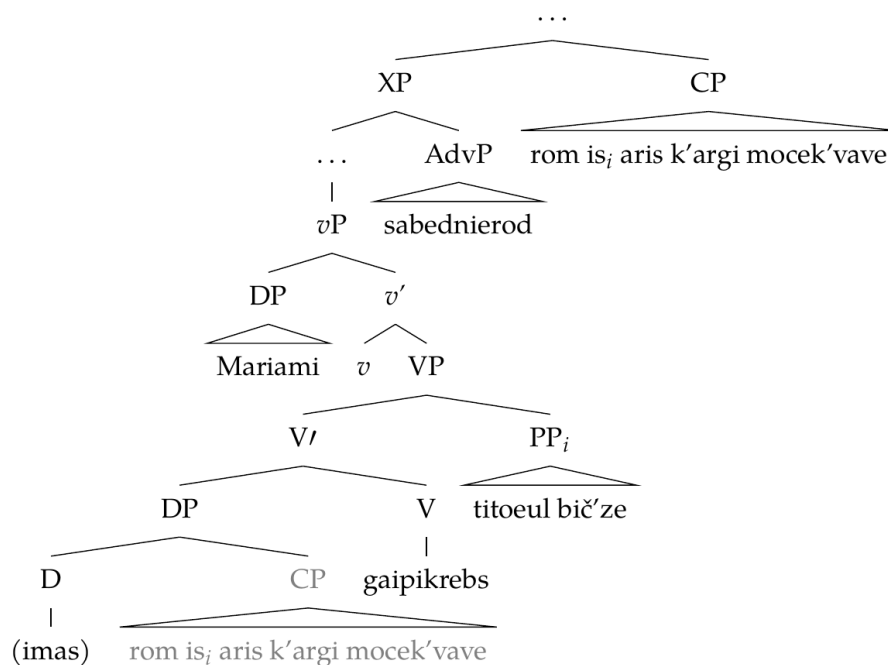
- (20) Mariami (imas) ga-i-pikr-eb-s [titoeul bič'-ze]₁ sabednierod,
Mariam.NOM (that.ACC) PVB-PV-think-TS-PRS.3SG each boy-on fortunately,
[rom is₁ aris k'argi mocek'vave]
COMP 3SG is good dancer
'Mariam will fortunately think about every boy₁ that he₁ is a good dancer.'

⁷In contrast to English, in which rightward CP extraposition can fix Principle C violations (Bruening 2018: p.366):

- (i) a. I won't tell her₁ with her₁ children listening that Melinda₁'s family has lost everything.
b. *I won't tell her₁ that Melinda₁'s family has lost everything.

Thanks to an anonymous reviewer for suggesting this test.

(21)



Another piece of evidence against the idea that ‘S V CP’ strings with transitive verbs involve movement of DPs that contain a clause can be seen in (22)-(23).

- (22) or-ma gogona-m uarqo sabednierod [titoeuli č’ori [rom šota-m moigo]]
 two-ERG girl-ERG denied fortunately each rumor COMP Shota-ERG won
 ‘Two girls fortunately denied every rumor that Shota won.’
 $2 > \forall$: OK, $\forall > 2$: OK
- (23) or-ma gogona-m [titoeuli č’ori] uarqo sabednierod [rom šota-m moigo]
 two-ERG girl-ERG each rumor denied fortunately COMP Shota-ERG won
 ‘Two girls fortunately denied every rumor that Shota won.’
 $2 > \forall$: OK, $\forall > 2$: ??

When the whole DP extraposes, it can take both narrow and wide scope with respect to the subject quantifier *orma gogonam* ‘two girls’.⁸ If clausal extraposition involved movement of the entire nominalized clause (*i.e.*, a DP), we would expect the same two readings to be available for the sentence in (23). However, this is not the case: only direct scope is available in (23). This fact is on its own puzzling, but suggestive of a structural difference between the sentences in (22) and (23) which links determiner scope with *in situ* linearization.

We conclude this section with a puzzle: when can the determiner in the [D CP] phrases be null? It seems that the determiner has to be overt when the DP moves leftwards with the CP being Late-Merged, (14), but it is optionally pronounced if the clause right-extraposes, (20)-(21). In the next section, we will argue that these two kinds of movement are driven by different mechanisms.

⁸For the speaker whom we consulted for these sentences, both wide and narrow scope readings for the object DP *titoeuli č’ori* ‘every rumor’ are available with respect to the subject *orma gogonam* ‘two girls’ with the SOV order as well, but only if the right-extraposed CP is absent, cf. (23).

5 Discussion

We have argued that in Georgian, bare CP complements must undergo semantically vacuous movement to the right periphery of the matrix clause. They cannot remain in their base-generated position, and they cannot move to the left periphery either. This generalization raises two questions. First, why is semantically vacuous movement of CPs to the right possible in Georgian, and even necessary? Second, why is semantically vacuous movement of CPs to the left impossible?

We'd like to suggest that semantically vacuous movement of bare CPs in Georgian is strictly rightward and motivated by linearization constraints. Recall from §2 that lexical verbs in Georgian are head-final; therefore, embedding a head-initial CP as the complement of a head-final verb would violate the Final-Over-Final Constraint (Holmberg 2000, Biberauer et al. 2009b, Biberauer and Sheehan 2012, a.o.), (24), which states that left-branching heads come with a special diacritic $\wedge$ that forces projections in their complement domains to also be head-final.

(24) Final-Over-Final Constraint (FOFC)

Within a clausal or nominal extended projection, if a phase head bears $\wedge$, then all the categorically alike heads in its complement domain (i.e., those making up the “spine” of the projection in question) must have $\wedge$. (Biberauer et al., 2009b:p. 711)

If lexical verbs in Georgian come with the diacritic $\wedge$, leaving the bare CP *in situ* would violate FOFC and result in ungrammaticality. A common response to this FOFC-violating configuration cross-linguistically is to extrapose the CP (see Biberauer et al. (2009b) on Turkish, Halpert and Griffith (2018) on Azeri, Dayal (1996) on Hindi, a.o.), and we would like to suggest that Georgian is no exception to this pattern. Here is how rightwards extraposition could help: recall from §2 that post-verbal material in Georgian is prosodically separated from the main clause (Skopeteas et al., 2018). We propose that post-verbal material forms its own linearization domain; otherwise, if CPs stay *in situ* or extrapose to the left, they will violate (24) because the two copies of the movement chain belong to the same linearization domain, and thus the CP is both the complement of the verb (due to its lower copy), and is considered not bearing $\wedge$ (due to its higher copy, which is the one pronounced). However, if the CP extraposes to the right, a FOFC violation would be avoided—the linearization domain that includes the verb will contain a CP complement, but it is not pronounced, and hence is not evaluated for diacritics.⁹ The post-verbal domain includes the pronounced copy of the CP without $\wedge$, but not the verb, and thus doesn't violate FOFC either. On this approach, the difference between English and Georgian arises because movement needs to be motivated as either phonologically or semantically contentful. In Georgian, bare CP movement to the right periphery is forced by PF requirements on linearization, and produces no semantic effects. In English, where VPs are head-initial, the FOFC will not force right-extraposition of bare CPs—hence, bare CPs are grammatical *in situ*. It seems that in English, rightwards movement of CPs could also be semantically motivated, e.g., it rescues Principle C violations (see fn. 7).¹⁰

As mentioned, leftward movement of CPs cannot be motivated by linearization constraints because they stay within the core intonational phrase, a domain for FOFC application. Note that the presence of a DP shell does not rescue FOFC-violating structures: nominalized clauses cannot

⁹Note that this proposal implies that only diacritics on pronounced copies are relevant for FOFC.

¹⁰We remain open to the possibility that rightward extraposition of CPs may happen in English for other reasons, for example if they Heavy XP Shift (Ross 1967). Constituent ordering effects have been argued since Behaghel (1909) to involve relative constituent length, which we consider to be ultimately non-semantic in nature.

stay *in situ* either, (25).¹¹ This fact suggests that in all left-dislocated [D CP] structures like (12) the CP undergoes Wholesale Late Merger—the CP in such sentences is never part of the lower copy of the DP in the complement position of the verb. Since the CP is never part of the complement domain of the verb, the fact that it is head-initial doesn't incur a FOFC violation.

- (25) *nino [imas, [rom šota-m moigo čemp'ionat'i]] ga-i-pikr-eb-s
 Nino.NOM that.ACC COMP Shota-ERG won competition.NOM PVB-PV-think-TS-PRS.3SG
 'Nino will think that Shota won the competition.'

We have seen that leftwards movement of CPs cannot be motivated by linearization, but could it be driven by interpretative considerations? If bare CPs move, they have to reconstruct (Takahashi, 2010), as Trace Conversion is not applicable to the tail of the movement chain due to the semantic type of CPs (predicates, $\langle \alpha, t \rangle$). Thus, movement of bare CPs won't be able to create new scopal possibilities (cf. *Scope Economy*, Fox 1995), but movement of whole DPs that contain CPs would be able to have an interpretative effect. However, having a [D-CP] structure in the complement of the verb in Georgian would lead to a FOFC violation, and thus we contend that in cases of apparent [D-CP] movement leftwards, only the D moves. This leftwards dislocation is semantically motivated, and the CP is only present in the higher copy of the DP via Wholesale Late Merger.

But creating new scopal possibilities is likely not the only semantic motivation for movement. As we have seen in (6), language can tolerate semantically vacuous movement of APs and VPs when this movement marks these constituents as topics, creating an interpretative effect. The big puzzle we are facing then, is this: why do some $\langle \alpha, t \rangle$ -type constituents make good topics, but others do not? Bare CPs, unlike APs and VPs, cannot be topicalized, but they are not alone in being subject to this restriction: e.g., nominal restrictors of determiners like *the*, *a*, *every* disallow topicalization in English, (26).¹² Thus, a question that emerges is why topicalization is regarded to be a good motivation for semantically vacuous movement in some cases but not others.¹³

- (26) *Girl, Mary saw the/a/every.

To conclude, we have shown that embedded clauses can move even when not embedded in a DP shell, provided they have good reasons to do so. Bare CP complements undergo semantically vacuous movement rightwards in Georgian, for instance, to satisfy linearization constraints. This raises a broader set of questions that ought to be explored: what counts as a good motivation for movement? When is totally reconstructable movement allowed by the grammar?

¹¹We thank an anonymous reviewer for bringing this point to our attention.

¹²A reviewer suggests that (26) might be independently ruled out due to English DP phasehood and a ban on movement from the complement of DP to Spec,DP (Comp-to-Spec antilocality; Pesetsky and Torrego 2001, Abels 2003). While we recognize this as a possibility for English, the explanation is at odds with the Georgian data. Note the grammaticality of (20), in which (we argue) a CP that is a determiner's complement has extracted from within DP.

¹³Takahashi (2010) proposes that semantically vacuous movement of CPs is banned due to the competition with the structure in which the whole DP that contains CP undergoes movement. We think that such an account cannot be maintained, as it expects the possibility of bare CP movement to depend on whether the same verb can take a DP or not. But as we have seen already in Georgian, this prediction is not borne out: neither DP-taking verbs nor intransitive verbs allow leftwards movement of bare CPs, and both types of verbs allow rightwards extraposition of bare CPs, making an explanation in terms of competition between bare CP and D-CP structures implausible. Thus, while we agree with Takahashi that movement must be economical—it has to be motivated by at least one of the interfaces, we do not adopt Takahashi's idea that economy forces direct comparison between several syntactic derivations.

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