

Insights about cyclic syntax from cross-clausal scrambling and subject case in Balkar*

Tatiana Bondarenko, Massachusetts Institute of Technology (tbond@mit.edu) and

Colin Davis, University of Konstanz (colind@alum.mit.edu)

Abstract: We use fieldwork data about cross-clausal scrambling in Balkar (Turkic) to investigate the properties of cyclic syntactic derivations. Balkar has a variety of embedded clause types, which are differentiated by the case of their subject. We argue that differences in the behavior of scrambling from each clause type deepen our understanding of two topics central to phase theory: the behavior of the edge positions that facilitate cross-phasal movement, and the way that such movement is constrained by syntactic locality constraints. The nature of multiple specifier configurations, and the influence of anti-locality, are especially significant here.

Keywords: scrambling, phases, multiple specifiers, case, (anti-)locality, Balkar

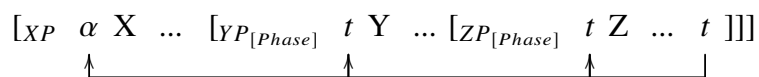
*Authors are listed alphabetically. We thank David Pesetsky, Norvin Richards, Idan Landau, the audience of West Coast Conference on Formal Linguistics 38, the 95th Linguistic Society of America meeting, and the members of the Lomonosov Moscow State University fieldwork group for their valuable feedback. This project was supported by the Russian Foundation for Basic Research (grant No. 19-012-00627 A).

We use the following abbreviations: 1 = 1st person, 2 = 2nd person, 3 = 3rd person, ABL = ablative, ACC = accusative, CAUS = causative, COMP = complementizer, CONV = converb, DAT = dative, FUT = future, GEN = genitive, IPFV = imperfective, LOC = locative, NEG = negation, NFUT = non-future tense, NMN = nominalization, NOM = nominative, PL = plural, POSS = nominal / possessive agreement, PST = past, PTCL = particle, SG = singular.

1 Introduction

In this paper, we use fieldwork data about scrambling in Balkar (Turkic) to explore several properties of cyclic syntactic derivations.¹ A great deal of recent work has developed the hypothesis that the derivation of a given syntactic structure proceeds cycle-by-cycle, the most recent instantiation of cycles in syntactic theory being *phases* (Chomsky 2000, 2001, 2005; Citko 2014, a.o.). Work in this vein usually takes CP, vP, and sometimes DP to be phasal constituents. An important aspect of phase theory is that these constituents, by virtue of their cycle-demarcating status, are hypothesized to constraint the length of syntactic dependencies: a syntactic process such as phrasal movement, for instance, cannot cross more than one phase at a time. However, movement across multiple phases is possible, provided that the moving phrase in question reaches the edge (specifier) of the first phase before proceeding onward into the next (1). Such phase-by-phase punctuation of movement paths, which is a central topic of this paper, is known in the literature as *successive-cyclic movement*—a phenomenon which recent work in syntactic theory has amassed a great deal of evidence for (Chomsky 1973, 1977, 1986; Du Plessis 1977; Henry 1995; Cole and Hermon 2000; McCloskey 2000, 2001, 2002; Nissenbaum 2000; Legate 2003; Sauerland 2003; Bruening 2001, 2006; Barbiers 2002; Abels 2003, 2012; Wiland 2010; Henry 2012; van Urk 2015; van Urk and Richards 2015; Davis 2020, 2021).

(1) *Phase-by-phase successive-cyclic movement*

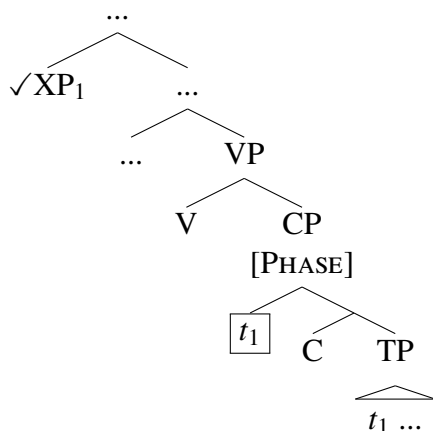


The successive-cyclic movement of scrambling from embedded clauses in Balkar, schematized in the simplified diagrams in (2) below, is this paper’s primary topic of investigation:

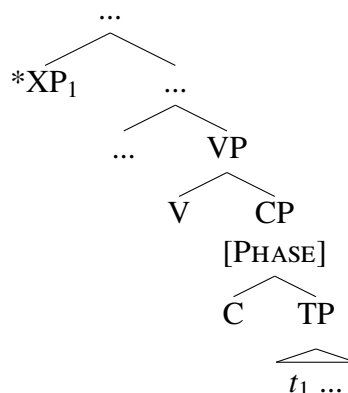
¹The Balkar data in this paper was elicited from 10 native speakers during a fieldwork trip to the village of Verkhnyaya Balkaria (in the Kabardino-Balkarian Republic, Russian Federation) in August 2019. Fieldwork elicitation sessions consisted of asking speakers to translate test sentences into Balkar, and to rate the acceptability of pre-prepared test sentences.

(2) *Successive-cyclic movement from embedded clauses*

a. *Legal movement via edge*



b. *Illegal edge-skipping movement*



Cross-clausal scrambling is a rich empirical domain in Balkar, since this language has several different embedded (nominalized) clause types. The different clause types can be distinguished based on the case of their subject, which can be either nominative, accusative, or genitive, as we see in (3) below. Each of these clause types has an array of properties, and interacts differently with cross-clausal scrambling, as we will see shortly. Note that in (3) and throughout this paper the subjects of embedded clauses are possessed, for the following reason: Under normal circumstances, accusative and genitive case in Balkar are syncretic, both realized as *-nI*.² However, when a nominal phrase carries the 3rd person possessor agreement suffix (*-sI*), accusative and genitive are morphologically distinct. In this situation, accusative case is *-n* (3b), while genitive case remains *-nI* (3c). For this reason, possession allows us to be certain about which case a given embedded clause’s subject bears, which is vital for the analysis of this paper. Note that nominative case is always null in Balkar, as in many other languages (3a).³

²Like other Turkic languages, Balkar has vowel harmony for frontness/backness and roundness. Here we will see /I/, a harmonizing high vowel, and /A/, a harmonizing low vowel.

³As Baker (2015) notes, accusative-genitive syncretism is cross-linguistically quite rare. This syncretism, and its absence in contexts with the 3rd person possessive marker, is illustrated in a simpler context with a possessed object in (i) below:

(3) *Three embedded clause types differentiated by subject case*

a. *Nominative*

Ustaz-∅ [CLAUSE [fatima-ni sabij-i-∅] alma-ni aša-βan-i-n]
teacher-NOM Fatima-GEN child-POSS-NOM apple-ACC eat-NFUT-POSS-ACC
ešit-ti.
hear-PST

‘The teacher heard [that Fatima’s child ate her apple].’

b. *Accusative*

Ustaz-∅ [CLAUSE [fatima-ni sabij-i-n] alma-ni aša-βan-i-n]
teacher-NOM Fatima-GEN child-POSS-ACC apple-ACC eat-NFUT-POSS-ACC
ešit-ti.
hear-PST

‘The teacher heard [that Fatima’s child ate her apple].’

c. *Genitive*

Ustaz-∅ [CLAUSE [fatima-ni sabij-i-ni] alma-ni aša-βan-i-n]
teacher-NOM Fatima-GEN child-POSS-GEN apple-ACC eat-NFUT-POSS-ACC
ešit-ti.
hear-PST

‘The teacher heard [that Fatima’s child ate her apple].’

We will see that each of these clause types differs both in whether or not its subject can scramble, and in how its subject interacts with scrambling of an object from within the same clause.

-
- (i) a. Men bala-ni kör-ö-me.
1SG child-ACC see-IPFV-1SG
‘I see a child’
- b. Bala-ni illew-u qanβa-da tur-a-di.
child-GEN toy-POSS table-LOC stand-IPFV-3SG
‘A/the child’s toy is (stands) on the table’
- c. Men fatima-ni bala-si-n/*ni kör-gem-me.
1SG fatima-GEN child-POSS-ACC see-NFUT-1SG
‘I saw Fatima’s child’

Importantly, subject and object scrambling can be interleaved in some but not other situations, in a way that we argue is especially significant. We will see these facts shortly, in section 2 below. We argue that these facts support a phase-based view of syntactic derivations, and also clarify a topic of central interest to phase theory: the nature and availability of phase edge positions.

1.1 Main proposals

For Chomsky (2000) and a great deal of following work, as soon as a phasal constituent is completely built, its complement is inaccessible for subsequent syntactic operations due to the effect of phase *spell-out*. This is as defined by the *phase impenetrability condition*. This hypothesis predicts that no cross-phasal syntactic dependency can ever reach into a lower phase’s complement: only if a given phrase reaches (or originates in) the edge of the phase it inhabits can it be referenced by syntactic operations outside of that phase. For this reason, a moving noun phrase can only exit a given phase if it reaches the edge (=specifier) of that phase first, as (1-2) showed. This notion of “edge”, which relates to many core topics in syntactic theory, is central to this paper.

Much of this paper will be concerned with the properties of embedded clauses with accusative subjects, whose interaction with scrambling is the most complex. We will see that subject scrambling from such clauses is generally permitted, but object scrambling is not, unless subject scrambling co-occurs in a particular way. We argue that the facts about such clauses support the hypothesis that the CP (and secondarily vP) phases allow multiple specifiers, provided that non-initial movements undergo *tucking-in* to a lower specifier position (Richards 1997, 1999, a.o.):

(4) *Tucking-in multiple specifier formation*

a. *Initial movement*

$$[_{CP} \alpha C [_{TP} \dots t_{\alpha} \beta]]$$

b. *Second movement tucks-in*

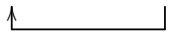
$$[_{CP} \alpha \beta C [_{TP} \dots t_{\alpha} t_{\beta}]]$$

We simultaneously argue that the facts about clauses with accusative subjects provide evidence that when a phase has multiple specifiers, only the highest of those specifiers is accessible for movement

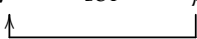
(Rackowski and Richards 2005; Bošković 2016; Holmberg et al. 2019):

(5) *Highest of multiple specifiers blocks access to lower ones*

a. *Higher specifier accessible*

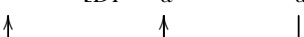
✓ $\alpha \dots [_{CP} t_\alpha \beta C [_{TP} \dots t_\alpha t_\beta]]$


b. *Lower specifier inaccessible*

* $\beta \dots [_{CP} \alpha t_\beta C [_{TP} \dots t_\alpha t_\beta]]$


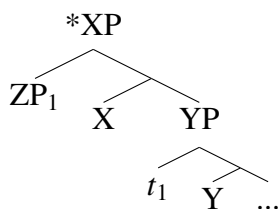
We will see that, by contrast, scrambling from clauses with genitive subjects is severely constrained. While the subject of such clauses is always available for scrambling, the object never is. Assuming that genitive subjects are case-assigned in spec-DP in Balkar, we argue that the right predictions about such clauses emerge from the hypothesis that DP is a phase that uniquely lacks a position for successive-cyclic movement, building from previous arguments that extraction from DP is uniquely constrained (Bosque and Gallego 2014; Reeve 2018; van Urk 2019). We show that other facts about extraction from Balkar nominal phrases, which we take to be syntactically parallel to genitive subject clauses, support this proposal.

(6) *No successive-cyclic movement through DP*

* $\alpha \dots [_{DP} t_\alpha D \dots t_\alpha]$


Finally, embedded clauses whose subjects are nominative also interact with scrambling in their own characteristic way, which is precisely the inverse of what we see in genitive subject clauses. While object scrambling is always permitted from nominative subject clauses, subject scrambling never is. We argue that this set of facts provides evidence that movement is constrained by *anti-locality* (Bošković 1997; Ishii 1999; Grohmann 2003; Abels 2003, 2012). Specifically, we argue for a version of anti-locality which bans movement from the edge of a given phrase XP to the edge of the next highest phrase YP (Bošković 2005, 2016; Brillman and Hirsch 2016; Erlewine 2016, 2020, a.o.):

(7) *If YP immediately dominates XP, no movement from XP edge to YP edge*



We argue that this hypothesis also makes correct predictions about sub-extraction from subjects: while anti-locality freezes nominative subjects, extraction of possessors from within nominative subjects (and any other subject type as well) is correctly ruled-in, since such extraction takes a longer path in a way that satisfies anti-locality. We go on to show that this account makes the right predictions about the interaction of possessors and nominative subjects with overt movement, covert movement, and binding.

1.2 Contents of the paper

In section 2, we provide the core Balkar scrambling data summarized above. In section 3 we state our background assumptions about the properties of each Balkar embedded clause type. The main proposals of the paper are then divided into two sections. In section 4, we analyze the scrambling facts that serve as the basis for our proposals about phase edges and multiple specifiers. In section 5, we analyze the facts which we argue support the anti-locality hypothesis, and introduce additional supporting facts about covert movement and possessor extraction. Section 6 includes convergent evidence from two other languages: Buryat (Mongolic) and Turkish. Section 7 concludes.

2 The core Balkar scrambling data

Here we will see the core facts that this paper is concerned with, including scrambling of subjects, objects, as well as certain important interactions between the two.

First, note the following fact about clause-internal scrambling. The object of an embedded clause can scramble in front of the embedded clause's subject if that subject is nominative (8a). Such a configuration is unacceptable if that subject is accusative (8b) or genitive (8c).

(8) *Clause-internal object scrambling only over nominative subject*

a. *Nominative*

Ustaz-∅ [CLAUSE [tauuš et-dir-ip] alma-ni_k bala-si-∅ t_k
 teacher-NOM noise make-CAUS-CONV apple-ACC child-POSS-NOM
 aša-ʙan-ì]-n ešit-ti.
 eat-NFUT-POSS-ACC hear-PST

‘The teacher heard that her child ate the apple loudly (lit. ‘while making noise’).’

b. *Accusative*

* Ustaz-∅ [CLAUSE [tauuš et-dir-ip] alma-ni_k bala-si-n t_k
 teacher-NOM noise make-CAUS-CONV apple-ACC child-POSS-ACC
 aša-ʙan-ì]-n ešit-ti.
 eat-NFUT-POSS-ACC hear-PST

‘The teacher heard that her child ate the apple loudly (lit. ‘while making noise’).’

c. *Genitive*

* Ustaz-∅ [CLAUSE [tauuš et-dir-ip] alma-ni_k bala-si-nì t_k
 teacher-NOM noise make-CAUS-CONV apple-ACC child-POSS-GEN
 aša-ʙan-ì]-n ešit-ti.
 eat-NFUT-POSS-ACC hear-PST

‘The teacher heard that her child ate the apple loudly (lit. ‘while making noise’).’

In (8), the adverb “loudly” (noise make-CAUS-CONV) marks the embedded clause’s edge, since this adverb cannot scramble outside of an embedded clause in which it originates, as (9) shows. This fact allows us to confirm that in (8) above the object does not scramble beyond the embedded clause.

(9) *No cross-clausal scrambling for adverbs*

(*Tauuš et-dir-ip) ustaz-∅ [(tauuš et-dir-ip) bala-si-∅ (tauuš
 noise make-CAUS-CONV teacher-NOM noise make-CAUS-CONV child-POSS-NOM noise
 et-dir-ip) alma-nì aša-ʙan-ì]-n ešit-ti.
 make-CAUS-CONV apple-ACC eat-NFUT-POSS-ACC hear-PST

‘The teacher heard that her child ate the apple loudly.’

If embedded clauses are phasal constituents (as we discuss in the next section), it should be necessary for an object scrambling from such a clause to reach the clause’s edge before moving on.

Given this prediction, the facts in (8) lead us to expect the additional facts in (10) below. Here we see that cross-clausal object scrambling is possible only when the embedded subject is nominative. That is, there is a direct correlation between the availability of an edge position in the embedded clause, and the possibility of object scrambling from that clause:

(10) *Long-distance object scrambling only across nominative subject*

a. *Nominative*

Alma-ni_k ustaz-∅ [CLAUSE t_k [fatima-ni sabij-i-∅] t_k aša-~~ban~~-i-n]
 apple-ACC teacher-NOM Fatima-GEN child-POSS-NOM eat-NFUT-POSS-ACC
 ešit-ti.
 hear-PST

‘The teacher heard [that Fatima’s child ate her apple].’

b. *Accusative*

* Alma-ni_k ustaz-∅ [CLAUSE t_k [fatima-ni sabij-i-n] t_k aša-~~ban~~-i-n]
 apple-ACC teacher-NOM Fatima-GEN child-POSS-ACC eat-NFUT-POSS-ACC
] ešit-ti.
 hear-PST

‘The teacher heard [that Fatima’s child ate her apple].’

c. *Genitive*

* Alma-ni_k ustaz-∅ [CLAUSE t_k [fatima-ni sabij-i-ni] t_k aša-~~ban~~-i-n]
 apple-ACC teacher-NOM Fatima-GEN child-POSS-GEN eat-NFUT-POSS-ACC
] ešit-ti.
 hear-PST

‘The teacher heard [that Fatima’s child ate her apple].’

This is precisely the sort of effect that we expect to see given a theory in which the cycle-by-cycle nature of the derivation forces movement to apply successive-cyclically: if a position that must be accessed by successive-cyclic movement is for whatever reason unavailable, movement will correspondingly be constrained.

Though accusative and genitive subjects typically block object scrambling from the embedded clause, in contrast, they themselves can scramble into the matrix clause (11a-b). The same is not possible for nominative embedded subjects, however (11c).

(11) *Long-distance scrambling of accusative or genitive subject*

a. *Accusative*

[Fatima-ni bala-si-ni]_k ustaz-∅ [CLAUSE t_k alma-ni aša-ʁan-i-n]
Fatima-GEN child-POSS-ACC teacher-NOM apple-ACC eat-NFUT-POSS-ACC
ešt-gen-di.
hear-NFUT-3SG

‘The teacher heard that Fatima’s child ate an apple.’

b. *Genitive*

[Fatima-ni bala-si-ni]_k ustaz-∅ [CLAUSE t_k alma-ni aša-ʁan-i-n]
Fatima-GEN child-POSS-GEN teacher-NOM apple-ACC eat-NFUT-POSS-ACC
ešt-gen-di.
hear-NFUT-3SG

‘The teacher heard that Fatima’s child ate an apple.’

c. *Nominative*

* [Fatima-ni bala-si-∅]_k (tünene) ustaz-∅ [t_k alma-ni
Fatima-GEN child-POSS-NOM (yesterday) teacher-NOM apple-ACC
aša-ʁan-i-n] ešt-gen-di.
eat-NFUT-POSS-ACC hear-NFUT-3SG

‘The teacher heard that Fatima’s child ate an apple (yesterday).’⁴

Importantly, when the accusative subject moves from the embedded clause, that clause’s object can do so as well, as (12) below shows. Here we also see that post-scrambling, the subject must precede the object in this situation.

⁴This sentence is possible under an interpretation that does not involve scrambling: “Fatima’s child heard that the teacher ate an apple (yesterday).”

(12) *Accusative subject scrambling feeds long-distance object scrambling*

a. *S < O order required*

[Fatima-ni sabij-i-n]_k tünene alma-ni_j ustaz-∅ [CLAUSE *t_k t_j*
Fatima-GEN child-POSS-ACC yesterday apple-ACC teacher-NOM
aša-ʁan-in] ešit-ti.
eat-NFUT-POSS-ACC hear-PST

‘The teacher heard that Fatima’s child ate the apple yesterday.’

b. *O < S order illegal*

* Alma-ni_j tünene [fatima-ni sabij-i-n]_k ustaz-∅ [CLAUSE *t_k t_j*
apple-ACC yesterday Fatima-GEN child-POSS-ACC teacher-NOM
aša-ʁan-in] ešit-ti.
eat-NFUT-POSS-ACC hear-PST

‘The teacher heard that Fatima’s child ate the apple yesterday.’

We saw in (11) above that accusative and genitive subjects can both scramble from an embedded clause. Since such scrambling of accusative subjects can feed scrambling of the embedded object as well (12a), it would be reasonable to expect scrambling of a genitive subject to have the same effect. In fact, it does not. Scrambling of a genitive embedded subject cannot feed scrambling of an embedded object, regardless of the final order of scrambled phrases (13):

(13) *Genitive subject scrambling does not feed object scrambling*

a. * [Fatima-ni sabij-i-ni]_k tünene alma-ni_j ustaz-∅ [CLAUSE *t_k t_j*
Fatima-GEN child-POSS-GEN yesterday apple-ACC teacher-NOM
aša-ʁan-in] ešit-ti.
eat-NFUT-POSS-ACC hear-PST

‘The teacher heard that Fatima’s child ate the apple yesterday.’

b. * Alma-ni_j tünene [fatima-ni sabij-i-ni]_k ustaz-∅ [CLAUSE *t_k t_j*
apple-ACC yesterday Fatima-GEN child-POSS-GEN teacher-NOM
aša-ʁan-in] ešit-ti.
eat-NFUT-POSS-ACC hear-PST

‘The teacher heard that Fatima’s child ate the apple yesterday.’

These are the facts we focus on deriving in this paper, though we will see additional supporting data as the paper proceeds. In summary: only non-nominative subjects are capable of cross-clausal

scrambling, and cross-clausal object scrambling over non-nominative subjects is banned, though such scrambling sometimes exceptionally succeeds when the accusative subject scrambles as well.

3 The syntax of Balkar embedded clauses

This section lays out our background assumptions about Balkar embedded clauses, which serve as the foundation for the analyses in the following two sections. A vital component of our proposals about the structure of these clauses regards the location of phasal constituents. Following many of the works cited in section 1, we take CP and vP to be phases. The phasehood of vP is much less significant for our purposes than that of CP, though both will play a role. We also assume the phasehood of DP (Heck and Zimmermann 2004; Bošković 2005, 2016; Newell 2008; Newell and Piggott 2014; Syed and Simpson 2017; Simpson and Park 2019, a.o.).

3.1 Embedded clause structures

All of the Balkar embedded clauses we discuss here behave, in many ways, like nominals. The Balkar verb usually shows subject agreement, and the subject agreement in embedded clauses uses the same paradigm as the possessor agreement that occurs on possessed NPs—a parallel seen throughout Turkic languages.⁵ Balkar embedded clauses also receive case marking and appear in argument positions, just as nominal phrases do. However, such embedded clauses also have various

⁵Recall that, as section 1 described, for morphological reasons we restricted our study to embedded clauses with possessed subjects. For this reason, all embedded subjects we show are 3rd person noun phrases. These trigger the nominal agreement morphology *-(s)I* (the /s/ arising when following a vowel) in the verbal complex of the embedded clause. This agreement marking is precisely the same as the possessor agreement we see in noun phrases that have 3rd person possessors. We have glossed this morpheme as “poss” to make this parallel clear, though it is more accurate to think of this as the way 3rd person agreement happens to be realized when dominated by nominal structure—not possessive or nominalized clause agreement per se.

clausal/verbal properties. Building from previous work by Bondarenko (2018), we take each clause type to consist of a certain amount of clausal/verbal functional material that is then selected by N, due to which the constituent in question behaves morpho-syntactically like a nominal.⁶ The chart in (14) below summarizes our specific proposals for each clause type:

(14) *Balkar embedded clause structures and corresponding subject cases*

Case of the subject	Nominal structure	Verbal structure
NOM or ACC	NP	CP TP vP VP
GEN	DP NP	vP VP

All three clause types have at least enough verbal structure to host VP-level adverbs, as (15) below shows with a manner adverb:

(15) *VP-level adverbs in all clause types*

a. *Nominative subject*

Ustaz-∅ [bala-si-∅ [tauuš et-dir-ip] alma-ni aša-βan-i-n]
 teacher-NOM child-POSS-NOM noise make-CAUS-CONV apple-ACC eat-NFUT-POSS-ACC
 ešit-ti.
 hear-PST

‘The teacher heard that her child ate the apple loudly.’

b. *Accusative subject*

Ustaz-∅ [bala-si-n [tauuš et-dir-ip] alma-ni aša-βan-i-n]
 teacher-NOM child-POSS-ACC noise make-CAUS-CONV apple-ACC eat-NFUT-POSS-ACC
 ešit-ti.
 hear-PST

‘The teacher heard that her child ate the apple loudly.’

⁶We might replace N here with n, the head responsible for creating nominal categories in various works in the tradition of Distributed Morphology (Marvin 2003; Embick and Marantz 2008; Embick 2010), though this topic has no direct bearing on the analysis of this paper.

c. *Genitive subject*

Ustaz-∅ [bala-si-ni [tauuš et-dir-ip] alma-ni aša-ʁan-i-n]
teacher-NOM child-POSS-GEN noise make-CAUS-CONV apple-ACC eat-NFUT-POSS-ACC
ešit-ti.
hear-PST

‘The teacher heard that her child ate the apple loudly.’

All clause types also permit negation (16):

(16) *Negation in all clause types*

a. *Nominative subject*

Ustaz-∅ [fatima-ni sabij-i-∅ alma aša-ma-ʁan-i-n] kör-dö.
teacher-NOM fatima-GEN child-POSS-NOM apple eat-NEG-NFUT-POSS-ACC see-PST

‘The teacher saw that Fatima’s child did not eat an apple.’

b. *Accusative subject*

Ustaz-∅ [fatima-ni sabij-i-n alma aša-ma-ʁan-i-n] kör-dö.
teacher-NOM fatima-GEN child-POSS-ACC apple eat-NEG-NFUT-POSS-ACC see-PST

‘The teacher saw that Fatima’s child did not eat an apple.’

c. *Genitive subject*

Ustaz-∅ [fatima-ni sabij-i-ni alma aša-ma-ʁan-i-n] kör-dö.
teacher-NOM fatima-GEN child-POSS-GEN apple eat-NEG-NFUT-POSS-ACC see-PST

‘The teacher saw that Fatima’s child did not eat an apple.’

All three clause types also contain some degree of functional material relating to tense/aspect, since all can be built from either a non-future participle /-ʁAn/ (NFUT) or a future-oriented one /-rIq/ (FUT). Most examples shown so far use the former, so example (17) demonstrates the latter:

(17) *Future marking in all clause types*

a. *Nominative subject*

Ol-∅ [bala-si-∅ (tambla) alma-si-n aša-riḅ-i-n]
(s)he-NOM child-POSS-NOM (tomorrow) apple-POSS-ACC eat-FUT-POSS-ACC
ajt-a-di.
say-IPFV-3SG

‘(S)he is saying that (someone’s) child will be eating his/her apple (tomorrow).’

b. *Accusative subject*

Ol-∅ [bala-si-n (tambla) alma-si-n aša-riḅ-i-n]
(s)he-NOM child-POSS-ACC (tomorrow) apple-POSS-ACC eat-FUT-POSS-ACC
ajt-a-di.
say-IPFV-3SG

‘(S)he is saying that (someone’s) child will be eating his/her apple (tomorrow).’

c. *Genitive subject*

Ol-∅ [bala-si-ni (tambla) alma-si-n aša-riḅ-i-n]
(s)he-NOM child-POSS-GEN (tomorrow) apple-POSS-ACC eat-FUT-POSS-ACC
ajt-a-di.
say-IPFV-3SG

‘(S)he is saying that (someone’s) child will be eating his/her apple (tomorrow).’

Clauses with nominative and accusative subjects allow independent tense modification (18a), whereas the tense of genitive subject clauses is dependent on the tense of the matrix clause (18b):

(18) *Tense modification matching*

a. *Tense independence of nominative/accusative subject clauses*

Kerim-∅ tünene [[fatima-ni bala-si-∅ / bala-si-n] tambla
Kerim-NOM yesterday Fatima-GEN child-POSS-NOM / child-POSS-ACC tomorrow
alim-ni kištig-i-n baḅar-liq-i-n] bil-di.
Alim-GEN cat-POSS-ACC feed-FUT-POSS-ACC know-PST

‘Kerim found out yesterday that Fatima’s child will feed Alim’s cat tomorrow.’

b. *Non-independent tense in genitive subject clauses*

* Kerim-∅ tünene [[fatima-ni bala-si-ni] tambla alim-ni
 Kerim-NOM yesterday Fatima-GEN child-POSS-GEN tomorrow Alim-GEN
 kištig-i-n baḅar-liq-i-n] bil-di.
 cat-POSS-ACC feed-FUT-POSS-ACC know-PST

‘Kerim found out yesterday that Fatima’s child will feed Alim’s cat tomorrow.’

For this reason, we posit that clauses with nominative and accusative subjects are essentially finite, and thus contain T and C. In contrast, we assume the absence of these functional heads in clauses with genitive subjects.

It also seems that embedded clauses with genitive subjects are in a sense more nominal-like than the others, since they can more easily be modified by elements like quantifiers and numerals (though this is not an absolute contrast):

(19) *Modification of embedded clauses with quantifiers*

a. ?? Tünene ustaz-∅ [[fatima-ni bala-si-∅ / bala-si-n] alma-ni
 yesterday teacher-NOM Fatima-GEN child-POSS-NOM / child-POSS-ACC apple-ACC
xar aša-ḅan-i-n] ešt-gen-di.
 every eat-NFUT-POSS-ACC hear-NFUT-3SG
 ‘The teacher heard every eating of the apple by Fatima’s child yesterday.’

b. Tünene ustaz-∅ [[fatima-ni bala-si-ni] alma-ni xar
 yesterday teacher-NOM Fatima-GEN child-POSS-GEN apple-ACC every
 aša-ḅan-i-n] ešt-gen-di.
 eat-NFUT-POSS-ACC hear-NFUT-3SG
 ‘The teacher heard every eating of the apple by Fatima’s child yesterday.’

(20) *Modification of embedded clauses with numerals*

a. ?? Tünene ustaz-∅ [[fatima-ni bala-si-∅ / bala-si-n] alma-ni
 yesterday teacher-NOM Fatima-GEN child-POSS-NOM / child-POSS-ACC apple-ACC
eki aša-ḅan-i-n] ešt-gen-di.
 two eat-NFUT-POSS-ACC hear-NFUT-3SG
 ‘The teacher heard two eatings of the apple by Fatima’s child yesterday.’

b. Tünene ustaz-∅ [[fatima-ni bala-si-ni] alma-ni eki aša-ḅan-i-n]
 yesterday teacher-NOM Fatima-GEN child-POSS-GEN apple-ACC two eat-NFUT-POSS-ACC
 ešt-gen-di.
 hear-NFUT-3SG
 ‘The teacher heard two eatings of the apple by Fatima’s child yesterday.’

We hypothesize that genitive subject clauses are unique in having the DP layer, which is responsible for genitive case assignment (Baker and Vinokurova 2010; Baker 2015; Miyagawa 2011, a.o.), while those with nominative and accusative subjects contain just a nominalizing NP layer.

In summary, we thus posit the two embedded clause structures in (21) below. These trees reflect that Balkar syntax is head-final, as is typical in Turkic languages. We hypothesize that nominative and accusative subjects occur in nominalized clauses containing a full set of clausal functional heads (21a), but that the position of each subject type depends on how case assignment proceeds, as discussed below. The reduced clausal structure but greater nominal structure of genitive subject clauses is shown in (21b).⁷

- (21) a. *CP dominated by NP* (Nominative/accusative subject) b. *vP dominated by NP and DP* (Genitive subject)



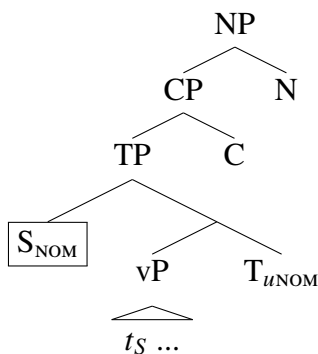
All of these proposals about clause structure will play important roles in our analysis of Balkar scrambling. However, before beginning the main analysis, it is necessary to address the positions and corresponding case assignment mechanisms for each subject type.

⁷The structure in (21b) is a simplification, since we saw above that clauses with genitive subjects can include tense morphology and negation, despite not being fully-fledged independent clauses to the same extent as those with nominative and genitive subjects. The addition of more functional projections between vP and NP in (21b) would not affect the main arguments of this paper, provided that we maintain that the genitive subject is case-assigned in spec-DP as discussed below.

3.2 Subject positions and case assignment

We posit a distinct position for each type of embedded subject in Balkar. First, we hypothesize that when the embedded clause’s subject is nominative, the subject is assigned case by T and thus moves from its origination position in spec-vP to the specifier of TP (Chomsky 2000, 2001, a.o.), as in (22) below. We follow Chomsky (2000) and a great deal of related work in taking unvalued features (prefixed with ‘u’ for concreteness) to be those which probe their c-command domain for an appropriate goal, as a prerequisite for establishing a syntactic dependency like movement, agreement, or case assignment.⁸

(22) *Embedded clause with nominative subject in spec-TP*

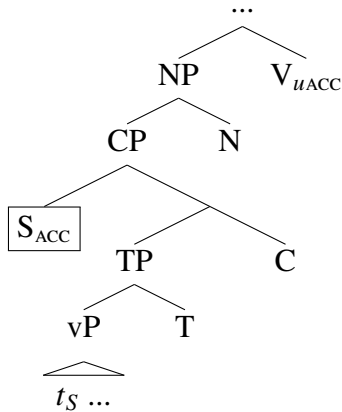


Second, we hypothesize that what distinguishes embedded clauses with nominative and accusative subjects is that in the latter type, T is defective such that it lacks the ability to assign nominative case. (See Chomsky 2000, 2001 for discussion of defective T.) We propose that in this

⁸Much recent work on case inspired by Marantz (1991) argues that case is not assigned by functional heads, but rather is determined by an algorithm that evaluates the relative c-command relationships between nominal phrases. See Baker (2015) for a recent overview and discussion of both types of theories. While we think that case assignment via functional heads is the most straightforward approach to the facts we are concerned with, our proposals are not in fact tied to such a theory: what really matters for our purposes are the clause structures and subject positions that we propose in this section. How exactly those structures and positions come to be associated with particular cases could in principle be re-stated under a different framework, at no cost to the insights that are fundamental to this paper.

situation, the subject gains accusative case marking by bypassing TP and landing in the edge of CP, where it is accessible for case assignment by the matrix V, as in (23). Assuming that CP is a phase, it should indeed be necessary for the subject to move to the CP edge in order for it to be visible for case assignment by a head that is outside of that CP.

(23) *Embedded clause with accusative subject in spec-CP*



Several additional facts support the proposal that the case of accusative subjects is indeed assigned by the higher V. First, accusative subjects do not occur in embedded clauses that are subjects (24). This is expected since in such configurations the embedded clause is not in the c-command domain of V, meaning that the subject within it cannot be accessed for case assignment by that head:

(24) *No accusative subject in a subject clause*

a. *Nominative subject*

[[Fatima-ni sabij-i-∅] alma aša-βan-i]-∅ igi-di.
 Fatima-GEN child-POSS-NOM apple eat-NFUT-POSS-NOM good-3SG
 ‘That Fatima’s child ate an apple is good.’

b. *Genitive subject*

[[Fatima-ni sabij-i-ni] alma aša-βan-i]-∅ igi-di.
 Fatima-GEN child-POSS-GEN apple eat-NFUT-POSS-NOM good-3SG
 ‘That Fatima’s child ate an apple is good.’

c. *No accusative subject*

* [[Fatima-ni sabij-i-n] alma aša-~~ban-i~~-∅ igi-di.
Fatima-GEN child-POSS-ACC apple eat-NFUT-POSS-NOM good-3SG

‘That Fatima’s child ate an apple is good.’

Second, this account predicts the fact that when a given embedding verb lacks the ability to assign accusative case, an embedded clause selected by that verb cannot have an accusative subject, as (25) shows. The matrix clause in (25) uses the verb “be afraid of”, which assigns ablative case rather than the usual accusative. Here this quirky ablative case is assigned to the embedded clause itself rather than the embedded subject, which can only be either nominative or genitive:⁹

(25) *No accusative subject if matrix verb cannot assign accusative case*

a. *Nominative subject*

Alim [[fatima-ni sabij-i-∅] mašina buz-~~ban-dan~~] qurqu-ruq-du.
Alim Fatima-GEN child-POSS-NOM car break-NFUT-ABL be.afraid-FUT-AGR3

‘Alim will be afraid of Fatima’s child breaking a car.’

b. *Genitive subject*

Alim [[fatima-ni sabij-i-ni] mašina buz-~~ban-dan~~] qurqu-ruq-du.
Alim Fatima-GEN child-POSS-GEN car break-NFUT-ABL be.afraid-FUT-AGR3

‘Alim will be afraid of Fatima’s child breaking a car.’

c. *No accusative subject*

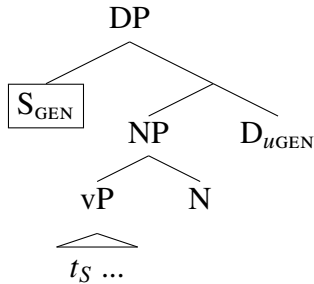
* Alim [[fatima-ni sabij-i-n] mašina buz-~~ban-dan~~] qurqu-ruq-du.
Alim Fatima-GEN child-POSS-ACC car break-NFUT-ABL be.afraid-FUT-AGR3

‘Alim will be afraid of Fatima’s child breaking a car.’

⁹Normally an embedded clause in object position with an accusative subject also itself carries accusative case marking, as we see for instance in (3b) above. We leave an account of such multiple accusative marking aside: What is important here is that in a configuration like (25), an accusative subject is unavailable, as expected if an embedded subject can only bear accusative case marking if local to a verb that is able to assign it.

Finally, we assume that in embedded clauses with genitive subjects, the subject is assigned genitive case by D (Baker and Vinokurova 2010; Baker 2015; Miyagawa 2011). We hypothesize that this triggers movement of the subject to spec-DP, as (26) shows:

(26) *Nominalized clause with genitive subject in spec-DP*



3.3 Supporting evidence from binding

An important component of the above proposals is that accusative and genitive subjects inhabit the edge of their local phases (respectively CP and DP), whereas nominative subjects sit in a TP dominated by CP, and thus are not at a phase edge position. This hypothesis is supported by additional facts from binding. If binding principles like Condition A are sensitive to phases (Charnavel and Sportiche 2016; Bošković 2016, a.o.), then we expect an anaphor to have to inhabit the edge of its local phase in order for a nominal outside of that phase to serve as its binder. If accusative and genitive subjects in Balkar inhabit phase edges, but nominative subjects do not, then we make the prediction that it should only be possible for accusative and genitive embedded subjects to serve as anaphors bound by a nominal in the higher clause. This is correct (27):

(27) *Matrix subject can bind only accusative/genitive subject anaphor*¹⁰

a. *Nominative*

* Ustaz- \emptyset_k [CLAUSE [kesi-kes-i- \emptyset]_k alma aša- β an-i-n] ešit-ti
 teacher-NOM self-self-POSS-NOM apple eat-NFUT-POSS-ACC hear-PST

‘The teacher heard herself eating an apple.’

¹⁰Note that the unacceptability of the nominative anaphor here cannot be attributed to an *anaphor agreement effect*, since all three subjects in (27) are targeted for agreement by the embedded verb.

b. *Accusative*

Ustaz- \emptyset_k [CLAUSE [kesi-kes-i-n]_k alma aša- \mathcal{B} an-i-n] ešit-ti
teacher-NOM self-self-POSS-ACC apple eat-NFUT-POSS-ACC hear-PST

‘The teacher heard herself eating an apple.’

c. *Genitive*

Ustaz- \emptyset_k [CLAUSE [kesi-kes-i-ni]_k alma aša- \mathcal{B} an-i-n] ešit-ti
teacher-NOM self-self-POSS-GEN apple eat-NFUT-POSS-ACC hear-PST

‘The teacher heard herself eating an apple.’

This concludes the description of our proposals about the structure of Balkar embedded clauses. We argue that the clause structures and subject positions discussed above facilitate a principled, and empirically well-supported, account of the scrambling facts introduced in section 2 (among other facts about possessor extraction and covert movement that we will see in section 5).

4 The interaction of subject type and object scrambling

In this section, we analyze the behavior of object scrambling and its interaction with each subject type. First we examine embedded clauses with accusative subjects, whose properties are by far the most complex. We argue that the interaction between accusative subject scrambling and object scrambling provides evidence for the hypotheses about the behavior of multiple specifier configurations that we introduced in section 2. Second, we consider clauses with genitive subjects. We have seen that scrambling from such clauses is more limited, in such a way that we argue reveals that extraction from DP is relatively restricted—a proposal we support with additional facts about extraction from nominal phrases. Third, we discuss clauses with nominative subjects, which we correctly predict to straightforwardly permit object scrambling. Clauses with nominative subjects are more complex in other ways, however, which we address in section 5.

4.1 Accusative subject clauses and the behavior of multiple specifiers

We have seen that for embedded clauses with accusative subjects, the subject can scramble into the higher clause (28a), while the object cannot (28b), unless the subject has scrambled as well (28c):

(28) *Cross clausal scrambling from accusative subject clauses*

a. *Subject scrambling allowed*

[Fatima-ni bala-si-n]_k ustaz-∅ [CLAUSE t_k alma-ni aša-ʙan-i-n]
 Fatima-GEN child-POSS-ACC teacher-NOM apple-ACC eat-NFUT-POSS-ACC
 ešt-gen-di.
 hear-NFUT-3SG

‘The teacher heard that Fatima’s child ate an apple.’

b. *Object scrambling normally banned*

* Alma-ni_k ustaz-∅ [CLAUSE t_k [fatima-ni sabij-i-n] t_k aša-ʙan-i-n
 apple-ACC teacher-NOM Fatima-GEN child-POSS-ACC eat-NFUT-POSS-ACC
] ešt-ti.
 hear-PST

‘The teacher heard [that Fatima’s child ate her apple].’

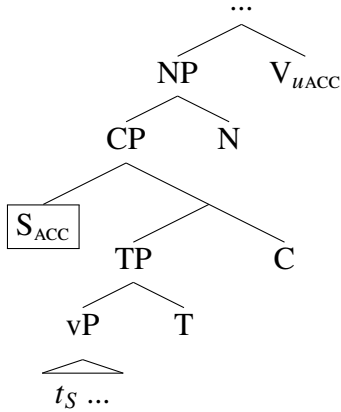
c. *Object scrambling allowed only if subject also scrambles*

[Fatima-ni sabij-i-n]_k tünene alma-ni_j ustaz-∅ [CLAUSE t_k t_j
 Fatima-GEN child-POSS-ACC yesterday apple-ACC teacher-NOM
 aša-ʙan-in] ešt-ti.
 eat-NFUT-POSS-ACC hear-PST

‘The teacher heard that Fatima’s child ate the apple yesterday.’

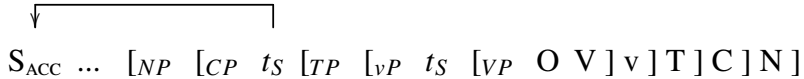
We will account for each of these facts in turn, building on our hypothesis from section 3 that in such clauses, the subject skips spec-TP and instead lands in the specifier of the CP phase—a position from which it is able to be assigned accusative case by the higher V (29):

(29) *Embedded clause with accusative subject in spec-CP*



Given our proposal that accusative subjects inhabit the edge of their local phase (as is the case for genitive subjects), the fact that accusative subjects are accessible for scrambling into the higher clause is automatically predicted without additional qualifications:



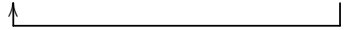
(30) *Scrambling of accusative subject from embedded clause*



Our account of the fact that the object cannot scramble from such clauses when the subject remains un-scrambled will rely on two hypotheses from previous literature mentioned in the introduction. The first of these is a hypothesis about the formation of multiple specifier configurations. Richards (1997, 1999) and much following work argues that when one head attracts multiple phrases to its edge, the highest relevant phrase in that head's c-command domain is accessed and moved first (as expected given the *superiority condition*, Chomsky 1973), while any subsequently attracted phrases *tuck-in* below the previously moved phrase:¹¹



¹¹Richards collects evidence for this hypothesis from facts about multiple *wh*-movement in Slavic languages, scrambling in Japanese, object shift in Germanic, negative fronting in Bulgarian, as well as clitic clustering in Serbo-Croatian and Tagalog. See also Nissenbaum (2000) for evidence from parasitic gaps that multiple *wh*-movement with (covert) tucking in applies in English, as well as other arguments that tucking-in is pervasive in syntax.

(31) *Non-initial instances of movement to one head must tuck-in*

- a. $[_{XP} \alpha X \dots [_{YP} \dots t_\alpha \beta]]$

- b. $\checkmark [_{XP} \alpha \beta X \dots [_{YP} \dots t_\alpha t_\beta]]$

- c. $* [_{XP} \beta \alpha X \dots [_{YP} \dots t_\alpha t_\beta]]$


The second proposal we need is about the availability of specifiers, given a scenario where a multiple specifier configuration has already been formed. Specifically, here we adopt the hypothesis that when a phase has multiple specifiers, only the highest one is accessible for syntactic dependencies like movement (Rackowski and Richards 2005; Bošković 2016; Holmberg et al. 2019):¹²

(32) *Highest of multiple specifiers of a phase blocks access to lower ones*


- a. *Higher specifier accessible*
 $\checkmark \alpha \dots [_{CP} t_\alpha \beta C [_{TP} \dots t_\alpha t_\beta]]$

- b. *Lower specifier inaccessible*
 $* \beta \dots [_{CP} \alpha t_\beta C [_{TP} \dots t_\alpha t_\beta]]$


With these hypotheses in mind, let's examine the derivation of attempted object scrambling from a clause with an accusative subject.

Assume that vP is a phase, and that the subject originates in its specifier. If this is so, then the scrambling object must successive-cyclically move through the specifier of vP in order to move on further. Since in the situation under consideration the vP already has the subject in its edge, such movement of the object must tuck-in to a lower specifier, below the subject (33):


¹²For Rackowski and Richards (2005), this is a consequence of the way they define locality as a part of their account of certain agreement-movement correlations. Bošković argues for this theory using facts about movement and binding in Serbo-Croatian, as well as Dutch and Icelandic. Holmberg et al. (2019) argue for this proposal in the course of their analysis of cross-linguistic (a)symmetries in movement from ditransitives.

(33) *Object tucks-in below subject in vP*

... [vP S O [vP t_O V] v]



After merger of T and C, C will then probe its c-command domain for relevant goals. Since the subject is the highest specifier of the previously constructed vP (33), C will find the subject first, attracting it to spec-CP, where it will be available for accusative case assignment (34):

(34) *Subject movement to CP*

... [NP [CP S_{ACC} [TP [vP t_S O [vP t_O V] v] T] C] N]


Further probing of C will find the object in the lower spec-vP, which C can then attract. Since the subject has already moved into the CP edge, the object will therefore move to a lower spec-CP (35):

(35) *Object tucks-in below subject in CP*

... [NP [CP S_{ACC} O [TP [vP t_S t_O [vP t_O V] v] T] C] N]


Since the subject was in a specifier of vP above the tucked-in object in (33), we indeed expect the subject to have been attracted before the object in (34-35), given the hypothesis that only the highest of multiple specifiers of a phase is available for movement. Bošković (2016) argues both that the highest of a phase's multiple specifiers prevents movement of lower ones, and also that when the highest specifier moves away, the next highest specifier then becomes accessible.¹³ This hypothesis rules in attraction of the object to spec-CP after the subject, as we saw in (35) above. This hypothesis also accurately predicts the impossibility of moving the object out from under the subject after (35), which would create the illegal configuration in (36):

¹³The theory in Rackowski and Richards (2005) likely makes the same prediction, since it includes the hypothesis that a goal that has already been accessed can subsequently be ignored (see p. 579-581). This means that after a higher specifier participates in some syntactic operation, the lower specifier should indeed become accessible next. Holmberg et al. (2019) also assume that higher specifiers block access to lower ones, but question the accessibility of lower specifiers for reasons that are not relevant for our account of Balkar.

(36) *No movement of scrambling object from lower specifier of CP*

* O ... [NP [CP S_{ACC} t_O [TP [vP t_S t_O [VP t_O V] v] T] C] N]

We thus account for the fact that the accusative subject blocks cross-clausal scrambling of an object. Additionally, we predict that if the subject scrambles out of the higher specifier of CP, the object in the lower specifier of CP should then become accessible for movement as well, as in (37):

(37) *Movement of accusative subject from higher spec-CP frees object*

S_{ACC} O ... [NP [CP t_S t_O [TP [vP t_S t_O [VP t_O V] v] T] C] N]

Therefore we accurately predict the fact that object scrambling from a clause with an accusative subject can only succeed if the accusative subject scrambles out as well.

In (37) above, we see a derivation that culminates in the accusative subject preceding the object. As we saw in the introduction, a derivation that results in the reverse post-scrambling order is unacceptable (38):

(38) *Accusative subject scrambling feeds long-distance object scrambling*

a. *S < O order required*

[Fatima-ni sabij-i-n]_k tünene alma-ni_j ustaz-∅ [CL_{AUSE} t_k t_j
 Fatima-GEN child-POSS-ACC yesterday apple-ACC teacher-NOM
 aša-ʁan-in] ešit-ti.
 eat-NFUT-POSS-ACC hear-PST

‘The teacher heard that Fatima’s child ate the apple yesterday.’

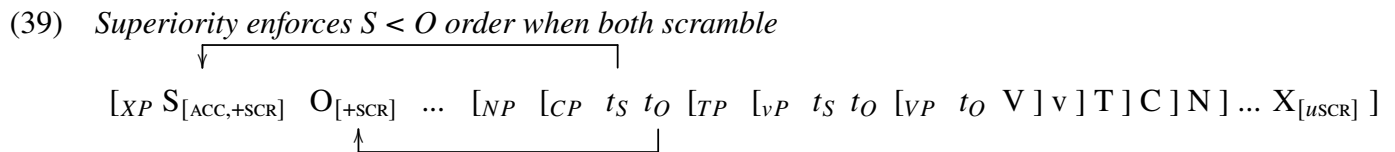
b. *O < S order illegal*

* Alma-ni_j tünene [fatima-ni sabij-i-n]_k ustaz-∅ [CL_{AUSE} t_k t_j
 apple-ACC yesterday Fatima-GEN child-POSS-ACC teacher-NOM
 aša-ʁan-in] ešit-ti.
 eat-NFUT-POSS-ACC hear-PST

‘The teacher heard that Fatima’s child ate the apple yesterday.’

We argue that this is simply a result of superiority in combination with the tucking-in requirement. In order to do so, it will be convenient to assume with Ko (2007, 2014) and references therein

that scrambling is feature-driven movement. Thus we propose that scrambling is driven by a feature that for concreteness we label [*u*SCR], which probes for DPs bearing a matching feature [+SCR]. In a situation where both the subject and object will scramble, both bear [+SCR]. Once the scrambling object has tucked-in below the subject in CP as in (35) above, any higher head bearing a feature [*u*SCR] will necessarily find the subject first, and only later the object, which will therefore necessarily move second and thus tuck-in below the moved subject at the edge of the attracting head, as (39) below shows. Here the hypothetical attracting head is simply labeled X, since its identity does not affect this argument.¹⁴



Any higher head potentially bearing [*u*SCR] will necessarily find the subject first if it probes for potential goals available for scrambling. Thus it is possible for the subject to be further scrambled away from the object, as in (38a) above where an adverb intervenes between the two. In contrast, scrambling the object further to bring it in front of the subject will never succeed, as (38b) also shows, since a [+SCR] subject always intervenes for probing of a [+SCR] object.¹⁵

This concludes our account of the properties of Balkar embedded clauses with accusative

¹⁴Note that in (34-36) above, mere superiority is not relevant given that here the subject is not [+SCR]. It is for this reason that we have adopted a more general constraint about the relative accessibility of multiple specifiers of a phase.

¹⁵This requirement to maintain S < O order is evocative of the order preservation effects explored in the *cyclic linearization* theory of phase spell-out (Fox and Pesetsky 2005b,a; Davis 2021, a.o.). We do not pursue this theory because it is not compatible with two other facts about Balkar that are important for this paper. The cyclic linearization theory hypothesizes that all the contents of a phase are accessible in principle, but that extraction must take advantage of phase edges due to the way that phases assign, and enforce preservation of, linear word order. If all of a phase’s contents are in principle accessible, we do not accurately predict the fact that binding must take advantage

subjects. Since the interactions that these clauses show us are quite intricate, the analysis of these facts has comprised a core part of this paper. Next we turn to genitive and nominative subject clauses, whose properties are amenable to simpler analyses.

4.2 Genitive subjects and the nature of the DP edge

We saw in section 2 that genitive subjects block cross-clausal object scrambling (40a), though genitive subjects can themselves scramble (40b).

(40) a. *Genitive subjects block object scrambling*

* Alma-ni_k ustaz-∅ [CLAUSE t_k [fatima-ni sabij-i-ni] t_k aša-βan-i-n
 apple-ACC teacher-NOM Fatima-GEN child-POSS-GEN eat-NFUT-POSS-ACC
] ešit-ti.
 hear-PST

‘The teacher heard [that Fatima’s child ate her apple].’

b. *Genitive subjects can scramble*

[Fatima-ni bala-si-ni]_k ustaz-∅ [CLAUSE t_k alma-ni aša-βan-i-n]
 Fatima-GEN child-POSS-GEN teacher-NOM apple-ACC eat-NFUT-POSS-ACC
 ešt-gen-di.
 hear-NFUT-3SG

‘The teacher heard that Fatima’s child ate an apple.’

This is precisely the same as what we’ve seen in clauses with accusative subjects. However, genitive and accusative subject clauses differ with respect to object scrambling. We have seen that of phase edges, as discussed in section 3.3 above. Furthermore, cyclic linearization predicts that phrases at the linear edge (not necessarily the structural edge) of a phase should be accessible for movement. Thus this theory incorrectly predicts that nominative embedded subjects should be movable in Balkar, which we saw in the introduction is not the case. Since these facts about binding and the immobility of nominative subjects are important for this paper, as we will discuss in section 5, we do not pursue a cyclic linearization theory here. See Bošković (2016), footnote 13, for more relevant discussion.

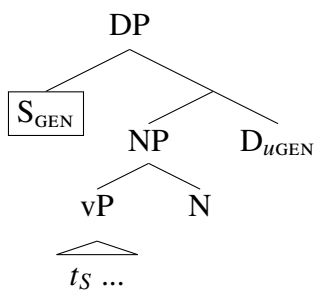
scrambling of the accusative subject allows scrambling of the object as well (provided that this results in S < O order), but the same is not possible with genitive subjects. Whether the genitive subject scrambles or not, and regardless of its final order with respect to the scrambled object, object scrambling in the presence of a genitive subject is unacceptable (41).

(41) *Genitive subject scrambling does not feed object scrambling*

- a. * [Fatima-ni sabij-i-ni]_k tünene alma-ni_j ustaz-∅ [CLAUSE t_k t_j
 Fatima-GEN child-POSS-GEN yesterday apple-ACC teacher-NOM
 aša-ʁan-in] ešit-ti.
 eat-NFUT-POSS-ACC hear-PST
 ‘The teacher heard that Fatima’s child ate the apple yesterday.’
- b. * Alma-ni_j tünene [fatima-ni sabij-i-ni]_k ustaz-∅ [CLAUSE t_k t_j
 apple-ACC yesterday Fatima-GEN child-POSS-GEN teacher-NOM
 aša-ʁan-in] ešit-ti
 eat-NFUT-POSS-ACC hear-PST
 ‘The teacher heard that Fatima’s child ate the apple yesterday.’

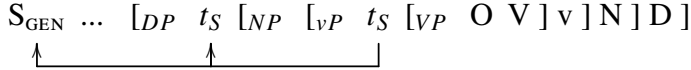
The properties of genitive subject clauses are thus precisely the opposite of nominative subject clauses, as we’ll discuss next. We will account for these facts by assuming, as argued in section 3, that the genitive subject is case-assigned and thus attracted to the specifier of D (42):

(42) *Nominalized clause with genitive subject in spec-DP*



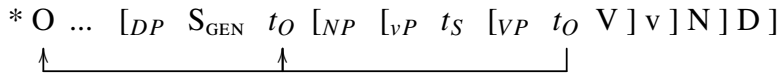
The proposal that genitive subjects inhabit the edge of the DP phase predicts the fact that these subjects are accessible for anaphor binding, as is also the case for accusative subjects in spec-CP, as discussed in section 3.3 above. If DP is a phase, the proposal that the genitive subject sits in spec-DP predicts that the genitive subject should be able to be scrambled further. We saw that this is indeed the case, as diagrammed in (43) below. (Since the phasehood of vP will not be relevant from this point onward, we ignore it from now on.)

(43) *Genitive subject scrambling succeeds*



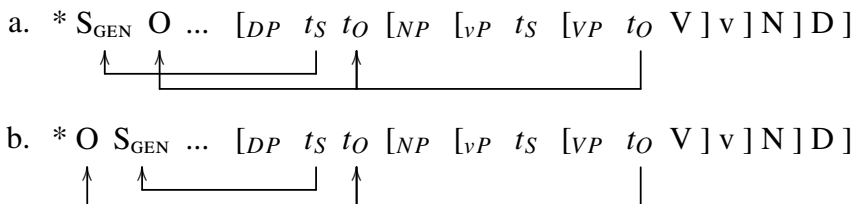
Given the considerations about multiple specifiers discussed above with respect to accusative subject clauses, the fact that an un-scrambled genitive subject blocks object scrambling is not surprising. A scrambling object would be expected to tuck-in beneath the genitive subject in the DP edge—a position from which that object would not be accessible for further movement, following our analysis of accusative subject clauses:

(44) *Genitive subject blocks object scrambling*



Further, following our analysis of accusative subject clauses, we expect scrambling of the genitive subject to feed object scrambling. However, we have seen that this is not correct. We hypothesize that this is because the DP phase, at least in Balkar, does not permit successive-cyclic movement through its edge. If this is so, whether the genitive subject happens to have scrambled out or not is irrelevant, as (45) below shows, since the object will be trapped in the embedded clause regardless. The only reason that the genitive subject can be scrambled from such embedded clauses is because it has an independent need—case assignment—to move to the DP edge. That is, for the genitive subject spec-DP is a terminal position, and not a landing site of successive-cyclic movement. Scrambling of the genitive subject may happen to occur later, however, since that subject is in an accessible position.¹⁶

(45) *Genitive subject movement cannot feed cross-clausal object scrambling*



¹⁶That there is a correlation between a given phrase being at the DP edge for independent reasons, and the extractability of that phrase, has been noted in previous works such as Szabolcsi (1984), Gavruseva (2000), and Bošković (2016).

Several previous works have proposed that extraction from DP is indeed relatively restricted. Bosque and Gallego (2014) argue that extraction from Spanish DPs cannot occur, and that when it appears to have, reanalysis is involved. Reeve (2018) argues that nominal phrases are phases that uniquely lack edges, and proposes that apparent extraction from them involves base generation in a higher position. van Urk (2019) points out that while nominal phrases have many of the hallmarks of phase-hood, it remains unclear if there is solid evidence for successive-cyclic movement through them. While this property of DPs ought to be derived from independent factors, we would like to leave this task for future research, since the facts about Balkar do not provide any further clarity on why this should be the case.¹⁷

4.2.1 Parallel facts about extraction from nominal phrases

Possessor extraction in Balkar is quite productive, as discussed in detail in section 5 below.

(46) *An example of possessor extraction in Balkar*

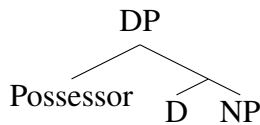
Fatima-ni_k tünene ustaz [t_k sabij-i-n] alma-si-n aša-ban-in
 Fatima-GEN yesterday teacher child-POSS-ACC apple-POSS-ACC eat-NFUT-POSS-ACC
 ešit-ti.
 hear-PST

‘The teacher heard that Fatima’s child ate his apple yesterday.’

¹⁷Several works argue that extraction from a phase can bypass its edge if and only if that phase is first agreed-with (Rackowski and Richards 2005; van Urk and Richards 2015; Halpert 2016; Branau 2018). If successive-cyclic movement via the DP edge is independently banned, then it could be that all extraction from DP requires that DP to have been agreed with by a higher functional head. If so, this would entail that part of why extraction from DP seems relatively constrained is because, unlike extraction from CP or vP, it is contingent on the availability of an independent agreement process. Such agreement would apparently be null in many cases, for instance, in English sentences like *Who did you see a picture of?*. Additionally, it is possible that DP is not a phase in some languages, for which extraction from DP would then be much freer. See Sabbagh (2007) and Davis (2021) for arguments that the English DP, at least, is not a phase.

This phenomenon makes salient a contrast that supports the above proposals about the illicitness of successive-cyclic movement through the DP edge. In correspondence with our analysis of genitive subjects of nominalized clauses, we argue that genitive possessors are merged in spec-DP, where they are assigned case (Corver 1992; Chomsky 1995; Davis 2021), as diagrammed in (47) below. We expect extraction of the possessor from the edge of the DP phase to be acceptable, which it indeed is in Balkar, as we saw above.

(47) *Genitive possessor in spec-DP*



Balkar also has what appear to be nominative or unmarked possessors. Unlike genitive possessors, these elements cannot extract from DP (48):

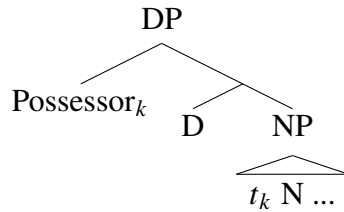
(48) *Unextractability of unmarked possessors*

- a. Tünene alim- \emptyset [üj baš-i-n] kör-gen-di.
 yesterday Alim-NOM house roof-POSS-ACC see-NFUT-3SG
 ‘Yesterday Alim saw the house’s roof.’
- b. *Üj_k Tünene alim- \emptyset [_k baš-i-n] kör-gen-di.
 house yesterday Alim-NOM roof-POSS-ACC see-NFUT-3SG
 Intended: ‘Yesterday Alim saw the house’s roof.’
- c. Tünene asiat- \emptyset [orus zır] zırla- β an-di.
 yesterday Asiyat-NOM Russian song sing-NFUT-3SG
 ‘Yesterday Asiyat sang a Russian song.’
- d. *Orus_k tünene asiat- \emptyset [_k zır] zırla- β an-di.
 Russian yesterday Asiyat-NOM song sing-NFUT-3SG
 ‘Yesterday Asiyat sang a Russian song.’

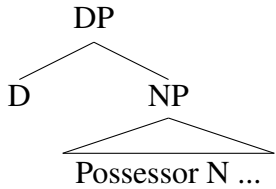
We suggest that this difference in the extractability of possessors emerges from the same principles that constrain scrambling from embedded clauses with genitive subjects.

We hypothesize that all possessors originate below D (building from Szabolcsi 1984, 1994; Abney 1987; Huang 2021), but only genitive-marked ones A-move to spec-DP (49):

(49) a. *Genitive possessor moves to spec-DP*



b. *Unmarked possessor does not move to spec-DP*



As described above, a possessor that has moved to spec-DP in the process of being assigned genitive case ought to be available for further movement from DP, since it has reached the edge of the DP phase for independent reasons. However, if successive-cyclic movement from DP is banned as hypothesized above, then we expect unmarked possessors to be trapped in DP, since there is no independent reason for them to be attracted to the DP edge prior to extraction.

It is also possible that these unmarked possessors are merged lower in the nominal phrase and are not assigned genitive case because they are actually fundamentally adjectives. However, even if this is so the argumentation just provided would still be applicable, since there is no independent reason for an adjective to move to spec-DP. An adjectival analysis is more likely for the examples in (48c-d) above, where unlike (48a-b), there is no possessor agreement marking on the possessed NP. Furthermore, it is also relevant to note that extraction of elements that are clearly adjectival from nominal phrases is uniformly impossible. If the nominal has a possessor (50a), if that possessor scrambles away (50b), or if there is no possessor at all (50c), adjectival extraction remains unacceptable in Balkar.¹⁸

¹⁸Recall that as stated in the introduction, in this paper we will adopt a version of anti-locality that bans movement from the edge of a given phrase to the edge of the immediately dominating phrase. Bošković (2005, 2016) argues that this variety of anti-locality is responsible for preventing movement of elements like adjectives through spec-DP, which makes their extraction impossible in languages where D is present. This analysis is likely compatible with the facts shown in this

(50) *Adjective extraction consistently banned*

- a. * Tatiulu_k tünene asiat [fatima-ni sabij-i-ni t_k alma-si-n] aša-dy
tasty yesterday Asiyat Fatima-GEN child-POSS-GEN apple-POSS-ACC eat-PST
'Yesterday Asiyat ate Fatima's child's tasty apple.'
- b. * [Fatima-ni sabij-i-ni]_j tatiulu_k tünene asiat [t_j t_k alma-si-n] aša-dy
Fatima-GEN child-POSS-GEN tasty yesterday Asiyat apple-POSS-ACC eat-PST
'Yesterday Asiyat ate Fatima's child's tasty apple.'
- c. * Tünene tatiulu_k asiat [t_k alma-si-n] aša-dy
yesterday tasty Asiyat apple-POSS-ACC eat-PST
'Yesterday Asiyat ate a tasty apple.'¹⁹

4.3 Nominative embedded subjects

We now turn to nominative embedded subjects. We have seen that, unlike accusative and genitive subjects, long-distance object scrambling can cross embedded nominative subjects:

(51) *Nominative subject does not block long-distance object scrambling*

Alma-ni_k ustaz-∅ [CLAUSE t_k [fatima-ni sabij-i-∅] t_k aša-βan-i-n]
apple-ACC teacher-NOM Fatima-GEN child-POSS-NOM eat-NFUT-POSS-ACC
ešit-ti.
hear-PST

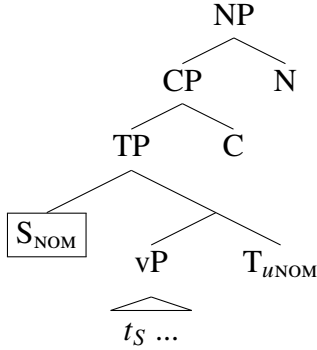
'The teacher heard [that Fatima's child ate her apple].'

This fact is expected, given our proposal in section 3 (supported by binding facts) that the nominative subject sits in spec-TP, below CP:

subsection. However, such anti-locality is not clearly relevant to the contexts shown in (40-41) above: scrambling the object of a clause with a genitive subject from VP into the DP edge, presumably passing through the vP edge, respects anti-locality at every step of movement. For this reason, here we have pursued a more general constraint—that successive-cyclic movement via the DP edge is banned, at least in Balkar.

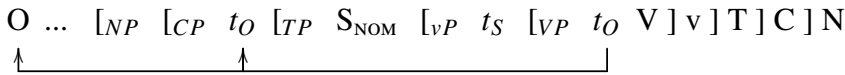
¹⁹The sentence is grammatical on the nonsensical reading where Asiyat is attributed the property of being tasty.

(52) *Embedded clause with nominative subject in spec-TP*



Since the nominative subject does not occupy the edge of the CP phase, the object can scramble out of the clause via that position without trouble:

(53) *Nominative subject does not block long-distance object scrambling*



The interaction of nominative subjects with cross-clausal object scrambling is thus very simple.²⁰ As shown in section 2, however, an additional fact sets nominative embedded subjects apart from accusative and genitive ones: they cannot scramble. In section 5 below, we argue with

²⁰The facts we saw in section 2 for nominalized clauses with nominative subjects can also be observed for non-nominalized embedded clauses (ia). These have nominative subjects and allow scrambling of the direct object both to the left periphery of the embedded clause (ib) and into the matrix clause (ic):

- (i) a. Ustaz- \emptyset [sabij-i- \emptyset alma-si-n aša-*ban-di* dep] ešit-ti
 teacher-NOM child-POSS-NOM apple-POSS-ACC eat-NFUT-3SG COMP hear-PST
 ‘The teacher heard that (someone’s) child ate (someone’s) apple.’
- b. Ustaz- \emptyset [alma-si-n_k sabij-i t_k aša-*ban-di* dep] ešit-ti
 teacher-NOM apple-POSS-ACC child-POSS.NOM eat-NFUT-3SG COMP hear-PST
 ‘The teacher heard that (someone’s) child ate (someone’s) apple.’
- c. Alma-si-n_k ustaz- \emptyset [sabij-i t_k aša-*ban-di* dep] ešit-ti
 apple-POSS-ACC teacher-NOM child-POSS.NOM eat-NFUT-3SG COMP hear-PST
 ‘The teacher heard that (someone’s) child ate (someone’s) apple.’

support from additional facts about covert movement and possessor extraction that this constraint on nominative subjects is a result of anti-locality.

5 Nominative subjects, possessor extraction, and anti-locality

In this section, we argue that additional Balkar facts about nominative subjects and possessors provide evidence for the hypothesis that certain forms of movement are banned due to being too short—anti-locality. We argue that this account makes accurate predictions about binding, covert movement, as well as additional facts about possessor extraction in Balkar.

As mentioned above, there is one fact about Balkar embedded nominative subjects that we have not yet addressed: such subjects are incapable of long-distance scrambling (54).

(54) *No cross-clausal scrambling of nominative subject*

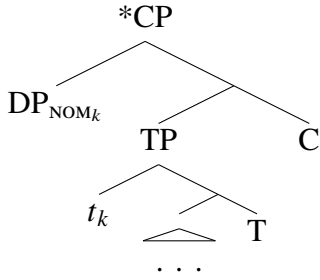
* [Fatima-ni bala-si-∅]_k (tünene) ustaz-∅ [_{t_k} alma-ni aša-ʁan-i-n]
 Fatima-GEN child-POSS-NOM (yesterday) teacher-NOM apple-ACC eat-NFUT-POSS-ACC
 ešt-gen-di.
 hear-NFUT-3SG

‘The teacher heard that Fatima’s child ate an apple (yesterday).’²¹

In section 3, we proposed that Balkar nominative subjects inhabit spec-TP, and are dominated by CP. If CP is a phase, then cross-clausal scrambling of a nominative subject would require the subject to move from spec-TP to spec-CP before then continuing on out of the clause, as in (55) below. Correspondingly, if we can identify a principle that would prevent such movement from occurring, then we would have an explanation for the immobility of nominative subjects:

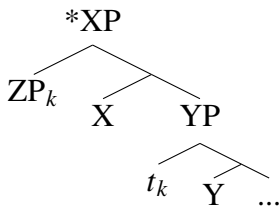
²¹This sentence is possible under an interpretation that does not involve scrambling: “Fatima’s child heard that the teacher ate an apple (yesterday).”

(55) *To be ruled out: Movement from spec-TP to spec-CP*



Movement of precisely this sort is ruled out by the formulation of anti-locality in at least Bošković (2005, 2016); Brillman and Hirsch (2016) and Erlewine (2016, 2020). This principle bans movement from the edge of a given phrase to the edge of the immediately dominating phrase:

(56) *If YP immediately dominates XP, no movement from XP edge to YP edge*



The addition of this principle to the account developed in the previous sections thus correctly predicts the immobility of nominative embedded subjects.²² We argue that this understanding of the immobility of nominative subjects makes a variety of additional correct predictions about binding, covert movement, and the extractability of possessors.

²²If the variety of anti-locality used here stems from principles of Universal Grammar, we must ask why many languages do allow cross-clausal movement of nominative subjects. English is, of course, such a language. Brillman and Hirsch (2016) suggest following Doherty (1997) that subject extraction in English occurs from clauses that are bare TPs that lack CP—a proposal that accurately predicts the existence of the well-known *that*-trace effect (Pesetsky 1982; Chomsky 1986, a.o.):

- (i) Who₁ does Bill think (*that) [_{TP} t₁ saw John]?

The fact that nominative subjects in Balkar are simply always immobile suggests that the clauses that contain them are always full CPs, never bare TPs.

First, let's consider binding once more. In section 3, we showed that accusative and genitive subjects, but not nominative ones, can be anaphors bound by a nominal phrase in the higher clause. We see this fact again in (57) below:

(57) *Matrix subject can bind only accusative/genitive subject anaphor*

a. *Nominative*

* Ustaz- \emptyset_k [CLAUSE [kesi-kes-i- \emptyset]_k alma aša- ʒan-i-n] ešit-ti.
 teacher-NOM self-self-POSS-NOM apple eat-NFUT-POSS-ACC hear-PST

‘The teacher heard herself eating an apple.’

b. *Accusative*

Ustaz- \emptyset_k [CLAUSE [kesi-kes-i-n]_k alma aša- ʒan-i-n] ešit-ti.
 teacher-NOM self-self-POSS-ACC apple eat-NFUT-POSS-ACC hear-PST

‘The teacher heard herself eating an apple.’

c. *Genitive*

Ustaz- \emptyset_k [CLAUSE [kesi-kes-i-ni]_k alma aša- ʒan-i-n] ešit-ti.
 teacher-NOM self-self-POSS-GEN apple eat-NFUT-POSS-ACC hear-PST

‘The teacher heard herself eating an apple.’

In the context of the hypothesis that binding is phase-sensitive (Charnavel and Sportiche 2016; Bošković 2016), we argued that this fact fits our proposal that accusative and genitive subjects inhabit the edge of their local phases (CP and DP), whereas nominative ones sit lower, in spec-TP. Not being at the edge of the containing CP phase, nominative subjects are thus inaccessible for binding from the higher clause. Given our incorporation of the anti-locality principle in (56) above, we can make this account more specific: If nominative subjects could move to the edge of the containing CP, we would expect binding to become possible, since there is independent evidence that movement into clause edges serves to facilitate binding in precisely the relevant way:

(58) *Binding into embedded clause must take advantage of clause edge*

a. Mary₁ knows [_{CP} [which picture of herself₁]₂ John is looking at t_2].

- b. * Mary₁ knows [_{CP} John is looking at [a picture of herself₁]].
 (Nissenbaum 2000, p. 143, ex. 1)

However, given anti-locality, movement of the nominative subject from spec-TP to spec-CP in order to feed binding cannot occur.

5.1 Nominative subjects cannot covertly move

An alternative account of the above facts would be to posit that nominative subjects are not immobile, but rather, that they simply gain accusative case marking if they move through spec-CP in order to exit the embedded clause. If nominative subjects are actually perfectly mobile aside from this morphological confound, then we would expect nominative embedded subjects to be fully capable of covert movement. However, here we show additional facts which reveal that embedded nominative subjects cannot undergo covert movement either. This is as we expect if they are immobile due to a very general syntactic constraint like anti-locality.²³

5.1.1 Quantifier Raising (QR)

In a typical transitive matrix clause where the subject and object are both quantificational, both surface and inverse scope are available in Balkar (59):

(59) *Surface scope and inverse scope permitted for matrix subject and object*

[Eki qiz] [xar žaš-ni] kör-gen-di-le.
 two girl every boy-ACC see-NFUT-3SG-PL

1. *Two >every*: ‘There were two girls such that they saw every boy.’
2. *Every >two*: ‘For every boy, two (potentially different) girls saw him.’

²³An alternative account of the ban on nominative subject scrambling might come from processing: perhaps pressure to parse the scrambled nominative subject as the subject of the matrix clause causes a garden path effect. However, it is unclear how a processing account would deal with the scope facts shown in this section, since covert movement should be unable to cause anything like a garden path effect. See further footnote 25 below.

When both an embedded subject and the matrix subject are quantificational, the case of the embedded subject determines what scopes are possible. When the embedded subject is genitive, both scopes are available independent of whether the genitive subject undergoes scrambling:

(60) *Scope of genitive embedded subject*

a. *Unscrambled*

[Eki qiz] [fatima-ni xar žaš-i-ni] šaxar-*ba* bar-*ban-i-n* ešit-ti-le.
 two girl Fatima-GEN every boy-POSS-GEN city-DAT go-NFUT-POSS-ACC hear-PST-PL

1. *Two >every*: ‘There were two girls such that they heard that Fatima’s every boy went to the city.’

2. *Every >two*: ‘For Fatima’s every boy, there were two (potentially different) girls that heard that he went to the city.’

b. *Scrambled*

[Fatima-ni xar žaš-i-ni]_k [eki qiz] *t*_k šaxar-*ba* bar-*ban-i-n* ešit-ti-le.
 Fatima-GEN every boy-POSS-GEN two girl city-DAT go-NFUT-POSS-ACC hear-PST-PL

1. *Two >every*: ‘There were two girls such that they heard that Fatima’s every boy went to the city.’

2. *Every >two*: ‘For Fatima’s every boy, there were two (potentially different) girls that heard that he went to the city.’

The same pattern is evident when the embedded subject is accusative: both scopes are available independent of scrambling:

(61) *Scope of accusative embedded subject*

a. *Unscrambled*

[Eki qiz] [fatima-ni xar žaš-i-n] šaxar-*ba* bar-*ban-i-n* ešit-ti-le.
 two girl Fatima-GEN every boy-POSS-ACC city-DAT go-NFUT-POSS-ACC hear-PST-PL

1. *Two >every*: ‘There were two girls such that they heard that Fatima’s every boy went to the city.’

2. *Every >two*: ‘For Fatima’s every boy, there were two (potentially different) girls that heard that he went to the city.’

b. *Scrambled*

[Fatima-ni xar žaš-i-n]_k [eki qiz] t_k šaxar-*ba* bar-*ban-i-n* ešit-ti-le.
 Fatima-GEN every boy-POSS-ACC two girl city-DAT go-NFUT-POSS-ACC hear-PST-PL

1. *Two >every*: ‘There were two girls such that they heard that Fatima’s every boy went to the city.’
2. *Every >two*: ‘For Fatima’s every boy, there were two (potentially different) girls that heard that he went to the city.’

In contrast, when the embedded subject is nominative, only the surface scope is available:

(62) *Nominative embedded subject only has surface scope*

[Eki qiz] [xar žaš-Ø] šaxar-*ba* bar-*ban-i-n* ešit-ti-le.
 two girl every boy-NOM city-DAT go-NFUT-POSS-ACC hear-PST-PL

1. *Two >every*: ‘There were two girls such that they heard that every boy went to the city.’
2. **Every >two*: *‘For every boy, there were two (potentially different) girls that heard that he went to the city.’

Inverse scope does not become available if scrambling of the embedded subject is attempted, since this is independently unacceptable:

(63) *No cross-clausal scrambling of nominative subject*

* [Xar žaš-Ø]_k (tünene) [eki qiz] t_k šaxar-*ba* bar-*ban-i-n* ešit-ti-le.
 every boy-NOM (yesterday) two girl city-DAT go-NFUT-POSS-ACC hear-PST-PL

‘Two girls heard that every boy went to the city.’ (Ungrammatical under both scopes)

In summary, if nominative embedded subjects are frozen due to a structural constraint like anti-locality, we accurately predict the fact that nominative embedded subjects differ from accusative and genitive ones in that they may only have surface scope with respect to material in the higher clause, assuming that inverse scope is derived by covert movement (presumably QR). Below we show facts from additional phenomena that make the same point.

5.1.2 NPI subject licensing

Here we show additional relevant facts involving the NPI pronoun *kiši-da* (“someone”). Since this item cannot be possessed, we cannot distinguish its accusative and genitive forms, though the single syncretic accusative/genitive form behaves unlike its nominative form in an expected way.

Since this pronoun is an NPI, it is unacceptable in upward-entailing contexts, but becomes licit when negation (*-mA*) is present.

(64) *No NPI subject in upward entailing context*

- a. * *Kiši-da alma aša-van-di.*
man-PTCL apple eat-NFUT-3SG
Exp.: ‘Someone ate an apple.’
- b. * *Alim kiši-ni-da kör-gen-di.*
Alim man-ACC-PTCL see-NFUT-3SG
Exp.: ‘Alim saw someone.’²⁴

(65) *NPI subject licensed by negation*

- a. *Kiši-da alma aša-ma-van-di.*
man-PTCL apple eat-NEG-NFUT-3SG
‘Nobody ate an apple.’
- b. *Alim kiši-ni-da kör-me-gen-di.*
Alim man-ACC-PTCL see-NEG-NFUT-3SG
‘Alim didn’t see anyone.’

When this element is an embedded subject in genitive/accusative form, it can be licensed by either embedded or matrix negation:

(66) a. *Licensing of embedded genitive/accusative NPI by embedded negation*

- Ustaz-Ø [kiši-ni-da alma aša-ma-van-i-n] kör-gen-di.
teacher-NOM man-GEN/ACC-PTCL apple eat-NEG-NFUT-POSS-ACC see-NFUT-3SG
‘The teacher saw that no one ate an apple.’

²⁴This sentence however is possible under a reading where *kiši* is interpreted literally, as meaning ‘man’: ‘Alim saw a man too.’

b. *Licensing of embedded genitive/accusative NPI by matrix negation*

Ustaz-∅ [kiši-ni-da alma aša-van-i-n] kör-me-gen-di.
teacher-NOM man-GEN/ACC-PTCL apple eat-NFUT-POSS-ACC see-NEG-NFUT-3SG

‘The teacher didn’t see of any x that x ate an apple.’

However, when this element is a nominative embedded subject, it can only be licensed by the local embedded negation:

(67) a. *Licensing of nominative NPI by embedded negation*

Ustaz-∅ [kiši-∅-da alma aša-ma-van-i-n] kör-gen-di.
teacher-NOM man-NOM-PTCL apple eat-NEG-NFUT-POSS-ACC see-NFUT-3SG

‘The teacher saw that no one ate an apple.’

b. *No licensing of nominative NPI by matrix negation*

* Ustaz-∅ [kiši-∅-da alma aša-van-i-n] kör-me-gen-di.
teacher-NOM man-NOM-PTCL apple eat-NFUT-POSS-ACC see-NEG-NFUT-3SG

‘The teacher didn’t see of any x that x ate an apple.’

We propose that the accusative/genitive NPI subject can be licensed by matrix negation in (66b) when it undergoes covert movement into the matrix clause. We expect this to be unavailable for nominative subjects, thus we predict the fact that embedded nominative subject NPIs must be licensed by embedded negation (67).

5.1.3 Wide-scope indefinites

The phrase *kim ese da* is a wide-scope indefinite: it normally takes high scope with respect to negation in a mono-clausal context. When this element is a genitive/accusative subject of an embedded clause, it obligatorily takes wide scope with respect to matrix negation as usual (68).

(68) *Wide scope with respect to matrix negation when genitive/accusative*

Ustaz- \emptyset [kim-ni-ese-da alma aša- ʁan-i-n] ešit-me-gen-di.
 teacher-NOM who-GEN/ACC-PTCL-PTCL apple eat-NFUT-POSS-ACC hear-NEG-NFUT-3SG

‘The teacher didn’t hear that someone ate an apple.’

$\exists > \neg$: ‘There exists someone about whom the teacher didn’t hear that they ate an apple.’

$\neg > \exists$: *‘The teacher didn’t hear that anyone ate an apple.’

When this element is a nominative embedded subject, it obligatorily takes narrow scope with respect to matrix negation:

(69) *Narrow scope with respect to matrix negation when nominative*

Ustaz- \emptyset [kim- \emptyset -ese-da alma aša- ʁan-i-n] ešit-me-gen-di.
 teacher-NOM who-NOM-PTCL-PTCL apple eat-NFUT-POSS-ACC hear-NEG-NFUT-3SG

‘The teacher didn’t hear that someone ate an apple.’

$\exists > \neg$: *‘There exists someone about whom the teacher didn’t hear that they ate an apple.’

$\neg > \exists$: ‘The teacher didn’t hear that anyone ate an apple.’

Assuming that inverse scope over matrix negation is derived by covert movement, the hypothesis that nominative embedded subjects are syntactically frozen accurately predicts these scope patterns.²⁵

²⁵For some speakers, while scrambling of the nominative subject is usually illegal, it becomes licit if and only if the object also scrambles, provided that O < S word order holds (ib):

- (i) a. * [Fatima-ni sabij-i- \emptyset]_k alma-ni_j tünene ustaz- \emptyset t_k t_j
 Fatima-GEN child-POSS-NOM apple-ACC yesterday teacher-NOM
 aša- ʁan-i-n ešit-ti.
 eat-NFUT-POSS-ACC hear-PST

‘The teacher heard that Fatima’s child ate the apple yesterday.’

- b. Alma-ni_j tünene [fatima-ni sabij-i- \emptyset]_k ustaz- \emptyset t_k t_j
 apple-ACC yesterday Fatima-GEN child-POSS-NOM teacher-NOM
 aša- ʁan-i-n ešit-ti.
 eat-NFUT-POSS-ACC hear-PST

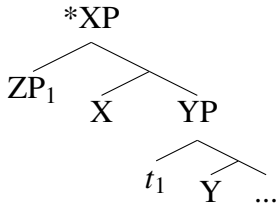
‘The teacher heard that Fatima’s child ate the apple yesterday.’

(Also OK: Fatima’s child heard that the teacher ate the apple yesterday.)

5.2 Possessor extraction subverts anti-locality

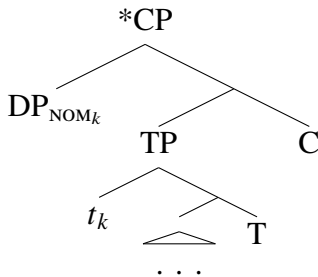
We have adopted a version of anti-locality which states that movement from the specifier of a given phrase to the specifier of the next phrase up is illegally short, as (70) shows again:

(70) *If YP immediately dominates XP, no movement from XP edge to YP edge*



As discussed above, this constraint bans movement from spec-TP to spec-CP, accurately ruling out cross-clausal movement (either overt or covert) of nominative subjects:

(71) *No movement from spec-TP to spec-CP*



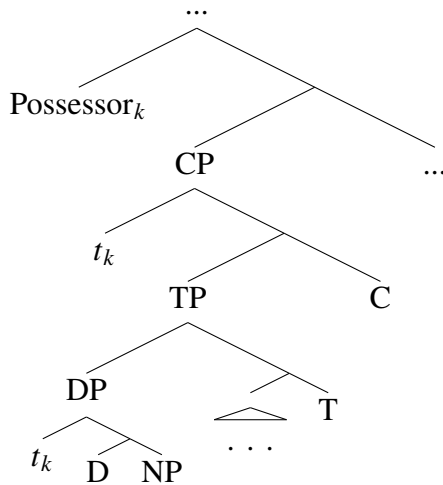
However, our expectations differ for possessors of subjects. A possessor of a nominative subject is separated from CP by both a DP node and a TP node. For this reason, the above anti-locality

In the context of our anti-locality account of the typical immobility of nominative subjects, we might speculate that for some speakers scrambling of the object over the subject can create an additional structural position which allows the subject to move in a way that respects anti-locality. Since many speakers did not in fact allow this pattern, we will not offer a detailed analysis of it.

In footnote 22 above, we argued that a processing account of the immobility of nominative subjects in Balkar is unsatisfactory. The above fact strengthens this argument: the example in (ib) involves multiple scrambling and is thus likely even harder to process than nominative subject scrambling alone, though some speakers nevertheless accept such examples as a way of repairing typically illicit sentences with nominative subject scrambling.

constraint makes the prediction that it should be possible to scramble a possessor from within a nominative subject to the edge of the CP phase, and then extract it onward into the matrix clause:

(72) *Extraction of possessor from nominative subject through spec-CP respects anti-locality*



This prediction is correct. It turns out that possessor extraction is possible from all varieties of embedded subject in Balkar, including nominative ones (73):²⁶

(73) *Possessor extraction from all embedded subjects*

a. *Nominative*

Fatima-ni_k tünene ustaz-∅ [t_k sabij-i-∅] alma-si-n
 Fatima-GEN yesterday teacher-NOM child-POSS-NOM apple-POSS-ACC
 aša-βan-in ešit-ti
 eat-NFUT-POSS-ACC hear-PST

‘The teacher heard that Fatima’s child ate his apple yesterday.’

²⁶Even extraction of the possessor of a possessor is possible, as we would expect:

- (i) [Fatima-ni]_k tünene asiat-∅ [t_k sabij-i-ni tatiulu alma-si-n] aša-dy.
 Fatima-GEN yesterday Asiyat-NOM child-POSS-GEN tasty apple-POSS-ACC eat-PST
 ‘Yesterday Asiyat ate Fatima’s child’s tasty apple.’

b. *Accusative*

Fatima-ni_k tünene ustaz-∅ [_k sabij-i-n] alma-si-n
 Fatima-GEN yesterday teacher-NOM child-POSS-ACC apple-POSS-ACC
 aša-ʙan-in ešit-ti
 eat-NFUT-POSS-ACC hear-PST

‘The teacher heard that Fatima’s child ate his apple yesterday.’

c. *Genitive*

Fatima-ni_k tünene ustaz-∅ [_k sabij-i-ni] alma-si-n
 Fatima-GEN yesterday teacher-NOM child-POSS-GEN apple-POSS-ACC
 aša-ʙan-in ešit-ti
 eat-NFUT-POSS-ACC hear-PST

‘The teacher heard that Fatima’s child ate his apple yesterday.’

This accurate prediction of our anti-locality analysis is corroborated by facts about scope, binding, and NPIs. The possessor of any subject type can take wide scope over material in the matrix clause, as shown below for universal quantifier possessors:

(74) *Wide scope of any embedded subject’s possessor*

[Eki qiz-∅] [_{xar} oquc-u-nu nöger-i-∅ / nöger-i-ni /
 two girl-NOM every student-POSS-GEN friend-POSS-NOM / friend-POSS-GEN /
 nöger-i-n] alma aša-ʙan-i-n ešit-ti
 friend-POSS-ACC apple eat-NFUT-POSS-ACC hear-PST

‘Two girls heard that a friend of every student ate an apple.’

1. $2 > \forall$: There were two girls such that they heard that a friend of every student ate an apple.
2. $\forall > 2$: For every student_k, there were two girls_j such that they_j heard that their_k friend ate an apple.

Furthermore, possessors of all embedded subject types can be anaphors bound by the matrix subject:

(75) *Anaphoric possessor of any embedded subject can be bound by matrix subject*

Kerim- \emptyset_k [[kesi-kes-i-ni_k bala-si- \emptyset / bala-si-ni / bala-si-n] kitab
 Kerim-NOM self-self-POSS-GEN child-POSS-NOM / child-POSS-GEN / child-POSS-ACC book
 oqu- \textbackslash an-i-n] eřit-gen-di
 read-NFUT-POSS-ACC hear-NFUT-3SG

‘Kerim_k heard that his_k child read a book.’

And finally, NPI possessors of any embedded subject type can be licensed by matrix negation:

(76) *NPI possessor of any subject type can be licensed by matrix negation*

a. ustaz- \emptyset [kiři-ni-da sabij-i-ni alma ařa- \textbackslash an-i-n]
 teacher-NOM man-GEN-PTCL child-POSS-GEN apple eat-NFUT-POSS-ACC
 k $\ddot{ö}$ r-me-gen-di
 see-NEG-NFUT-3SG

‘The teacher didn’t see of any person x that x’s child ate an apple’.

b. ustaz- \emptyset [kiři-ni-da sabij-i-n alma ařa- \textbackslash an-i-n]
 teacher-NOM man-GEN-PTCL child-POSS-ACC apple eat-NFUT-POSS-ACC
 k $\ddot{ö}$ r-me-gen-di
 see-NEG-NFUT-3SG

‘The teacher didn’t see of any person x that x’s child ate an apple’.

c. ustaz- \emptyset [kiři-ni-da sabij-i- \emptyset alma ařa- \textbackslash an-i-n]
 teacher-NOM man-GEN-PTCL child-POSS-NOM apple eat-NFUT-POSS-ACC
 k $\ddot{ö}$ r-me-gen-di
 see-NEG-NFUT-3SG

‘The teacher didn’t see of any person x that x’s child ate an apple’.

The facts shown in this section present a coherent picture. Nominative embedded subjects are uniformly unable to be accessed by syntactic dependencies relating to the matrix clause, including overt movement, covert movement, and binding. Importantly in contrast, the possessors of nominative subjects (or any subject whatsoever) are fully accessible. All of these facts are accurately predicted by the account given above: that movement of nominative subjects from spec-TP to spec-CP is blocked by anti-locality, but the relatively longer path of movement of a possessor from within the nominative subject is not.

6 Similar patterns in Turkish and Buryat

Patterns of scrambling similar to the ones that we have observed in Balkar also exist in other Altaic languages. In Turkish, for example, scrambling of the object is possible both within, and from, embedded finite clauses with nominative subjects:²⁷

(77) *Turkish embedded clauses with nominative subjects*

- a. Ahmet- \emptyset [Ali- \emptyset kitab- $\underline{1}$ oku-du] biliyor.
Ahmet-NOM Ali-NOM book-ACC read-PST knows
'Ahmet believes that Ali read the book.'
- b. Ahmet- \emptyset [kitab- $\underline{1}_k$ Ali- \emptyset t_k oku-du] biliyor.
Ahmet-NOM book-ACC Ali-NOM read-PST knows
'Ahmet believes that Ali read the book.'
- c. Kitab- $\underline{1}_k$ Ahmet- \emptyset [Ali- \emptyset t_k oku-du] biliyor.
book-ACC Ahmet-NOM Ali-NOM read-PST knows
'Ahmet believes that Ali read the book.'

However, the same is impossible for embedded clauses with accusative subjects:

(78) *Turkish embedded clause with accusative subjects*

- a. Ahmet- \emptyset [Ali- $\underline{y_i}$ kitab- $\underline{1}$ oku-du] biliyor.
Ahmet-NOM Ali-ACC book-ACC read-PST knows
'Ahmet believes that Ali read the book.'
- b. * Ahmet- \emptyset [kitab- $\underline{1}_k$ Ali- $\underline{y_i}$ t_k oku-du] biliyor.
Ahmet-NOM book-ACC Ali-ACC read-PST knows
'Ahmet believes that Ali read the book.'
- c. * Kitab- $\underline{1}_k$ Ahmet- \emptyset [Ali- $\underline{y_i}$ t_k oku-du] biliyor.
book-ACC Ahmet-NOM Ali-ACC read-PST knows
'Ahmet believes that Ali read the book.'

While more research on Turkish is necessary, we find that Buryat (Mongolic) shows a strong

²⁷The Turkish data in (77-78) is from Ömer Demirok (p.c.).

parallel to what we have demonstrated for Balkar.²⁸ Buryat non-nominalized CPs can have either nominative or accusative subjects. Object scrambling within and from these clauses is possible when their subject is nominative:

(79) *Buryat embedded clauses with nominative subjects permit scrambling*

- a. Badma-∅ [sajana-∅ tumən-iijə xara-xa gəžə] han-aa.
 Badma-NOM Sajana-NOM Tumen-ACC see-FUT COMP think-PST
 ‘Badma thought that Sajana will see Tumen.’
- b. Badma-∅ [tumən-iijə_k sajana-∅ t_k xara-xa gəžə] han-aa.
 Badma-NOM Tumen-ACC Sajana-NOM see-FUT COMP think-PST
 ‘Badma thought that Sajana will see Tumen.’
- c. Tumən-iijə_k badma-∅ [sajana-∅ t_k xara-xa gəžə] han-aa.
 Tumen-ACC Badma-NOM Sajana-NOM see-FUT COMP think-PST
 ‘Badma thought that Sajana will see Tumen.’

In contrast, both clause-bounded and cross-clausal scrambling of the object are impossible when the subject of such clauses is accusative:

(80) *Accusative embedded subjects in Buryat block object scrambling*

- a. Badma-∅ [sajan-iijə tumən-iijə xara-xa gəžə] han-aa.
 Badma-NOM Sajana-ACC Tumen-ACC see-FUT COMP think-PST
 ‘Badma thought that Sajana will see Tumen.’
- b. *Badma-∅ [tumən-iijə_k sajan-iijə t_k xara-xa gəžə] han-aa.
 Badma-NOM Tumen-ACC Sajana-ACC see-FUT COMP think-PST
 ‘Badma thought that Sajana will see Tumen.’²⁹
- c. *Tumən-iijə_k badma-∅ [sajan-iijə t_k xara-xa gəžə] han-aa.
 Tumen-ACC Badma-NOM Sajana-ACC see-FUT COMP think-PST
 ‘Badma thought that Sajana will see Tumen.’³⁰

Additionally, accusative subjects can scramble from such clauses, but nominative subjects cannot:

²⁸The Buryat data reported here was elicited in separate fieldwork in the village of Baraghan, in the republic of Buryatia, Russia.

²⁹This sentence is grammatical under the reading: ‘Badma thought that Tumen will see Sajana.’

³⁰This sentence is grammatical under the reading: ‘Badma thought that Tumen will see Sajana.’

(81) *Subject scrambling from Buryat embedded clauses*

- a. * Badma-Ø_k sajana-Ø [t_k tərgə ɔmdəl-əə gəʒə] mədə-nə
Badma-NOM Sajana-NOM cart break-PST COMP know-PRS
Sajana knows that Badma broke the cart.
- b. Badm-iijə_k sajana-Ø [t_k tərgə ɔmdəl-əə gəʒə] mədə-nə
Badma-ACC Sajana-NOM cart break-PST COMP know-PRS
Sajana knows that Badma broke the cart.

All of the Buryat scrambling facts just shown mirror what we have seen in Balkar. However, Buryat diverges somewhat when we consider its nominalized clauses. In Buryat, such clauses can have either accusative or genitive subjects. When such clauses have accusative subjects, they do not tolerate object scrambling within or from them:

(82) *Buryat nominalized clauses with accusative subjects do not permit scrambling*

- a. Badma-Ø [sajan-iijə tumən-iijə xar-aaf-iijə] han-aa.
Badma-NOM Sajana-ACC Tumen-ACC see-NMN-ACC think-PST
'Badma remembered that Sajana saw Tumen.'
- b. * Badma-Ø [tumən-iijə_k sajan-iijə t_k xar-aaf-iijə] han-aa.
Badma-NOM Tumen-ACC Sajana-ACC see-NMN-ACC think-PST
'Badma remembered that Sajana saw Tumen.'
- c. * Tumən-iijə_k badma-Ø [sajan-iijə t_k xar-aaf-iijə] han-aa.
Tumen-ACC Badma-NOM Sajana-ACC see-NMN-ACC think-PST
'Badma remembered that Sajana saw Tumen.'

Buryat nominalized clauses with accusative subjects thus pattern like those in Balkar. Buryat nominalized clauses with genitive subjects differ, however. Unlike what we saw for Balkar, in Buryat these clauses allow object scrambling within and from them:

(83) *Buryat permits object scrambling in and from clauses with genitive subjects*

- a. Badma-Ø [sajan-iin tumən-iijə xar-aaf-iijə] han-aa.
Badma-NOM Sajana-GEN Tumen-ACC see-NMN-ACC think-PST
'Badma remembered that Sajana saw Tumen.'

- b. Badma- \emptyset [tumən-iij_ə_k sajan-iin t_k xar-aaf-iij_ə] han-aa.
 Badma-NOM Tumen-ACC Sajana-GEN see-NMN-ACC think-PST
 ‘Badma remembered that Sajana saw Tumen.’
- c. Tumən-iij_ə_k badma- \emptyset [sajan-iin t_k xar-aaf-iij_ə] han-aa.
 Tumen-ACC Badma-NOM Sajana-GEN see-NMN-ACC think-PST
 ‘Badma remembered that Sajana saw Tumen.’

Another point of divergence concerns subject scrambling. Accusative subject scrambling is permitted from Buryat non-nominalized clauses, though genitive subject scrambling is not:

(84) *Subject scrambling from Buryat nominalized clauses*

- a. [Badm-iij_ə]_k sajana- \emptyset türgör [t_k nom unša-ža bai-x-iij_ə-n’] xar-aa
 Badma-ACC Sajana-NOM quickly book read-CONV be-NMN-ACC-3 see-PST
 ‘Sajana suddenly saw that/how Badma was reading a book.’
- b. * [Badm-iijn]_k sajana- \emptyset türgör [t_k nom unša-ža bai-x-iij_ə-n’] xar-aa
 Badma-GEN Sajana-NOM quickly book read-CONV be-NMN-ACC-3 see-PST
 ‘Sajana suddenly saw that/how Badma was reading a book.’

Overall, these facts from Buryat show us that those subjects that can scramble from embedded clauses cannot themselves be crossed by scrambling. This is precisely what we saw in Balkar as well. However, in Buryat there is a case difference: in this language, unlike Balkar, genitive subjects may be passed over by cross-clausal scrambling, but cannot themselves scramble from the embedded clause. In other words, embedded genitive subjects in Buryat behave just like nominative embedded subjects in Balkar. We hypothesize that this is because Buryat genitive subjects do not inhabit a phase edge, but rather a lower position, such as spec-TP (from which anti-locality will prevent their extraction). This proposal has independent precedent in Bondarenko (2017).

Ultimately, we arrive at strong evidence for a generalization: Only the types of embedded subjects that scrambling cannot cross are themselves available for cross-clausal scrambling. These are the properties we expect of a subject that fills the edge of the containing phase: such phrases are themselves accessible for movement, but interfere with movement of other phrases through the same position. This cross-linguistic comparison also reveals that such patterns of scrambling are only indirectly linked to the case marking of the subject: it is the structural position that the subject

occupies within a clause that matters. Importantly, such cross-linguistic syntactic parallels indicate that the factors we have identified here are not Balkar specific, but rather represent more general principles of grammar.

7 Conclusion

In this paper, we have argued that facts about cross-clausal scrambling in Balkar, along with supporting facts about phenomena such as binding, covert movement, and possessor extraction, provide evidence for several general principles about phase edges and movement that are well-supported in recent research in syntactic theory. Here we have identified new evidence for the proposal that multiple specifier configurations are possible, that they are formed via tucking-in, and that higher specifiers prevent access to lower ones within the same phase. The complex interactions that reveal these principles emerge due to a general requirement for movement from phases to be successive-cyclic. We have also shown evidence that movement is constrained by anti-locality—a principle that sometimes conflicts with the successive-cyclic requirement, and causes certain phrases to be inaccessible. We have also seen evidence that the DP phase is unique in not tolerating successive-cyclic movement through its edge. While this proposal deserves deeper study, it has some precedent in previous literature, and is consistent with the Balkar data. The patterns we have identified here also have strong cross-linguistic support in Buryat, though we must leave further cross-linguistic study to future research.

References

- Abels, Klaus. 2003. *Successive-Cyclicity, Anti-locality, and Adposition Stranding*. PhD Dissertation, UConn.
- Abels, Klaus. 2012. *Phases: An Essay on Cyclicity in Syntax*. Berlin: De Gruyter.
- Abney, Steven. 1987. *The Noun Phrase in its Sentential Aspect*. Doctoral dissertation, MIT.
- Baker, Mark. 2015. *Case: Its principles and parameters*. Cambridge University Press.
- Baker, Mark, and Nadya Vinokurova. 2010. Two modalities of case assignment: case in sakha. *Natural Language and Linguistic Theory* 28:593–642.
- Barbiers, Sjef. 2002. Remnant stranding and the theory of Movement. In *Dimensions of movement: From features to remnants*, ed. Artemis Alexiadou, Elena Anagnostopoulou, Sjef Barbiers, and Hans-Martin Gärtner. John Benjamins. DOI: <https://doi.org/10.1075/la.48.04bar>.
- Bondarenko, Tatiana. 2017. Ecm in buryat and the optionality of movement. In *Proceedings of the 12th Workshop on Altaic Formal Linguistics (WAFL 12)*. MIT Working Papers in Linguistics, volume 83, 31-42.
- Bondarenko, Tatiana. 2018. Subject marking and scrambling effects in Balkar nominalizations. In *Proceedings of the first workshop on turkish, turkic, and the languages of turkey (tu+1)*, ed. In Faruk Akkuş, İsa Kerem Bayırlı, and Deniz Özyıldız, 27–42. Graduate Linguistics Student Association, University of Massachusetts.
- Bosque, Ignacio, and Angel Gallego. 2014. Reconsidering subextraction: Evidence from Spanish. *Borealis* 3:223–258.
- Bošković, Željko. 1997. *The Syntax of Nonfinite Complementation: An Economy Approach*. Cambridge, MA: MIT Press.
- Bošković, Željko. 2005. On the locality of left branch extraction and the structure of NP. *Studia Linguistica* 59.
- Bošković, Željko. 2016. Getting really edgy: On the edge of the edge. *Linguistic Inquiry* 45.
- Branan, Kenyon. 2018. Attraction at a Distance: A'-Movement and Case. *Linguistic Inquiry* 49:409–440.

- Brillman, Ruth, and Aaron Hirsch. 2016. An anti-locality account of English subject/non-subject asymmetries. In *Proceedings of Chicago Linguistic Society 50.*, ed. Ross Burkholder, Carlos Cisneros, and Emily R. Coppess. Chicago Linguistic Society.
- Bruening, Benjamin. 2001. *Syntax at the edge: Cross-clausal phenomena and the syntax of Passamaquoddy*. Ph.D. thesis, Massachusetts Institute of Technology.
- Bruening, Benjamin. 2006. Differences between wh-scope marking and wh-copy constructions in Passamaquoddy. *Linguistic Inquiry* 37:25–49.
- Charnavel, Isabelle, and Dominique Sportiche. 2016. Anaphor Binding: What French Inanimate Anaphors Show. *Linguistic Inquiry* 47:35–87.
- Chomsky, Noam. 1973. Conditions on Transformations. In *A Festschrift for Morris Halle*, ed. Stephen Anderson and Paul Kiparsky, 232–288. New York: Holt.
- Chomsky, Noam. 1977. On wh-movement. In *Formal syntax*, ed. A Akmajian, P Culicover, and T Wasow, 71–132. New York: Academic Press.
- Chomsky, Noam. 1986. *Barriers*. Cambridge, MA: MIT Press. Linguistic Inquiry Monographs.
- Chomsky, Noam. 1995. *The minimalist program*. MIT Press.
- Chomsky, Noam. 2000. Minimalist Inquiries. In *Step by step: Essays on Minimalist Syntax in Honor of Howard Lasnik*, ed. Roger Martin, David Michaels, Juan Uriagereka, and Samuel Jay Keyser, 89–155. MIT Press.
- Chomsky, Noam. 2001. Derivation by Phase. In *Ken Hale: A life in language*, ed. Michael Kenstowicz. MIT Press.
- Chomsky, Noam. 2005. Foundational Issues in Linguistic Theory: Essays in honor of John Roger Vergnaud. In *On phases*, ed. Robert Freidin, Carlos P. Otero, and Maria Luisa Zubizarreta, 133–166. MIT Press, Cambridge. DOI: 10.7551/mitpress/9780262062787.001.0001.
- Citko, Barbara. 2014. *Phase Theory: An Introduction*. Cambridge University Press, Cambridge: UK.
- Cole, P, and G Hermon. 2000. Partial wh-movement: Evidence from Malay. In *Wh-scope marking*, ed. Gereon Müller and Armin von Stechow, 101–130. Amsterdam: Benjamins.
- Corver, Norbert. 1992. Left branch extraction. In *Proceedings of NELS 22*, ed. K. Broderick. GLSA

Publications: UMass Amherst.

- Davis, Colin. 2020. Crossing and stranding at edges: On intermediate stranding and phase theory. *Glossa* 5:1–32. DOI: <http://doi.org/10.5334/gjgl.854>.
- Davis, Colin. 2021. Possessor extraction in colloquial English: Evidence for successive-cyclicity and cyclic linearization. *Linguistic Inquiry* 52:291–332.
- Doherty, Cathal. 1997. Clauses without complementizers: Finite IP complementation in English. *The Linguistic Review* 14:197–220.
- Du Plessis, Hans. 1977. WH Movement in Afrikaans. *Linguistic Inquiry* 8.
- Embick, David. 2010. *Localism versus Globalism in Morphology and Phonology*. MIT Press, Cambridge.
- Embick, David, and Alec Marantz. 2008. Architecture and Blocking. *Linguistic Inquiry* 39:1–53. DOI: <https://doi.org/10.1162/ling.2008.39.1.1>.
- Erlewine, Michael. 2020. Anti-locality and subject extraction. *Glossa* 1-38. <https://doi.org/10.5334/gjgl.1079>.
- Erlewine, Michael Yoshitaka. 2016. Anti-locality and optimality in Kaqchikel Agent Focus. *Natural Language and Linguistic Theory* 34.
- Fox, Danny, and David Pesetsky. 2005a. Cyclic Linearization and its interaction with other aspects of the grammar. *Theoretical Linguistics* 31. DOI: <https://doi.org/10.1515/thli.2005.31.1-2.235>.
- Fox, Danny, and David Pesetsky. 2005b. Cyclic Linearization of Syntactic Structure. *Theoretical Linguistics* 31. DOI: <https://doi.org/10.1515/thli.2005.31.1-2.1>.
- Gavruseva, Elena. 2000. On the Syntax of Possessor Extraction. *Lingua* 110.
- Grohmann, Kleanthes. 2003. *Prolific domains: On the anti-locality of movement dependencies*. Amsterdam: John Benjamins.
- Halpert, Claire. 2016. *Argument licensing and agreement*. Oxford University Press.
- Heck, Fabian, and Malte Zimmermann. 2004. *DPs and phases*. Ms., Universitat Leipzig and HU Berlin.
- Henry, Alison. 2012. Phase Edges, Quantifier Float, and the Nature of (Micro-) Variation. *Iberia: An International Journal of Theoretical Linguistics* 4:23–39.

- Henry, Alision. 1995. *Belfast english and standard english: Dialect variation and parameter setting*. Oxford,UK: Oxford University Press.
- Holmberg, Anders, Michelle Sheehan, and Jenneke van der Wal. 2019. Movement from the Double Object Construction Is Not Fully Symmetrical. *Linguistic Inquiry* 50:677–721. https://doi.org/10.1162/ling_a_00322.
- Huang, Nick. 2021. How Subjects and Possessors Can Obviate Phasehood. *Linguistic Inquiry* 1-32. https://doi.org/10.1162/ling_a_00414.
- Ishii, Toru. 1999. Cyclic spell-out and the *that*-trace effect. In *Proceedings of WCCFL 18*, ed. A. Carnie, J. D. Haugen, and P. Norquest, 220–231. Somerville, MA: Cascadilla Press.
- Ko, Heejeong. 2007. Asymmetries in Scrambling and Cyclic Linearization. *Linguistic Inquiry* 38. DOI: <https://doi.org/10.1162/ling.2007.38.1.49>.
- Ko, Heejeong. 2014. *Edges in Syntax: Scrambling and Cyclic Linearization*. Oxford University Press.
- Legate, Julie Anne. 2003. Some Interface Properties of the Phase. *Linguistic Inquiry* 34. <https://doi.org/10.1162/ling.2003.34.3.506>.
- Marantz, Alec. 1991. Case and Licensing. In *Proceedings of ESCOL 91*, ed. Westphal G., Ao B., and Chae H.R., 234–53. Ohio State University: Cornell Linguistics Club.
- Marvin, Tatjana. 2003. *Topics in the Stress and Syntax of Words*. PhD thesis, MIT.
- McCloskey, James. 2000. Quantifier Float and Wh-movement in an Irish English. *Linguistic Inquiry* 51.
- McCloskey, James. 2001. The morphosyntax of wh-extraction in Irish. *Journal of Linguistics* 37:67–100.
- McCloskey, James. 2002. Resumption, successive cyclicity, and the locality of operations. In *Derivation and explanation in the minimalist program*, ed. SD Epstein and TD Seeley, 184–226. Oxford, UK: Blackwell.
- Miyagawa, Shigeru. 2011. Genitive subjects in Altaic and specification of phase. *Lingua* 121:1265–1282. <https://doi.org/10.1016/j.lingua.2011.01.009>.
- Newell, Heather. 2008. *Aspects in the morphology and phonology of phases*. PhD thesis, McGill

University.

- Newell, Heather, and Glyne Piggott. 2014. Interactions at the syntax-phonology interface: Evidence from Ojibwe. *Lingua* 150:332–362.
- Nissenbaum, John. 2000. *Investigations of covert phrase movement*. Doctoral dissertation, MIT.
- Pesetsky, David. 1982. *Paths and categories*. PhD Thesis, MIT.
- Rackowski, Andrea, and Norvin Richards. 2005. Phase Edge and Extraction: A Tagalog Case Study. *Linguistic Inquiry* 36.
- Reeve, Matthew. 2018. An agreement-based analysis of extraction from nominals. *Natural Language and Linguistic Theory* 37:263–314.
- Richards, Norvin. 1997. *What moves where in which language?*. PhD Dissertation, MIT.
- Richards, Norvin. 1999. Featural cyclicity and ordering of multiple specifiers. In *Working Minimalism*, ed. Samuel D. Epstein and Norbert Hornstein, 127–158. Cambridge, MA.
- Sabbagh, Joseph. 2007. Ordering and linearizing rightward movement. *Natural Language and Linguistic Theory* 25. DOI: <https://doi.org/10.1007/s11049-006-9011-8>.
- Sauerland, Uli. 2003. Intermediate adjunction with A-movement. *Linguistic Inquiry* 34.
- Simpson, Andrew, and Soyoung Park. 2019. Strict vs. free word order patterns in Korean and cyclic linearization. *Studia Linguistica* 73:139–174.
- Syed, Saurov, and Andrew Simpson. 2017. On the DP/NP status of nominal projections in Bangla: Consequences for the theory of phases. *Glossa* 2:1–24.
- Szabolcsi, Anna. 1984. The possessor that ran away from home. *The Linguistic Review* 3.
- Szabolcsi, Anna. 1994. The noun phrase. In *In the syntactic structure of hungarian*, ed. Ferenc Kiefer and Katalin Kiss. San Diego, CA: Academic Press.
- van Urk, Coppe. 2015. *A uniform syntax for phrasal movement: A case study of Dinka Bor*. PhD Dissertation, MIT.
- van Urk, Coppe. 2019. *A taxonomy of successive cyclicity effects*. Unpublished manuscript, QMUL. <Http://cvanurk.sllf.qmul.ac.uk/successivecyclicityacrossdomains.pdf>.
- van Urk, Coppe, and Norvin Richards. 2015. Two Components of Long-Distance Extraction: Successive Cyclicity in Dinka. *Linguistic Inquiry* 46:113–155.

Wiland, Bartosz. 2010. Overt Evidence from Left-Branch Extraction in Polish for Punctuated Paths. *Linguistic Inquiry* 41. DOI: <https://doi.org/10.1162/ling.2010.41.2.335>.