

Cross-Clausal Scrambling and Subject Case In Balkar: On Multiple Specifiers and the Locality of Movement*

Tatiana Bondarenko, Harvard University (tbondarenko@fas.harvard.edu) and

Colin Davis, University of Konstanz (colin.davis@uni-konstanz.de)

Accepted w/ minor revisions to *Syntax*

Abstract: We use fieldwork data about cross-clausal scrambling in Balkar (Turkic) to clarify the nature of movement and the factors that constrain it, with an emphasis on phase theory and the successive-cyclic movement that it entails. Balkar has a variety of embedded nominalized clauses, which are differentiated by the case of their subject. Clauses with nominative subjects permit cross-clausal object extraction but not subject extraction. In contrast, clauses with accusative subjects permit both such movements, though movement of the subject is required for object extraction. Finally, clauses with genitive subjects permit only subject extraction. We argue that these facts provide evidence for the following proposals: 1. multiple specifiers of one phase are usually possible provided that tucking-in applies, 2. higher specifiers are privileged for accessibility, 3. subject movement is constrained by anti-locality (a ban on short movements), and 4. Balkar DPs do not permit multiple specifiers. These factors are intertwined in an informative way in Balkar, and are supported by additional facts about possessors, binding, and covert movement.

Keywords: scrambling, phases, multiple specifiers, tucking-in, anti-locality, case

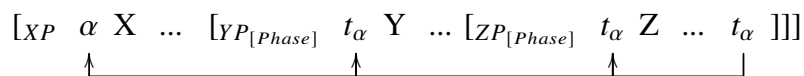
*Authors are listed alphabetically. We thank David Pesetsky, Norvin Richards, Idan Landau, the audience of West Coast Conference on Formal Linguistics 38, the 95th Linguistic Society of America meeting, and the members of the Lomonosov Moscow State University fieldwork group for their valuable feedback. 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, NMN = nominalization, NOM = nominative, PL = plural, AGR = agreement, PST = past, PTCL = particle, SG = singular.

Balkar uses a Cyrillic-based orthography, but for convenience we transliterate it using the International Phonetic Alphabet with the following substitutions: /y/ = ü, /ø/ = ö, /ʃ/ = š, [tʃ] = č.

1 Introduction

In this paper, we use fieldwork data about scrambling in Balkar (Turkic) to explore several interconnected aspects of syntactic theory, with a focus on movement and its constraints. A great deal of research has contributed to the hypothesis that certain phrases act as boundaries which limit the length of movement chains, among other syntactic phenomena. The theory of *barriers* (Chomsky 1986), for instance, was an important approach in this vein, which has since been superseded by the theory of *phases* (Chomsky 2000, 2001, 2005, a.o.). In this theory, the set of boundary-demarkating phrases, known as phases, is generally taken to include CP, vP, and DP. We adopt the same hypothesis in this paper. While many works argue for the necessity of something like phase theory, the exact nature of phases remains a subject of debate: see Citko (2014) for an overview of the approaches to and evidence for phases. Since phase-based theories hypothesize that phases bound the length of syntactic processes, they predict that phrasal movement, for instance, must typically pause in the edge (specifier) of the nearest containing phase before proceeding onward into the next one. Movement that is punctuated in this way is termed *successive-cyclic*:

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



There is a great deal of evidence for successive-cyclic movement (Chomsky 1973, 1977, 1986; McCloskey 2000, 2001; Nissenbaum 2000; Abels 2003, 2012; Henry 2012; van Urk 2015; van Urk and Richards 2015; Davis 2020, 2021; Aravind 2021, and many more). In this paper, we argue that the examination of cross-clausal movement in Balkar enriches our understanding of phase theory, successive-cyclicality, and the locality of syntactic operations.

1.1 Balkar embedded clauses

Balkar has three different embedded nominalized clause types. These can be distinguished by the case of their subject, which is either nominative, accusative, or genitive, as we see in (2) below.

(2) *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-AGR-NOM apple-ACC eat-NFUT-AGR-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-AGR-ACC apple-ACC eat-NFUT-AGR-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-AGR-GEN apple-ACC eat-NFUT-AGR-ACC
ešit-ti.
hear-PST

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

Note that in (2) and throughout this paper the subjects of embedded clauses are possessed third person noun phrases. We chose to focus on such examples for morphological reasons. Under normal circumstances, accusative and genitive case in Balkar are syncretic, both realized as *-nI*. However, this is not always so. In Balkar, as in many other Turkic languages, a possessed noun often shows morphology agreeing with its possessor. Importantly, when a noun has a third person possessor and carries the corresponding possessor agreement marker (*-sI*), accusative and genitive are morphologically distinct.¹ In this situation, accusative case is *-n*, while genitive case remains

¹Like other Turkic languages, most suffixes in Balkar contain under-specified harmonizing vowels whose pronunciation is determined by phonological context. Here we will see the harmonizing vowels /A/ and /I/. The first is realized as [e] or [a], while the latter is realized as [i], [ü], [i], or [u]. The third person possessive agreement marker (*-sI*) contains the harmonizing /I/, and also has an initial /s/ only when affixing to an element that ends in a vowel. Altogether, then, this morpheme can be realized in the following eight different ways: [-i], [-ü], [-i], [-u], [-si], [-sü], [-si], [-su].

-*nI*, as we see in (2) above.² Thus 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.

Balkar nominalized clauses with nominative, accusative, and genitive subjects each have an array of properties and different possibilities for cross-clausal scrambling. Those facts, and the conclusions we draw from them, are previewed next.

1.2 The syntactic principles Balkar reveals

Following many of the works on successive-cyclicity cited above, we take CP and vP to be phases. We assume the phase-hood of DP as well, since much recent research has identified evidence for successive-cyclicity and other phasal effects in the DP (Gavruseva 2000; Bošković 2005, 2016; Newell 2008; Newell and Piggott 2014; Syed and Simpson 2017; Jeoung 2018; Simpson and Park 2019; Aravind 2021, a.o.). Conversely, we maintain that TP, VP and NP are not phases.

In Chomsky (2000) and many of the works cited above, it is argued that as soon as a phasal phrase is completed, the material in its complement becomes inaccessible. This is termed the *Phase Impenetrability Condition*. This hypothesis predicts that no syntactic dependency can ever extend from a higher phase into a lower one’s complement. Only if a given phrase reaches (or originates in) the edge of the phase it inhabits can it be accessed by syntactic operations triggered later on in the derivation. For this reason, a moving phrase can only exit a given phase if it reaches the edge (=specifier) of that phase first. The details of what happens at phase edges, and the constraints on

²The usual syncretism of accusative and genitive is illustrated for normal nominals in (ia-b) below, and the allomorphy of accusative with third person possessive agreement is shown in (ic):

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

their accessibility, are the main topic of this paper.

Embedded clauses with accusative subjects, which we argue are nominalized CPs, are central to our analysis. We will see that subject scrambling from such clauses is permitted, but object scrambling is not, unless subject scrambling co-occurs (and only if the scrambled subject precedes the object). We argue that given the phasehood of vP and CP, these details emerge automatically from the influence of two principles. The first is the hypothesis that the CP and vP phases allow multiple specifiers, provided that all but the first specifier undergo *tucking-in* to a lower specifier position (Richards 1997, 1999, a.o.), as schematized in (3) below. Richards 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 further evidence from parasitic gaps.

(3) *Schema for tucking-in multiple specifier formation*

a. *Initial movement*

$$[_{YP} \alpha Y [_{XP} X \dots t_\alpha \beta]]$$

b. *Second movement tucks-in to a lower specifier*

$$[_{YP} \alpha \beta Y [_{XP} X \dots t_\alpha t_\beta]]$$

Second, we argue that the facts about clauses with accusative subjects reveal that when a phase has multiple specifiers, only the highest of those specifiers is accessible, but that when the higher one moves away the lower one then can be accessed. This is schematized in (4) below. Rackowski and Richards (2005) predict effects of this sort from the way they define locality as a part of their explanation of certain correlations between movement and agreement. Bošković (2016) argues for this theory using facts about movement and binding in Serbo-Croatian, Dutch and Icelandic. Holmberg et al. (2019) also defend a similar proposal in their analysis of movement in ditransitives.

(4) *Highest of multiple specifiers blocks access to lower ones in same phase*

a. *Higher specifier accessible*

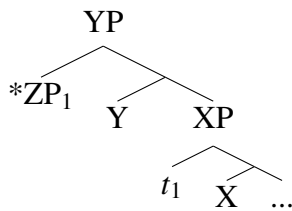
$$\checkmark \alpha \dots [_{XP_{[Phase]}} t_\alpha \beta X \dots]$$

b. *Lower specifier inaccessible*

$$* \beta \dots [XP_{\{phase\}} \alpha t_{\beta} X \dots]$$

The properties of clauses with nominative subjects are also central to this paper. We will see that while object scrambling is always permitted from nominative subject clauses, subject scrambling never is. We will argue that if nominative subjects inhabit spec-TP inside a nominalized CP, their immobility is expected given *anti-locality*—a ban on short movements (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, 2017, 2020, a.o.), as schematized in (5):

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



We show that this hypothesis correctly predicts that though the nominative subject is immobile, sub-extraction of a possessor from a nominative subject is permitted, since such movement crosses more structure. We support this analysis with further data about binding and covert movement.

Finally, we analyze scrambling from nominalized clauses with genitive subjects. We argue that these clauses uniquely include a DP layer, as argued for many other Altaic languages, such as Dagur (Hale 2002), Turkish (Aygen 2007), Sakha (Baker and Vinokurova 2010), Uyghur (Asarina 2011), and Japanese (Miyagawa 2011). We further argue that the Balkar genitive subject inhabits spec-DP. While the subject of such clauses can be scrambled out, the object never can. By analogy with works arguing for cross-linguistic variation in multiple specifier availability at the CP level (Rudin 1988; Comorovski 1986; Richards 1997), we argue (following a reviewer’s helpful suggestion) that these facts emerge from the hypothesis that the Balkar DP does not permit multiple specifiers:

(6) *DP in Balkar cannot host multiple specifiers*

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

Since the genitive subject sits in spec-DP, object extraction out of the DP that heads such clauses is thus impossible. As we'll discuss, the analysis of scrambling in Mongolian in Aravind (2021) also entails that DP can only host a single specifier. Thus this hypothesis has cross-linguistic support.

1.3 Fieldwork methodology

The core data analyzed in this paper is highly consistent across speakers, though we note when inter-speaker variation is relevant. This data was gathered in the village Verkhnyaya Balkariya, Chereksky District, in the Kabardino-Balkarian Republic, Russian Federation. This village has a population of ~4300 people. Here most people speak both Balkar and Russian fluently, with the former being used more in informal settings (at home, in stores), and the latter being used more in formal ones (at school, etc.). The group of linguists that the authors were part of has a long-lasting relationship with the community in the village, and so recruitment was done by first asking consultants that the group previously worked with if they would be interested in participating. The only conditions for being recruited were being an adult, and a native speaker of Balkar. Out of the 10 speakers we worked with, there were 9 women and 1 man. All of them were bilingual speakers of Balkar and Russian. We estimate that their ages varied between 20 and 60 years old.

Language consultants participated in ~4 elicitation sessions or less each day, each of which lasted 45 minutes. There were 15 minute breaks between sessions. The language used for conducting this fieldwork was Russian. The research presented in this paper was approved for an exemption protocol from the Institutional Review Board (IRB) for the authors' institution, and the consultants were asked to sign consent forms translated into Russian. Data elicitations conformed to the general principles for conducting fieldwork (Kibrik 1972, 2017; Bower 2015). The main methods of elicitation were translation tasks from Russian into Balkar, and grammaticality/felicity judgments of Balkar sentences. Often a translation of a Russian sentence into Balkar was asked first, and then certain properties of the resulting Balkar sentence were manipulated (case, word order, etc.) and grammaticality/felicity judgements about them recorded. Many of the consultants were used to working with linguists and were familiar with our transcription method, and they could see all the notes that were written down during sessions so that they could suggest corrections.

To avoid judgment fatigue, target sentences for different topics were interspersed. For sentences that required a judgement about interpretation (quantifier scope, binding, etc.), verbal presentation of the relevant discourse context was provided (Matthewson 2004). The discourse context was usually first presented in Russian. Judgment tasks usually involved a binary evaluation (possible versus impossible, felicitous in context versus not felicitous). Evaluation on a Likert scale from 1 to 5 was used when more fine-grained judgments were needed.

1.4 Contents of the paper

In section 2, we show the core Balkar scrambling data described above. In section 3 we state our background proposals about the properties of each Balkar embedded clause type. The main analysis of the paper is then divided into three sections. In section 4, we analyze the facts about clauses with accusative subjects. In section 5, we examine the facts about clauses with nominative subjects, as well as their possessors. In section 6, we analyze extraction from clauses with genitive subjects. In section 7, we discuss analogous facts from two Mongolic languages: Mongolian as analyzed by Aravind (2021), and Buryat. Section 8 concludes.

2 The main Balkar scrambling data

Here we will see the core facts that this paper is concerned with. This includes facts about the scrambling of subjects and objects from the various embedded clause types, as well as certain important correlations between the distribution of these processes.

Not all embedded clause types in Balkar are equally permissive of object scrambling. While it is possible to scramble the object out of an embedded clause that has a nominative subject, it is not normally possible to scramble out the object of a clause with an accusative or genitive subject:

(7) *Cross-clausal object scrambling only across nominative embedded subject*

Alma-ni _k	ustaz-∅	[_{CLAUSE} [fatima-ni	sabij-i-∅/*n/*ni]	t _k
apple-ACC	teacher-NOM	Fatima-GEN	child-AGR-NOM/*ACC/*GEN	
aša-βan-i-n]	ešit-ti.			
eat-NFUT-AGR-ACC	hear-PST			

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

Analogously, relatively local scrambling of the object in front of the subject of the embedded clause is possible only when that subject is nominative, not accusative or genitive:

(8) *Local object scrambling only over nominative embedded subject*

Ustaz-∅ [_{CLAUSE} alma-ni_k bala-si-∅/*n/*ni_i t_k aša-βan-i-n] ešit-ti.
 teacher-NOM apple-ACC child-AGR-NOM/*ACC/*GEN eat-NFUT-AGR-ACC hear-PST

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

Thus there is a correlation between the ability of an object to reach the edge of an embedded clause and its ability to scramble from it. This is intuitive given phase theory, assuming that Balkar embedded clauses contain a phase boundary that scrambling must cross, as we will argue.

Importantly, the possibility of scrambling across a given subject is negatively correlated with the ability of that subject to be scrambled from the embedded clause. While cross-clausal object scrambling over a nominative subject is permitted as we’ve seen, scrambling of the nominative subject itself is not possible. Further, while we saw that object scrambling across accusative and genitive subjects is not allowed, cross-clausal scrambling is permitted for both of these subjects:

(9) *Cross-clausal subject scrambling only possible for accusative or genitive subject*

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

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

Furthermore, when the embedded subject is accusative, subject and object scrambling interact in an intriguing way. We have seen above that object scrambling out of an embedded clause is banned when the subject is accusative, though the accusative subject itself can scramble out. Importantly, when the accusative subject scrambles into the higher clause, the object of the embedded clause can do so as well. After scrambling the subject must precede the object:³

³There is an adverb ‘yesterday’ between the two scrambled phrases here and in some following examples, since some speakers reported that use of multiple adjacent phrases with the same case marking is awkward, though many accept (10a) without the adverb as well.

(10) *Accusative subject scrambling feeds cross-clausal object scrambling*

a. *S over O final order required*

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

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

b. *O over S final order illegal*

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

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

The behavior of clauses with genitive subjects differs. We have seen that when an embedded clause has a genitive subject, the subject itself can scramble out, but the object cannot. Though accusative subject scrambling feeds cross-clausal object scrambling, genitive subject scrambling does not, regardless of the order of subject and object after they scramble:

(11) *Genitive subject scrambling does not feed cross-clausal object scrambling*

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

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

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

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

These are the Balkar facts we focus on deriving in this paper. We will see additional supporting data as the analysis 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 can exceptionally succeed when the accusative subject scrambles as well. In the next section, we lay out our proposals about the structural contents of Balkar embedded clauses, which will serve as the basis for our analysis of these facts.

3 The properties of Balkar embedded clauses

Here we argue that the three types of Balkar embedded clauses discussed above have different structures, which yield their differences in subject case and transparency for cross-clausal scrambling. These proposals set the stage for the analysis in sections 4-6.

3.1 Embedded clause structures

The Balkar embedded clauses we analyze have a variety of nominal traits. Just like typical nominal phrases, these embedded clauses appear in argument positions and receive case marking. We see this in (2) above, for instance, where each embedded clause receives accusative case due to being in an object position. These clauses are also nominal-like in their agreement. Balkar verbs normally agree with their subject. As we have discussed, possessed nouns in Balkar also carry a suffix that agrees with the possessor. Importantly, the agreement morphology used in the embedded clauses we investigate here is of the same paradigm as the possessor agreement we see in NPs, while matrix verbs use a separate paradigm. See Bondarenko (2018) for a full description of these two agreement paradigms, and for more evidence that embedded clauses in Balkar are nominalized.⁴

While these embedded clauses have typical nominal properties, they also have clausal/verbal characteristics. Building from 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.⁵ The chart in (12) below summarizes

⁴Recall that, as section 1 described, for morphological reasons we restricted our study to embedded clauses whose subjects are possessed third person noun phrases. In (non-nominalized) matrix clauses, agreement with third person noun phrases is generally *-dI*. However, with nominalized embedded verbs, a third person subject yields the agreement suffix *-(s)I*. This is precisely the same morpheme we see affixed to nouns with a third person possessor, as shown in section 1.1 above.

⁵We might replace N here with *n*, the head responsible for creating nominal categories in various works using Distributed Morphology (Marvin 2003; Embick and Marantz 2008; Embick 2010).

our specific proposals about each clause type, which we justify next. In brief, we hypothesize that clauses with nominative or accusative subjects have a full clausal structure that is nominalized, whereas clauses with genitive subjects have less clausal structure, but more nominal structure:

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

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

All three clause types have at least enough verbal structure to host VP-level adverbs, as we show below with the manner adverb *loudly*:

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

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

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

All clause types also permit sentential negation, implying at least a moderate amount of verbal/clausal structure:

(14) *Negation in all clause types*

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

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

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

(15) *Future marking in all clause types*

OI- \emptyset [bala-si- \emptyset /n/n $\dot{\text{i}}$ (tambla) alma-si-n aša-ri B -i-n]
(s)he-NOM child-AGR-NOM/ACC/GEN (tomorrow) apple-AGR-ACC eat-FUT-AGR-ACC
ajt-a-di.
say-IPFV-3SG

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

However, while clauses with nominative and accusative subjects allow independent tense modification, the tense of genitive subject clauses is dependent on the tense of the matrix clause:

(16) *Tense independence of nominative/accusative but not genitive subject clauses*

Kerim- \emptyset tünene [[fatima-n $\dot{\text{i}}$ bala-si- \emptyset /n/*n $\dot{\text{i}}$ tambla alim-ni
Kerim-NOM yesterday Fatima-GEN child-AGR-NOM/ACC/*GEN tomorrow Alim-GEN
kištig-i-n ba B ar-l $\dot{\text{i}}$ q-i-n] bil-di.
cat-AGR-ACC feed-FUT-AGR-ACC know-PST

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

Thus we posit that clauses with nominative and accusative subjects are fully finite, containing T and C. In contrast, we assume the absence of these functional heads in clauses with genitive subjects, thus accounting for their lack of independent tense interpretation.⁶ While clauses with genitive subjects lack C and a finite T, we’ve seen that such clauses do allow both future and non-future participle morphology. Thus it is likely incorrect to posit the total absence of functional material pertaining to tense/aspect/modality in such clauses. Therefore we adopt a suggestion from

⁶Alternatively we might posit a ‘defective’ T in clauses with genitive subjects, which is underspecified for tense features and also lacks case assignment ability (Chomsky 2000, 2001). A reviewer suggests that even in the absence of TP, a defective CP could be present (Kang 2014). We suggest that there is indeed no CP, since as Bondarenko (2018) discusses, nominalized clauses with genitive subjects disallow *wh*-phrases in Balkar. Balkar is a *wh*-in-situ language, but if its *wh*-phrases must covertly move to spec-CP (Nissenbaum 2000), then it follows that *wh*-phrases should be illicit in clauses with genitive subjects where CP is absent, as in (i):

- (i) Ustaz [sabij-i- \emptyset /*ni ne-ni buz- B an-y-n] bil-di-mi?
teacher child-AGR-NOM/*GEN what-ACC break-FUT-AGR-ACC know-PST-Q
‘What did the teacher find out that someone’s child broke?’ (Bondarenko 2018, ex. 43-44)

See Kornfilt (2003) for use of similar logic in the analysis of Turkish.

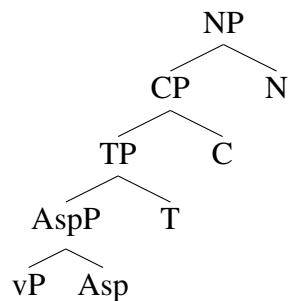
a reviewer that an Asp(ect)P is present in all Balkar nominalized clauses, and maintain the unique absence of T and C in clauses with genitive subjects.

As previewed above, we hypothesize that the clausal/verbal material in all these embedded clauses is the complement of a nominalizing N. However, in addition we posit that the reduced clausal/verbal functional structure in embedded clauses with genitive subjects is dominated by more nominal structure—specifically a DP layer, which assigns genitive case. That D is responsible for genitive assignment is also argued for other languages, such as Dagur (Hale 2002), Turkish (Aygen 2007), Sakha (Baker and Vinokurova 2010), Uyghur (Asarina 2011), and Japanese (Miyagawa 2011), for instance. See Bondarenko (2018) for further arguments for the presence of D in Balkar genitive subject clauses from facts about agreement and pluralizability. See also Gürer (2020), who argues that Balkar relative clauses with genitive subjects contain DP.⁷

In summary, the diagrams in (17) below show the structures we thus assume for clauses with nominative or accusative versus genitive subjects:

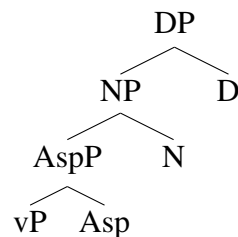
(17) a. *CP dominated by NP:*

Nominative or accusative subject



b. *AspP dominated by NP and DP:*

Genitive subject



The above trees do not represent the positions for subjects. Next we discuss this, as well as the

⁷Another piece of evidence that Balkar nominalized clauses with genitive subjects are less clause-like and more nominal is that use of elements like quantifiers and numerals is relatively acceptable with them, though this contrast is not absolute:

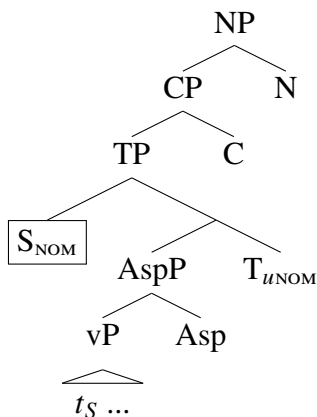
- (i) Tünene ustaz-∅ [[fatima-ni bala-si-ni^{??}n^{??}∅] alma-ni xar/eki aša-ban-i-n]
 yesterday teacher-NOM Fatima-GEN child-AGR-GEN^{??}ACC^{??}NOM apple-ACC every/two eat-NFUT-AGR-ACC
 ešt-gen-di.
 hear-NFUT-AGR
 ‘The teacher heard every/two eating(s) of the apple by Fatima’s child yesterday.’

mechanisms responsible for case assignment to each subject type. After this, we will be ready to begin the core analysis of Balkar scrambling in the following section.

3.2 Case assignment to and the positions of Balkar embedded subjects

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 simultaneously moves from its origination position in spec-vP to the specifier of TP (Chomsky 2000, 2001, a.o.), as diagrammed in (18) below. For the purposes of this paper, it is convenient to hypothesize that T can only assign nominative case in a specifier-head relationship. This motivates movement of the nominative subject to spec-TP, which will be vital for our analysis. We assume with much recent work in syntactic theory that a syntactic dependency between a phrase and a given head X, such as movement, case assignment, or agreement, must be preceded by X finding that phrase upon searching (‘probing’) its c-command domain. For concreteness, we follow Chomsky (2000) and following work in assuming that this search is initiated by an unvalued feature (prefixed with ‘u’) on X, though we will omit such features from most diagrams for simplicity.⁸

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

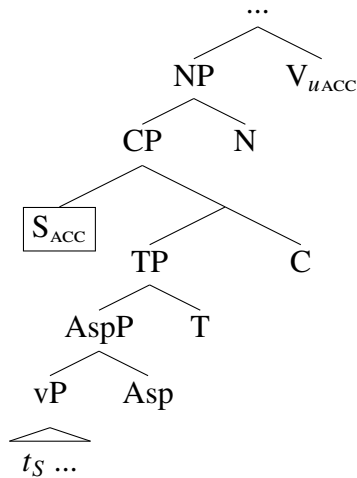


Second, we hypothesize that what distinguishes embedded clauses with nominative and accusative subjects is that in the latter type, T is defective such that it lacks the ability to assign

⁸For concreteness we assume that terminal movement to the specifier of some XP, or successive-cyclic movement through it, are both triggered by a prior relationship between a searching feature on X and the phrase to be moved (McCloskey 2002; Rackowski and Richards 2005; Abels 2012; van Urk 2015, 2020; Halpert 2016).

nominative case. (See Chomsky (2000, 2001) for discussion of case and defective T.) We propose that in this situation, the subject gains accusative case due to bypassing TP and landing in the edge of CP, where it is accessible for later case assignment by the matrix V:

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



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. For further evidence that accessing spec-CP is relevant for cross-clausal accusative assignment see Shklovsky and Sudo (2014); Fong (2019); Wurmbrand (2019), and references therein.

Several facts support this proposal. First, accusative subjects do not occur in embedded clauses that are subjects, as (20) shows. 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. As (20) also shows, it is possible for an embedded clause that is a subject to have a nominative or genitive subject, which is consistent with our proposal that embedded subjects receive these cases within the embedded clause itself, respectively from T and D.

(20) *Accusative subjects banned when the embedded clause is a subject*

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

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

The hypothesis that accusative subjects are assigned their case by a higher verb also 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 (21) shows. The matrix clause in (21) 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 10}

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

Alim [[Fatima-ni sabij-i-Ø/ni/*n] mašina buz-Ɔan-dan] qurqu-ruq-du.
 Alim Fatima-GEN child-AGR-NOM/GEN/*ACC car break-NFUT-ABL be.afraid-FUT-AGR

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

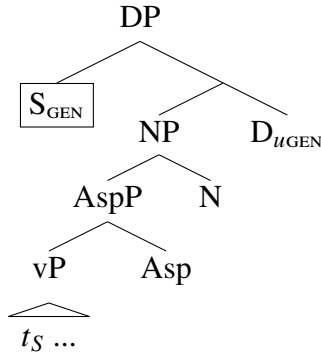
We thus maintain that accusative subjects receive their case from a higher V.

Finally as mentioned above, we hypothesize that in Balkar embedded clauses with genitive subjects, the subject receives genitive case from D. We argue that this triggers movement of the subject to spec-DP, as (22) below shows. This Balkar structure, with a nominalized AspP where the subject raises to spec-DP upon receiving genitive case, is the exactly same as that posited by Hale (2002) for Dagur. We will argue that hypothesizing this same structure facilitates correct predictions about Balkar as well.

⁹A reviewer asks whether the embedded subject in this situation can bear ablative case. As far as we know, this is not possible. We leave this puzzle for future research.

¹⁰Normally an embedded clause in object position with an accusative subject also itself carries accusative case marking, as we see for instance in (2b) above. A reviewer suggests that this could indicate that accusative case is assigned to the clause itself before then being passed on to the accusative subject. Since it is presumably the nominalizing NP layer above CP that requires case in such a structure, this analysis requires positing transmission of case from NP to the subject below. Since this would have to be a syntactic operation, the phasal status of CP would require the subject to reach spec-CP in order for this operation to succeed, as the reviewer observes.

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



Next we provide supporting evidence for these proposals about the position of embedded subjects in Balkar from binding, after which we proceed to our analysis of Balkar scrambling.

3.2.1 Supporting evidence for these subject positions 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. This hypothesis is supported by facts about 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 be required 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 (23):¹¹

¹¹A reviewer notes that Shklovsky and Sudo (2014) make a similar argument based on the contrasting bindability of accusative and nominative subjects in Uyghur.

While Condition A requires an anaphor to be bound by a local antecedent, in contrast, Condition B requires that any given pronoun is not bound by a local antecedent, though co-indexation with a distant (=clause external) antecedent is permitted. A reviewer points out that for this reason, we expect to see a reversal of judgment patterns in (23) if we were to replace these anaphors with pronouns. Example (i) below verifies this prediction using second person singular pronouns:

- (i) sen-∅ [ʔsen-∅ / *sen-ni xalat-ni et-xen-iŋ-ŋi] angila-di-ŋ
 you-NOM you-NOM you.ACC/GEN mistake-ACC do-PRF-AGR-ACC understand-PST-2SG
 ‘You understood that you made a mistake.’

While having two adjacent nouns of the same case is sometimes awkward as mentioned in footnote 3 above, there is a clear contrast here: use of a nominative embedded subject that co-refers with the matrix one is possible, while use of an accusative/genitive embedded subject is impossible.

(23) *Only accusative/genitive embedded subjects are accessible for binding*

Ustaz- \emptyset_k [CLAUSE [kesi-kes-i-n/ni/* \emptyset]_k alma aša- \cancel{b} an-i-n] ešit-ti
 teacher-NOM self-self-AGR-ACC/GEN/*NOM apple eat-NFUT-AGR-ACC hear-PST

‘The teacher heard herself eating an apple.’

As discussed in section 3.1 above, verbs in Balkar generally agree with their subject, in both main and embedded (nominalized) clauses. Note that the unacceptability of the nominative anaphor in (23) above cannot be attributed to an *anaphor agreement effect* (Rizzi 1990, a.o.), which describes the impossibility of agreeing with an anaphor in many languages. This is because all three anaphoric subjects in (23) are targeted for agreement by the embedded verb, including the acceptable accusative and genitive anaphors. In contrast, our proposals about the positions of subjects in Balkar combined with phase theory predict the facts.

This concludes our analysis of the structure of Balkar embedded clauses and the properties of their subjects.¹² These proposals set the stage for the analysis of the scrambling facts introduced in section 2, among other facts that we are about to see. Our main analysis is split across the following three sections, each of which focuses on one Balkar embedded clause type.

4 Accusative subject clauses and multiple specifiers

We have seen that for embedded clauses with accusative subjects, the subject can scramble into the higher clause (24a), while the object cannot (24b), unless the subject has scrambled as well (24c):

¹²A reviewer asks whether all embedding verbs co-occur with embedded clauses using all subject types. We have observed that some verbs only select for certain clause types. For example, the verb *bil-* ‘know/think’ disallows embedded clauses with genitive subjects (i):

- (i) Alim- \emptyset [[Fatima-ni bala-si- \emptyset /n/*ni] konkurs-nu qat-xan-i-n] bil-e-di
 Alim-NOM Fatima-GEN child-AGR-NOM/ACC/*GEN competition-DAT win-NFUT-AGR-ACC know-IPFV-AGR
 ‘Alim knows that Fatima’s child won the competition.’

This could be the result of syntactic selection, or semantic selection, given that different embedded clause types may semantically differ in ways that affect what embedding verbs they can combine with (Wurmbrand and Lohninger 2019a,b). We have not systematically investigated such constraints since for our purposes it was most important to focus our fieldwork on verbs that are compatible with all the three kinds of nominalized clauses.

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

a. *Subject scrambling allowed*

[Fatima-ni bala-si-n]_k ustaz-∅ [_{CLAUSE} t_k alma-ni aša-ʒan-i-n]
Fatima-GEN child-AGR-ACC teacher-NOM apple-ACC eat-NFUT-AGR-ACC
ešt-gen-di.
hear-NFUT-AGR

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

b. *Object scrambling normally banned*

* Alma-ni_k ustaz-∅ [_{CLAUSE} [fatima-ni sabij-i-n] t_k aša-ʒan-i-n]
apple-ACC teacher-NOM Fatima-GEN child-AGR-ACC eat-NFUT-AGR-ACC
ešit-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-AGR-ACC yesterday apple-ACC teacher-NOM
aša-ʒan-i-n] ešit-ti.
eat-NFUT-AGR-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 from our hypothesis that in such clauses, the subject moves from its origination position in vP, skipping over TP, and landing in the specifier of the CP phase where it is assigned accusative case by the higher V, as (25) illustrates once more:

The second proposal we need is about the relative accessibility of specifiers. We argue 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):

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

a. *Higher specifier accessible*

$$\checkmark \quad \alpha \dots [XP_{[Phase]} \quad t_\alpha \quad \beta \quad X \dots]$$

b. *Lower specifier inaccessible*

$$* \quad \beta \dots [XP_{[Phase]} \quad \alpha \quad t_\beta \quad X \dots]$$

With these hypotheses in mind, let's first examine the derivation of attempted object scrambling from a clause with a non-scrambling 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 (29):

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

$$\dots [{}_{vP} S \quad O [{}_{VP} t_O \quad V] v]$$

After merger of Asp, T and C, C will then search its c-command domain for potential phrases to be moved. Since the subject is the highest specifier of the vP in (29), C will find the subject first, attracting it to spec-CP and making it available for later accusative case assignment:

(30) *Subject movement to CP*

$$\dots [{}_{CP} S [{}_{TP} [{}_{AspP} [{}_{vP} t_S \quad O [{}_{VP} t_O \quad V] v] Asp] T] C]$$

Further probing of C will find the object in the lower spec-vP, which C then attracts. Since the subject has already moved into the CP edge, the object must thus tuck-in to a lower spec-CP (31):

(31) *Scrambling object tucks-in below subject in CP*

$$\dots [{}_{CP} S \quad O [{}_{TP} [{}_{AspP} [{}_{vP} t_S \quad t_O [{}_{VP} t_O \quad V] v] Asp] T] C]$$

Importantly, Bošković (2016) argues that the highest of a phase’s multiple specifiers blocks movement of lower ones, and that when the highest specifier moves away the next highest specifier becomes accessible, since traces are syntactically inert. We adopt this hypothesis as well.¹³ Given this, we indeed expect the object in the lower spec-vP in (31) to be able to move to CP due to prior movement of the subject from vP to CP. Further, if higher specifiers block access to lower ones, we accurately predict the impossibility of moving the object out from under the subject after they both have moved to specifiers of CP, as schematized in (32):

(32) *No later scrambling of object from lower specifier of CP*

* O ... [VP [NP [CP S_{ACC} t_O [TP [A_{SP}P [vP t_S t_O [VP t_O V] v] Asp] T] C] N] V_{uACC}]

We thus explain the fact that the accusative subject blocks cross-clausal scrambling of an object.¹⁴ If movement of a higher specifier makes movement of the lower one possible, then we also correctly predict that if the accusative subject scrambles out of the higher specifier of CP, the object in the lower specifier of CP should then become accessible for movement out of the embedded clause:

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

S_{ACC} O ... [VP [NP [CP t_S t_O [TP [A_{SP}P [vP t_S t_O [VP t_O V] v] Asp] T] C] N] V_{uACC}]

Therefore we accurately predict that object scrambling from a clause with an accusative subject can only succeed if that subject scrambles out as well.¹⁵ However, there is a further constraint on such configurations which requires us to go into more detail about their derivation.

¹³The theory in Rackowski and Richards (2005) likely makes the same prediction, since it includes the hypothesis that a specifier that has already been accessed for a syntactic operation 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.

¹⁴A reviewer also suggests that if this scrambling is A-movement, the accusative subject might block access to the object because A-movement of one DP cannot typically cross another.

¹⁵A reviewer suggests that the unacceptability of scrambling over an un-moved accusative subject might be re-analyzed as a case assignment problem, in the context of an analysis that assumes that movement always targets the top of the tree (as opposed to the tucking-in theory we defend here). The suggestion is that after movement of the embedded subject to the edge of CP, if tucking-in is banned then subsequent movement of the object to CP would place it in a higher specifier of that CP. If the scrambled object is in a spec-CP above that of the scrambled subject, then that subject will not be accessible for accusative case assignment by the higher V. Thus, the reviewer suggests, case assignment to the embedded subject fails and the derivation crashes (unless the object were able to scramble out of

4.1 On the order of a scrambled object and accusative subject

While it is true that the accusative subject must scramble in order for the object of the embedded clause to do so as well, there is an additional constraint on when this can occur. Specifically, we saw in the introduction that after scrambling the accusative subject must precede the object:

(34) *Accusative subject scrambling feeds cross-clausal object scrambling*

a. *S over O final order required*

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

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

b. *O over S final order illegal*

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

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

We argue that the hypotheses introduced above correctly predict this fact as well.

Since in these examples the subject and object scramble to a position in the left periphery of the matrix clause preceding the matrix subject, we assume that these scrambling movements pass through the vP of the matrix clause before finally landing in the matrix CP. To see how the facts emerge, let’s continue the derivation from (31) above, repeated below, where the embedded subject and object have both moved to the edge of the embedded CP:

that higher spec-CP before accusative case assignment to the subject is attempted). We do not pursue this alternative analysis because it faces a contradiction, when we consider the entire derivation from the beginning. If movement always targets the top of the tree, then when the vP phase of the embedded clause is built, successive-cyclic movement of the object will not tuck-in below the in-situ subject (as in our (29) above) but rather will form a higher spec-vP above the subject. Later when C is merged it searches its c-command domain for mobile phrases. C will first find the object in the outer spec-vP and attract it. C will then find the subject in the lower spec-vP, and attract it as well, placing it in a higher spec-CP. This is an automatic consequence of assuming that there is no tucking-in. However, if the subject of the embedded clause ends up at the top of the CP in this way, it should be accessible for accusative case assignment by the matrix V. Thus this alternative analysis does not actually predict a case assignment problem in the first place.

(35) *Scrambling object tucks-in below subject in CP*

$$\dots [NP \ [CP \ S \ O \ [TP \ [AspP \ [vP \ t_S \ t_O \ [VP \ t_O \ V] \ v] \ Asp] \ T] \ C] \ N]$$

Next matrix V (which assigns the embedded subject accusative case) and v are merged, along with the matrix subject in spec-vP:

(36) *Matrix V, v, and subject merged*

$$\dots [vP \ S \ [VP \ [NP \ [CP \ S_{ACC} \ O \ [TP \ [AspP \ [vP \ t_{S_{ACC}} \ t_O \ [VP \ t_O \ V] \ v] \ Asp] \ T] \ C] \ N] \ V_{uACC}] \ v]$$

Since the accusative embedded subject and the object are being scrambled to the periphery of the matrix clause, both of these phrases must pass through the edge of the matrix vP. Since this vP already contains the matrix subject, the accusative subject and object must tuck-in beneath the matrix subject. Since the accusative subject moves before the object for the reasons discussed above, these movements will result in a triple-specifier matrix vP where the accusative subject tucks-in below the matrix subject, and the object tucks-in below the accusative subject:

(37) *Embedded subject and object tuck-in beneath matrix subject*

$$\dots [vP \ S \ S_{ACC} \ O \ [VP \ [NP \ [CP \ t_{S_{ACC}} \ t_O \ TP \ C] \ N] \ V_{uACC}] \ v]$$

As discussed above, we assume that nominative subjects receive their case from T, which simultaneously attracts such subjects to spec-TP. Since the matrix subject in the bi-clausal configuration we are currently analyzing is nominative, we thus assume that when T (along with Asp) is merged to the vP in (37) above, T attracts the matrix subject and assigns it nominative case:

(38) *Matrix subject moves to specifier of nominative-assigning matrix T*

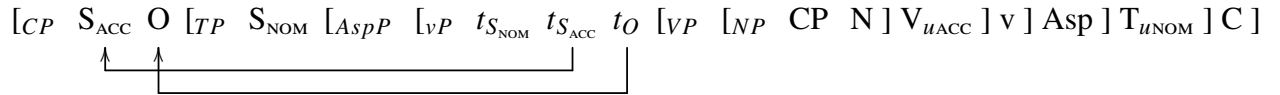
$$\dots [TP \ S_{NOM} \ [AspP \ [vP \ t_{S_{NOM}} \ S_{ACC} \ O \ [VP \ [NP \ CP \ N] \ V_{uACC}] \ v] \ Asp] \ T_{uNOM}]$$

Notice that due to this movement of the matrix subject, the accusative subject that previously tucked-in beneath it is now the highest specifier present in the matrix vP. Thus when C is merged in the matrix clause, it can then attract the accusative subject into its edge.¹⁶ After this, the only

¹⁶The same would have to occur in examples where the accusative subject scrambles alone into the matrix clause such as (24a/26). The accusative subject will tuck-in below the matrix subject in vP, but the accusative subject can be attracted by C after the matrix subject moves to the specifier of the matrix T upon receiving nominative case.

remaining specifier of the matrix vP is the scrambled object of the embedded clause, which the matrix C can then also attract, tucking it in below the scrambled accusative subject, as in (39):

(39) *Embedded subject and object attracted by matrix C*



This schematized derivation matches the acceptable multiple scrambling configuration in (34a) above. Here the accusative subject must end up above the scrambled object because, during the course of their successive-cyclic movement, the accusative subject is always in a higher specifier than the object and is thus targeted first by movement-triggering heads. The object is always accessed after, and thus ends up tucking-in. We thus explain the word order contrast between the multiple scrambling examples in (34a) and (34b) above.¹⁷

This concludes our discussion of embedded clauses with accusative subjects. All of the details about scrambling from such clauses emerge automatically given the possibility of multiple specifier formation, the privileged accessibility of higher specifiers, and the phase-hood of CP and vP. This section has focused on what happens when (multiple) phrases reach a phase edge. In the next section, we argue that the properties of nominative subject clauses, as well as facts about possessors and covert movement, clarify our understanding of when the phase edge can be reached at all.

5 Nominative subject clauses and anti-locality

We have seen that while cross-clausal object scrambling cannot normally cross an accusative or genitive subject (the latter of which we set aside until the next section), such object scrambling can cross over the nominative subject of an embedded clause:

¹⁷These examples, which are copied from (10) above, contain a parenthesized adverb between the scrambled accusative subject and object, since some speakers regard adjacent phrases with the same case marking to be awkward, as mentioned in footnote 3 above. We suggest that in structures with the adverb, the subject first scrambles into CP, then the adverb is externally merged into a specifier below it, after which scrambling of the object tucks-in beneath the adverb. Alternatively, the adverb could be externally merged late (Lebeaux 1988, a.o.) after scrambling applies.

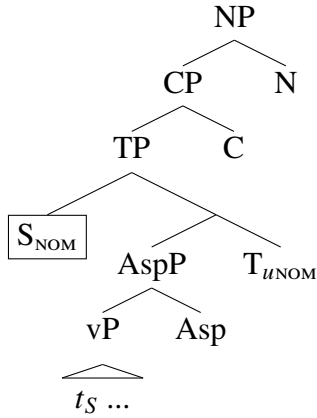
(40) *Nominative subject does not block cross-clausal object scrambling*

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

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

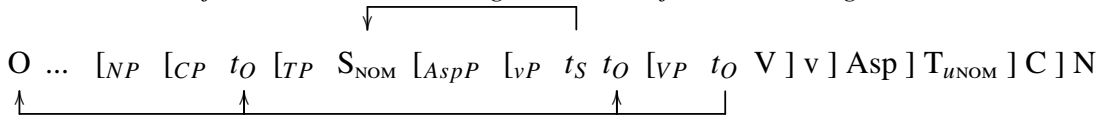
This is what we predict, given our proposal from section 3 above that a nominative embedded subject sits in spec-TP, below CP, as shown once more below:

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



Specifically, 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, as schematized in (42) below. Here we see that at the vP level, we expect the scrambling object to tuck-in beneath the subject in its original position in spec-vP. Since the subject then moves to spec-TP upon being assigned nominative case, the scrambling object in the lower spec-vP becomes accessible by C, through which it passes as a part of its movement path out of the embedded clause:

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



If the nominative subject remained in situ, however, we would expect object scrambling to fail here.

As shown in section 2, an additional fact sets nominative embedded subjects apart from accusative and genitive ones: they cannot scramble from the embedded clause (43).

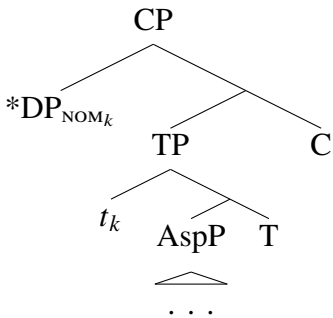
(43) *No cross-clausal scrambling of nominative subject*

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

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

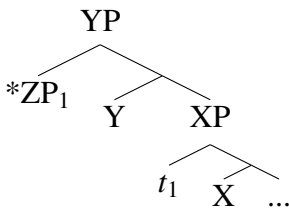
If a nominative embedded subject sits in the specifier of a TP that is dominated by CP, and if CP is a phase, then cross-clausal scrambling of a nominative subject would require the subject to move from spec-TP to spec-CP before then continuing on out of the clause, as in (44) below. If we can rule out the nominative subject reaching spec-CP, we would correctly predict the impossibility of scrambling it from the embedded clause:

(44) *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, 2017, 2020). This principle bans movement from the edge of a given phrase XP to the edge of the next highest phrase YP:

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



This constraint thus correctly predicts that a nominative embedded subject is immobile.¹⁸ We argue that this understanding of the unextractability of nominative subjects makes a variety of additional correct predictions, which we discuss next.¹⁹

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:

(46) *Only accusative/genitive embedded subjects are accessible for binding*

Ustaz- \emptyset_k [CLAUSE [kesi-kes-i-n/ni/* \emptyset]_k] alma aša-ban-i-n] ešit-ti
 teacher-NOM self-self-AGR-ACC/GEN/*NOM apple eat-NFUT-AGR-ACC hear-PST

‘The teacher heard herself eating an apple.’

We argued that if binding is phase-sensitive (Charnavel and Sportiche 2016; Bošković 2016), this fact fits our proposal that accusative and genitive subjects inhabit the edge of their local phases (CP

¹⁸If such anti-locality is a general principle of language, 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) and Erlewine (2016) suggest following Doherty (1997) that subject extraction in English occurs from clauses that are bare TPs lacking 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} *t*₁ saw John]?

A reviewer points out that we expect nominative subject extraction to be possible from bare TPs in Balkar. This is indeed what we predict. However, so far we have not encountered any clauses in Balkar that are plausibly bare TPs (though future work may do so). The fact that as far as we have observed nominative subjects in Balkar are immobile suggests that the clauses that contain them are always full CPs. However, for two speakers, while scrambling of the nominative subject is usually illegal, it becomes licit if the object also scrambles and results in O over S order:

- (ii) a. * [Fatima-ni sabij-i- \emptyset]_k tünene alma-ni_j ustaz- \emptyset [*t*_k *t*_j aša-ban-i-n] ešit-ti.
 Fatima-GEN child-AGR-NOM yesterday apple-ACC teacher-NOM eat-NFUT-AGR-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 aša-ban-i-n] ešit-ti.
 apple-ACC yesterday Fatima-GEN child-AGR-NOM teacher-NOM eat-NFUT-AGR-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.)

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 8/10 speakers did not in fact allow this pattern, we will not offer a detailed analysis of it.

¹⁹A reviewer asks whether anti-locality would block the object movement from VP to spec-vP in (29) above. The same question could be asked about the schema in (42) above. If objects originate in the complement of V, then this is not a specifier to specifier movement, so the anti-locality constraint in question does not ban it. Additionally, anti-locality would definitely not apply here if the verbal domain contains more than just vP and VP (Harley 2013; Legate 2014, a.o.).

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 adoption of the anti-locality principle in (45) above, we can make this account more specific. If a nominative subject could move to the edge of the containing CP, we would expect anaphor binding to become possible. There is independent evidence that movement into clause edges facilitates such binding, as (47) below shows for *wh*-movement in English:

- (47) *Binding fed by movement into clause edge* (Nissenbaum 2000, p. 143, ex. 1)
- 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]].

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

5.1 Nominative subjects cannot covertly move either

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.²⁰

5.1.1 Scope evidence for nominative subject immobility

In a typical transitive matrix clause where the subject and object are both quantificational, both surface and inverse scope are available in Balkar (48):

²⁰An alternative account of the ban on nominative subject scrambling might come from processing: perhaps pressure to parse the scrambled nominative subject as a matrix subject causes a garden path effect. However, it is unclear how a processing account would deal with the scope facts in this section, since covert movement cannot cause a garden path effect.

(48) *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.’

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:

(49) *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-AGR-GEN city-DAT go-NFUT-AGR-ACC hear-PST-PL

b. *Scrambled over matrix subject*

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

c. *Both versions permit surface and inverse scope*

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

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

For accusative embedded subjects as well, both scopes are available independent of scrambling:

(50) *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-AGR-ACC city-DAT go-NFUT-AGR-ACC hear-PST-PL

b. *Scrambled over matrix subject*

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

c. *Both versions permit surface and inverse scope*

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

✓ *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 surface scope is available:

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

[Eki qiz] [[xar žaš-Ø] šaxar-BA bar-BAŋ-i-n] ešit-ti-le.
two girl every boy-NOM city-DAT GO-NFUT-AGR-ACC hear-PST-PL

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

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

The scope of scrambled nominative subjects is untestable, since they cannot scramble.

If inverse scope for un-scrambled embedded subjects requires them to covertly move over the quantifier phrase in the matrix clause, presumably via *Quantifier Raising* (Heim and Kratzer 1998, a.o.), then anti-locality predicts these facts. Nominative subjects are frozen by anti-locality and thus cannot covertly move. Accusative and genitive subjects are mobile, so they can covertly move into the matrix clause and yield inverse scope. Next we show more facts that support this result.

5.1.2 Subject negative polarity items

Here we show analogous facts involving the negative polarity item (NPI) *kiši-da* (‘someone’, literally ‘man’ plus a suffix *-da*). This NPI cannot be possessed, so we cannot distinguish its accusative and genitive forms, though the single syncretic accusative/genitive form behaves as predicted. Since this is an NPI, it is licit when negation (*-mA*) is present:

(52) *NPI licensed when negation is present*

- a. Kiši-da alma aša-ma-βan-di.
man-PTCL apple eat-NEG-NFUT-AGR
'Nobody ate an apple.'
- b. * Kiši-da alma aša-βan-di.
man-PTCL apple eat-NFUT-AGR
'Someone ate an apple.'

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

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

Ustaz-∅ [kiši-ni-da alma aša-ma-βan-i-n] kör-gen-di.
teacher-NOM man-GEN/ACC-PTCL apple eat-NEG-NFUT-AGR-ACC see-NFUT-AGR
'The teacher saw that no one ate an apple.'

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

Ustaz-∅ [kiši-ni-da alma aša-βan-i-n] kör-me-gen-di.
teacher-NOM man-GEN/ACC-PTCL apple eat-NFUT-AGR-ACC see-NEG-NFUT-AGR
'The teacher didn't see that anyone ate an apple.'

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

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

Ustaz-∅ [kiši-∅-da alma aša-ma-βan-i-n] kör-gen-di.
teacher-NOM man-NOM-PTCL apple eat-NEG-NFUT-AGR-ACC see-NFUT-3SG
'The teacher saw that no one ate an apple.'

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

* Ustaz-∅ [kiši-∅-da alma aša-βan-i-n] kör-me-gen-di.
teacher-NOM man-NOM-PTCL apple eat-NFUT-AGR-ACC see-NEG-NFUT-3SG
'The teacher didn't see that anyone ate an apple.'

We propose that an embedded accusative/genitive NPI subject can be licensed by matrix negation as in (53b) when it undergoes covert movement into the matrix clause. If anti-locality prevents

a nominative embedded NPI subject from performing such movement, it will have to be licensed only by local embedded negation (54a).

5.1.3 An indefinite subject

The phrase *kim-ese-da* (literally ‘who’ with two additional particles) is an indefinite that must take wide scope, and thus normally takes scope over 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:

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

Ustaz- \emptyset [kim-ni-ese-da alma aša-*ban-i-n*] ešit-me-gen-di.
 teacher-NOM who-GEN/ACC-PTCL-PTCL apple eat-NFUT-AGR-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.’

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

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

Ustaz- \emptyset [kim- \emptyset -ese-da alma aša-*ban-i-n*] ešit-me-gen-di.
 teacher-NOM who-NOM-PTCL-PTCL apple eat-NFUT-AGR-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.’

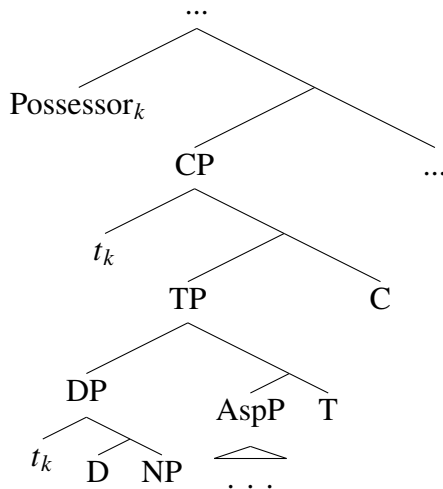
Assuming that wide scope over matrix negation is derived by covert movement of the accusative/genitive embedded subject into the matrix clause in (55), the hypothesis that nominative embedded subjects are syntactically frozen accurately predicts the obligatory surface scope in (56).

5.2 Possessor extraction circumvents 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. Such anti-locality bans movement from spec-TP to spec-CP, and we argued that this hypothesis makes the right predictions about the impossibility of either overtly or covertly moving a Balkar nominative subject from an embedded clause. However, our expectations differ for possessors of nominative subjects.

If possessors are merged in spec-DP where they receive genitive case (Corver 1992; Chomsky 1995; Davis 2021, a.o.), then in Balkar a possessor of a nominative embedded subject is separated from the edge of the CP phase by both a DP node and a TP node. In other words, CP does not immediately dominate the possessor DP. For this reason, anti-locality will not prevent scrambling of the possessor of a nominative subject into spec-CP and potentially onward into the higher clause:

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



As we thus predict, in reality possessor extraction is possible from all varieties of embedded subject in Balkar, importantly including nominative ones:²¹

²¹One of our speakers did not accept possessor extraction, but this is not the typical judgment. Generally even extraction of the possessor of a possessor is possible, as we would expect:

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

(58) *Possessor extraction from all embedded subject types*

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

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

Additionally, possessors of all embedded subjects can be anaphors bound by the matrix subject, with possessors of nominative subjects presumably string-vacuously moving to spec-CP:

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

Kerim-∅_k [[kesi-kes-i-ni_k bala-si-∅/n/ni] kitab oqu-ban-i-n]
 Kerim-NOM self-self-AGR-GEN child-AGR-NOM/ACC/GEN book read-NFUT-AGR-ACC
 ešit-gen-di
 hear-NFUT-3SG

‘Kerim_k heard that his_k child read a book.’

Further facts show that all such possessors are also capable of covert movement. For instance, an un-scrambled possessor of any embedded subject can take wide scope over the matrix subject:

(60) *Wide scope of any embedded subject’s possessor over matrix subject*

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

✓ 2 > ∀: There were two girls such that they heard that a friend of every student ate an apple.

✓ ∀ > 2: For every student_k, there were two girls_j such that they_j heard that their_k friend ate an apple.

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

(61) *NPI possessor of any embedded subject can be licensed by matrix negation*

Ustaz-∅ [kiši-ni-da sabij-i-∅/n/ni alma aša-ʁan-i-n]
teacher-NOM man-GEN-PTCL child-AGR-NOM/ACC/GEN apple eat-NFUT-AGR-ACC
kör-me-gen-di
see-NEG-NFUT-AGR

‘The teacher didn’t see that anyone’s child ate an apple.’

In summary, the evidence indicates that possessors of all subjects in Balkar are capable of overt and covert cross-clausal movement, unlike nominative subjects, as predicted.

5.3 The syntactic unity of overt and covert movement

We have seen that 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 longer path of movement of a possessor from within the nominative subject is not.

Importantly, these Balkar facts reveal that anti-locality applies to both overt movement and covert movement, the latter of which we diagnosed using binding, scope, and NPI licensing. This parallel indicates that these diagnostics do detect the presence of covert movement, and furthermore shows us that overt and covert movement obey the same syntactic principles. Previous research on covert movement has come to the same conclusion. Fox (2000) argues that Quantifier Raising is subject to a requirement to move as short as possible—a constraint Richards (1997, 1999) used to explain tucking-in effects, which are pervasive for overt movement. Nissenbaum (2000) argues using data about binding, parasitic gaps, and extraposition that covert movement is indeed subject to the tucking-in requirement, and demonstrates a variety of parallels between the behavior of overt and covert movement. Bruening (2001) argues for the same conclusion based on facts about scope in ditransitives. Further, Cecchetto (2004) argues that covert movement and overt movement are both constrained by phases. The anti-locality-respecting distribution of both overt and covert

movement in Balkar adds yet more evidence to this body of work indicating that both types of movement are fundamentally constrained by the same syntactic principles.²²

This concludes our analysis of nominative embedded subjects and related phenomena.²³ In the next section, we discuss the properties of embedded clauses with genitive subjects, which are constrained in a way that is the opposite of clauses with nominative subjects.

6 Genitive subject clauses and the limits of extraction from DP

We have just seen that nominative embedded subjects are frozen, though scrambling of the object across such a subject is permitted. The opposite is true for embedded clauses with genitive subjects. It is not possible to scramble an object across a genitive subject (62a), but the genitive subject itself is capable of cross-clausal scrambling (62b).

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

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

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

²²The semantic component of the grammar may nevertheless impose certain independent restrictions on covert movement, such as the *Scope Economy Condition* of Fox (2002). This allows only covert movements which have a detectable semantic effect, and rejects those that are vacuous from the perspective of interpretation.

²³Balkar also has non-nominalized embedded clauses, which use the complementizer *dep* (derived from ‘say’), and these clauses must have nominative subjects (i):

- (i) ustaz-∅ [sabij-i-∅/*n/*ni alma-si-n aša-ʁan-di dep] ešit-ti
 teacher-NOM child-AGR-NOM/*ACC/*GEN apple-AGR-ACC eat-NFUT-AGR COMP hear-PST
 ‘The teacher heard that someone’s child ate someone’s apple.’

These clauses are essentially matrix like, so we expect them to have a finite T that can assign nominative case. Given this, we automatically expect the absence of an accusative subject, and since these clauses are not nominalized we also do not expect a genitive subject to be possible. If the nominative subject inhabits spec-TP in these clauses, we make the additional correct prediction that object scrambling over such subjects is possible:

- (i) Alma-si-n_k ustaz-∅ [sabij-i-∅ t_k aša-ʁan-di dep] ešit-ti
 apple-AGR-ACC teacher-NOM child-AGR-NOM eat-NFUT-AGR COMP hear-PST
 ‘The teacher heard that (someone’s) child ate (someone’s) apple.’

b. *Genitive subjects can scramble*

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

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

We have seen that scrambling of the accusative subject allows scrambling of the object as well (provided that this results in S over 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:

(63) *Genitive subject scrambling does not feed cross-clausal object scrambling*

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

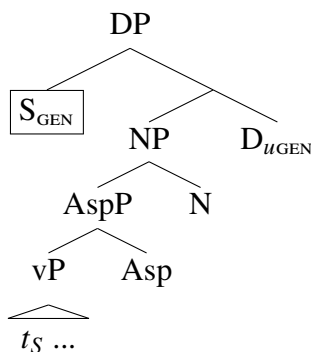
‘The teacher heard yesterday that Fatima’s child ate the apple.’

b. * Alma-ni_j tünene [fatima-ni sabij-i-ni]_k ustaz-∅ [t_k t_j
 apple-ACC yesterday Fatima-GEN child-AGR-GEN teacher-NOM
 aša-ʙan-i-n] ešt-ti.
 eat-NFUT-AGR-ACC hear-PST

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

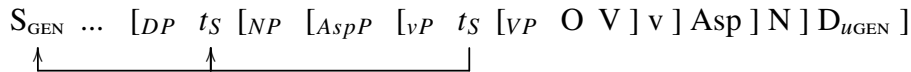
To analyze these facts we build on our proposal in section 3 above that the genitive subject is case-assigned and thus attracted to the specifier of D:

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



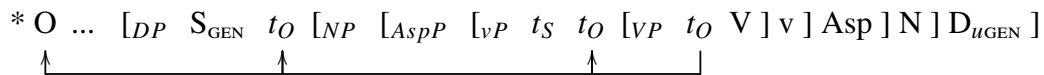
In section 1.2 above we cited a number of works that argue for the phase-hood of DP. If DP is a phase and the genitive subject sits in its edge, then we accurately predict that the genitive subject is accessible for binding as we saw in section 3.2.1, and we also correctly predict that the genitive subject is accessible for scrambling from the embedded clause, as schematized in (65):

(65) *Genitive subject scrambling succeeds*



Given our analysis of accusative subject clauses, it is not surprising that an un-scrambled genitive subject blocks object scrambling. 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 mobile:

(66) *Object cannot scramble via lower spec-DP below the genitive subject*



Further, following our analysis of accusative subject clauses, we expect scrambling of the genitive subject to feed object scrambling. However, we have seen in (63) above that this is not correct. Thus we must identify a difference between accusative versus genitive subject clauses.

We hypothesize that the relevant difference is about the availability of multiple specifiers. Specifically, we argue that in Balkar the CP and vP phases permit multiple specifiers, whereas the DP phase does not. We suggest that multiple specifier availability is a matter of language-particular parameter setting—a proposal that there is independent evidence for.

A number of works such as Rudin (1988), Comorovski (1986), and Richards (1997) observe that there is a cross-linguistic correlation between the possibility of multiple overt *wh*-movement, and the obviation of *wh*-island effects. In a context with multiple *wh*-phrases, some languages like English (67a) move only one phrase to spec-CP, while many Slavic languages like Bulgarian (67b) move all *wh*-phrases to the CP edge:

(67) a. *English multiple wh-question: Single movement*

Who₁ did Ivan ask *t*₁ what?

b. *Bulgarian multiple wh-question: Multiple movement*

Kogo₁ kakvo₂ e pital Ivan t₁ t₂?
 who.NOM what.ACC AUX asked Ivan
 (Richards 1997 p. 277 ex. 75a)

A *wh*-island is a configuration where filling the specifier of a CP with a *wh*-phrase prevents extraction of other material from that CP. English, for instance, shows this effect (68a), while the works cited above observe that multiple *wh*-fronting languages like Bulgarian generally do not (68b).

(68) a. *English wh-island effect*

* What₂ did you ask [_{CP} who₁ t₁ bought t₂]?

b. *No wh-island effect in Bulgarian*

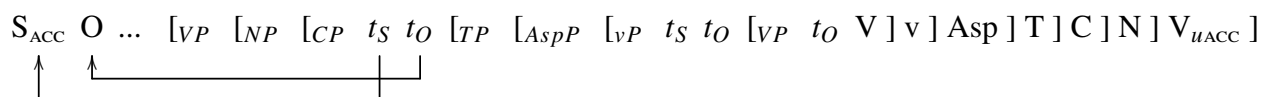
(Richards 1997 p. 277 ex. 75a)

[Koja kniga]₂ te popita učitelja [_{CP} kogo₁ ubedi Ivan t₁ da publikuva t₂]?
 Which book you asked teacher who convinced Ivan to publish
 ‘Which book did the teacher ask you who Ivan convinced to publish?’

These works offer explanations for this fact which depend on positing variation in the availability of multiple specifiers. If a language like English only allows CP to have one specifier, then when the CP edge has already been filled by one *wh*-phrase, another *wh*-phrase cannot form another spec-CP in order to successive-cyclically move out of that CP. In contrast, in a language where CP can host multiple specifiers like Bulgarian, a second *wh*-phrase can form an additional spec-CP prior to successfully moving out of that CP. There is thus independent evidence that the availability of multiple specifiers is a matter of language-particular choice. We use this reasoning to explain the fact that in Balkar, cross-clausal object scrambling is possible from accusative subject clauses if the subject scrambles, but is always impossible from genitive subject clauses.

We saw in section 4 above that we get the right results for accusative subject clauses by hypothesizing that a scrambling object tucks-in beneath the accusative subject in CP, since after that subject scrambles away, the object then becomes accessible for movement as well:

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



We argue that in Balkar, DP cannot host multiple specifiers, unlike CP and vP.²⁴ The analysis of scrambling in Mongolian in Aravind (2021), discussed in the next section, entails the same hypothesis. This predicts the right results for Balkar in the following way. In a Balkar genitive subject clause, a scrambling object will successive-cyclically move to a lower spec-vP below the in-situ subject. After this, the highest specifier of the vP is that subject, which D can attract to spec-DP and assign genitive case. However, if the Balkar DP does not permit multiple specifiers, then after this it is not possible for the object to move to a lower specifier of that DP:

(70) *Object cannot form a lower spec-DP beneath the genitive subject*

$$* \dots [DP \ S_{GEN} \ O \ [NP \ [AspP \ [vP \ t_S \ t_O \ [VP \ t_O \ V] \ v] \ Asp] \ N] \ D_{uGEN}]$$

The diagram shows a syntactic tree structure. The root node is DP, which branches into S_{GEN} and O. S_{GEN} branches into NP, AspP, and vP. NP branches into AspP and vP. AspP branches into t_S and t_O. vP branches into t_O and V. The object O is shown moving from its position to the vP node (indicated by an upward arrow), and then from the vP node to the DP edge (indicated by a horizontal line and an upward arrow).

Since the object cannot move to a lower specifier of DP in the first place, scrambling of the genitive subject from the DP edge cannot feed cross-clausal object scrambling. If the genitive subject does not scramble away later on, the object clearly has no hope of reaching the DP edge. If the genitive subject does later scramble away, the object still cannot reach the DP edge, since by that time the object will have been trapped in the complement of D due to the Phase Impenetrability Condition.²⁵

This concludes our analysis of Balkar embedded clauses with genitive subjects. We have argued that since the Balkar DP can host only one specifier, prior movement of the genitive subject to spec-DP removes any possibility of an object passing through the DP edge.²⁶

²⁴A reviewer points out that this hypothesis is supported by the fact that Turkic DPs are generally unable to host multiple genitive-marked phrases. Even in English, it is necessary to posit that different phases vary in whether or not they permit multiple specifiers. This language does not allow multiple (overt) specifiers of CP, but must allow multiple specifiers in vP, since otherwise *wh*-movement of an object over a subject would never be possible. Additionally, if in English as well multiple specifiers of DP are impossible, then we predict the fact that possessors in English prevent *wh*-movement from DP, as (i) below shows. See Coon et al. (2014) for further discussion of cross-linguistic variation in multiple specifier availability, and ‘trapping’ effects that arise when specifier formation is restricted. See Holmberg et al. (2019) for similar considerations.

(i) Who₁ did you read [some/many/*his/*their/*my book(s) about t₁]?
(Adapted from Davies and Dubinsky (2003), ex. 9a/10)

²⁵Two speakers did not ban object extraction from clauses with genitive subjects. Both of these speakers uniquely allowed independent tense modification in such clauses, suggesting that for these speakers genitive subject clauses have a structure more like that of clauses with nominative/accusative subjects, from which we have seen that object extraction is possible.

²⁶We have seen in section 5 that extraction of possessors from DP is possible in Balkar. In contrast, extraction of

7 Cross-linguistic comparison

Here we compare Balkar with two other languages: Mongolian as analyzed by Aravind (2021), and Buryat, another Mongolic language. We will show that these three languages have much in common, but that Balkar stands apart from the other two in the behavior of its genitive subjects. We also mention a puzzle about Turkish that we must leave for future research.

7.1 Mongolian

Aravind (2021) examines movement out of embedded nominalized clauses in Mongolian, which interacts with the case of the embedded subject. She shows that normally, such embedded clauses can have nominative, genitive, or accusative subjects, just like Balkar:

(71) *Embedded nominative/genitive/accusative subject in Mongolian* (Aravind 2021, ex. 6)

Bi [Bat / Bat-iin / Bat-iig sugalaa-nd xož-son-iig] med-ne
I Bat.NOM / Bat-GEN / Bat-ACC lottery-DAT win-PST-ACC know-DUR

‘I know that Bat won the lottery.’

Aravind assumes that these embedded clauses are nominalized vPs, which include a DP layer, and argues that each type of subject inhabits a different position in this structure. Using facts about NPIs and specificity, she argues that nominative subjects are lower than genitive and accusative ones. This is parallel to our analysis of Balkar. Importantly, she also argues that accusative subjects inhabit the edge of the local phase of the nominalized clause, which given her proposals about Mongolian nominalizations entails that the accusative subject inhabits the DP edge. This is also analogous to what we argue for Balkar, though for us the relevant phase is CP rather than DP.

adjectives is not, even if no possessor is present in the same DP (i):

- (i) *Tünene tatiulu_k asiāt [t_k alma-si-n] aša-dī
yesterday tasty Asiyat apple-AGR-ACC eat-PST
‘Yesterday Asiyat ate a tasty apple.’

A ban on multiple specifiers in DP cannot explain this, since in such a context there is no genitive phrase in spec-DP. However, if adjective phrases originate in the NP edge, adjective extraction from DP would require successive-cyclic movement of the adjective through spec-DP. Since such movement is banned by anti-locality such extraction fails, as Bošković (2005, 2016) argues.

From this basis, Aravind argues that facts about accusative subjects reveal evidence for successive-cyclic movement through DP in Mongolian. Her argument relies on topicalization from nominalized clauses, which has certain restrictions. One restriction is that topicalized subjects must be accusative (ex. 20, p. 386). Most importantly, she shows that topicalization of an object out of a nominalized clause prevents that clause's subject from having accusative case:

(72) *Topicalization blocks accusative subject in Mongolian* (Aravind 2021, ex. 21)

[Ene nom-iig]₁ bol bi [Bat / Bat-iin / *Bat-iig t₁ unš-san]-iig olž-med-sen
 this book-ACC TOP I [Bat.NOM / Bat-GEN / *Bat-ACC read-PST]-ACC find.out-PST

'As for this book, I found out that Bat read it.'

Aravind argues that subjects must reach the DP edge in order to be assigned accusative case, and that thus cross-clausal topicalization interrupts accusative assignment. Specifically, she argues that topicalization out of nominalized clauses passes through the edge of the DP phase, thus filling it and preventing the subject from occupying that position to receive accusative case. She also shows that an accusative subject is impossible in an intermediate clause that topicalization passes through, but did not originate in (73). This is as we expect, if movement must pass through the edge of each phase it crosses, in this situation the edge of each DP heading a nominalized clause:

(73) *Accusative subject banned in any clause crossed by topicalization* (Aravind 2021, ex. 23a)

[Airag-iig]₁ bol egč [_{DP} Bat / ?Bat-iin / *Bat-iig [_{DP} Dulmaa t₁ avčir-ex]-iig
 horsemilk-ACC TOP sister [Bat.NOM / Bat-GEN / Bat-ACC [Dulmaa bring-FUT]-ACC
 xar-sn]-iig nadad xel-sen.
 see-PST]-ACC me.DAT say-PST

'As for horsemilk, Sister told me that Bat saw Dulmaa bring it.'

This analysis of Mongolian has clear parallels to our analysis of clauses with accusative subjects in Balkar. Both involve the proposal that an accusative subject must reach the edge of its local phase for case assignment, and both entail that movement from that phase must be successive-cyclic. While the phase in question differs, this is not a problem, since there is no reason to expect the

structure of nominalized clauses to be identical in all languages. However, we do expect to find striking similarities when phasal constituents are involved, as we do here.

Importantly, Aravind’s analysis entails that the Mongolian DP can have only one specifier. This is parallel with what we proposed above for Balkar embedded clauses with genitive subjects. A version of Aravind’s analysis would work for Balkar accusative subject clauses as well, if not for the additional fact that in Balkar, accusative subjects and scrambled objects can co-exist provided that the subject scrambles also. If future research finds that similar examples are possible in Mongolian, this would suggest that an analysis like ours could apply to Mongolian as well.

7.2 Buryat

Another Mongolic language, Buryat, shows parallels with Balkar and Mongolian.²⁷ Buryat non-nominalized CPs can have either nominative or accusative subjects. Object scrambling from these clauses is possible when their subject is nominative:

(74) *Object scrambling possible from Buryat embedded clauses with nominative subjects*

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, cross-clausal scrambling of the object is impossible when the subject is accusative:

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

* 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.’

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

²⁷The Buryat data reported here was elicited in separate fieldwork in the village of Baraghan, in the republic of Buryatia, Russia.

(76) *Scrambling of accusative but not nominative subjects from Buryat embedded clauses*

- a. *Badma- \emptyset_k sajana- \emptyset [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- \emptyset [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's nominalized clauses differ. In Buryat, such clauses can have only accusative or genitive subjects. When such clauses have accusative subjects, object scrambling from them is banned:

(77) *No object scrambling from Buryat nominalized clauses with accusative subjects*

- a. Badma- \emptyset [sajan-iijə tumən-iijə xar-aaʃ-iijə] han-aa.
Badma-NOM Sajana-ACC Tumen-ACC see-NMN-ACC think-PST
'Badma remembered that Sajana saw Tumen.'
- b. *Tumən-iijə $_k$ badma- \emptyset [sajan-iijə t_k xar-aaʃ-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 from them:

(78) *Buryat permits object scrambling from nominalized clauses with genitive subjects*

- a. Tumən-iijə $_k$ badma- \emptyset [sajan-iin t_k xar-aaʃ-iijə] 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:

(79) *Accusative but not genitive subject scrambling from Buryat nominalized clauses*

- a. [Badm-ijə]_k sajana-∅ türgör [_k nom unša-ža bai-x-ijə-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-ijn]_k sajana-∅ türgör [_k nom unša-ža bai-x-ijə-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.'

In summary, accusative subjects in Buryat are capable of cross-clausal scrambling, but scrambling of an object across an accusative subject is banned. In contrast, object scrambling is permitted over nominative or genitive subjects, which themselves cannot scramble from the embedded clause.

7.3 Discussion

In Buryat we see precisely the same patterns as Aravind (2021) observes for Mongolian, in which cross-clausal movement is only available for accusative subjects, while cross-clausal movement of other phrases over an accusative subject is uniquely banned. Future work should test whether accusative subject scrambling can feed object scrambling in Buryat and Mongolian, as we have shown in Balkar. However, the facts about all three of these languages converge on an analysis in which accusative subjects occupy the edge of their local phase. Due to this accusative subjects are accessible for movement into a higher clause, but also conflict with successive-cyclic movement of another phrase through that same position when cross-clausal scrambling is attempted.

Nominative subjects pattern the same in all of Balkar, Mongolian, and Buryat: They cannot scramble from their embedded clause, but cross-clausal scrambling over them is allowed. Thus an account like the one we provided in section 5, which places nominative subjects in a lower position, may extend to all of these languages (pending modifications to accommodate differences in the structure of each language's nominalized clauses).

There is divergence in the behavior of genitive subjects, however. In Mongolian and Buryat, genitive subjects pattern like nominative subjects in that they cannot scramble, but object scrambling across them is permitted. This is not so in Balkar, for which we showed that genitive subjects can

scramble, but cannot be scrambled across. In the context of our arguments that Balkar genitive subjects inhabit spec-DP, we can account for the differing behavior of Mongolian and Buryat by hypothesizing that in these two languages, genitive subjects occupy a lower position, below the edge of their local phase. This is precisely what Aravind posits for Mongolian, and Bondarenko (2017) has made a similar argument for Buryat. We suggest that the vital point of difference here has to do with case assignment: in Mongolian and Buryat genitive case is assigned at a distance by D under c-command, whereas in Balkar genitive case is accompanied by movement of the subject to spec-DP, thus filling the DP edge and resulting in the effects we have discussed in section 6. In summary, it is the syntactic position of the subject that is central in determining whether object movement across it is possible, not merely the morphological case of the subject.

7.4 A puzzle from Turkish

In Turkish, scrambling of the object is possible from embedded finite clauses with nominative subjects, though not from such clauses with accusative subjects (p.c. Ömer Demirok):

- (80) Kitab-_{1k} Ahmet- \emptyset [Ali- \emptyset /*_{yi} t_k oku-du] biliyor
 book-ACC Ahmet-NOM Ali-NOM/*ACC read-PST knows
 ‘Ahmet believes that Ali read the book.’

In contrast, a Turkish-speaking reviewer points out that it is possible to scramble an object over a genitive subject (81a), or a dative phrase over an accusative subject (81b):

- (81) a. Ayşe-yi₁ Ahmet- \emptyset [Ali-nin t_1 gör-düğ-ün-ü] bil-iyor
 Ayşe-ACC Ahmet-NOM Ali-GEN see-NMN-AGR-ACC know-IMPF
 ‘Ahmet knows that Ali saw Ayşe.’
 b. Ankara-ya₁ biz- \emptyset [Ali-yi t_1 git-ti] san-ıyor-uz
 Ankara-DAT we-NOM Ali-ACC go-PST believe-IMPF-AGR
 ‘We think that Ali went to Ankara’

It is also possible to scramble an object over a genitive subject in Mongolian and Buryat, as we’ve seen, so in this way Turkish patterns like these languages and unlike Balkar. However, the possibility of scrambling a dative phrase (but not an accusative object) over an accusative subject is a puzzle

for the theory we have defended. The reviewer suggests that this contrast is the result of processing constraints. However, differences in the syntax of Turkish may also be relevant, perhaps in addition to processing. This puzzle presents an opportunity for further cross-linguistic research.

8 Conclusion

We have argued that facts about cross-clausal scrambling and subject case in Balkar clarify our understanding of multiple specifiers and the locality of movement. Specifically, we have argued that higher specifiers block access to lower ones unless moved away, and that multiple specifier formation is possible provided that tucking-in applies to non-initial specifiers. Both of these findings strengthen the evidence that syntax favors dependencies of minimal length. However, at the same time, Balkar provides evidence that some dependencies are nevertheless too short—a hypothesis encoded in the anti-locality theory, which we defended using facts about the immobility of nominative subjects and the contrasting properties of their possessors. Along the way, we encountered new evidence that overt and covert movement are subject to uniform syntactic constraints. Additionally, facts about Balkar genitive subjects led us to the conclusion that the Balkar DP does not allow multiple specifiers—a result that we situated in the context of previous research which identifies multiple specifier availability as a point of variation. Finally we discussed parallel patterns in Mongolian and 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.
- Aravind, Athulya. 2021. Successive Cyclicity in DPs: Evidence from Mongolian Nominalized Clauses. *Linguistic Inquiry* 52:377–392.
- Asarina, Alevtina. 2011. *Case in Uyghur and Beyond*. MIT Doctoral Dissertation.

- Aygen, Gulsat. 2007. Syntax and Semantics of Genitive Subject Case in Turkish. *California Linguistic Notes XXXII* 2:1–39.
- Baker, Mark, and Nadya Vinokurova. 2010. Two modalities of case assignment: case in sakha. *Natural Language and Linguistic Theory* 28:593–642.
- 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.
- 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. *Studica Linguistica* 59.
- Bošković, Željko. 2016. Getting really edgy: On the edge of the edge. *Linguistic Inquiry* 45.
- Bowern, Claire. 2015. *Linguistic fieldwork: A practical guide..* Springer.
- 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. Qr Obeys Superiority: Frozen Scope and ACD. *Linguistic Inquiry* 32:233–273.
- Cecchetto, Carlo. 2004. Explaining the locality conditions of QR: Consequences for the theory of phases. *Natural Language Semantics* 12:345–397.
- 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 Andersopn 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.
- Comorovski, Ileana. 1986. Multiple WH Movement in Romanian. *Linguistic Inquiry* 17:171–177.
- Coon, Jessica, Pedro Mateo Pedro, and Omer Preminger. 2014. The role of case in a-bar extraction asymmetries: Evidence from maya. *Syntax* 14:179–242.
- Corver, Norbert. 1992. Left branch extraction. In *Proceedings of North East Linguistic Society 22*, ed. K. Broderick. GLSA Publications: UMass Amherst.
- Davies, William, and Stanley Dubinsky. 2003. On extraction from NPs. *Natural Language and Linguistic Theory* 21:1–37.
- 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.
- 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.
- Erlewine, Michael Yoshitaka. 2017. Why the Null Complementizer is Special in Complementizer-Trace Effects. In *A Pesky Set: Papers for David Pesetsky*, ed. Claire Halpert, Hadas Kotek, and Coppe van Urk, 232–288. Cambridge, MA: MITWPL.
- Fong, Suzana. 2019. Proper movement through Spec-CP: An argument from hyperraising in Mongolian. *Glossa: a journal of general linguistics* 4.
- Fox, Danny. 2000. *Economy and semantic interpretation*. MIT Press Linguistic Inquiry Monographs.
- 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.
- Gürer, Aslı. 2020. Karachay–Balkar relative clauses: Implications for a special type of genitive/nominative alternation. *Lingua* 243.
- Hale, Ken. 2002. On the Dagur object relative: Some comparative notes. *Journal of East Asian Linguistics* 11:109–122.
- Halpert, Claire. 2016. *Argument licensing and agreement*. Oxford University Press.
- Harley, Heidi. 2013. External arguments and the mirror principle: On the distinctness of voice and v. *Lingua* 125:34–57.
- Heim, Irene, and Angelika Kratzer. 1998. *Semantics in generative grammar*. Oxford: Blackwell.
- Henry, Alison. 2012. Phase Edges, Quantifier Float, and the Nature of (Micro-) Variation. *Iberia: An International Journal of Theoretical Linguistics* 4:23–39.
- 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.
- 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.
- Jeoung, Helen. 2018. Possessors move through the edge, too. *Glossa* 3:1–35.
- Kang, Sünemin. 2014. *On the absence of TP and its consequences: Evidence from Korean..* University of Connecticut dissertation.
- Kibrik, Aleksandr Evgen’evič. 1972. *Metodika polevych issledovanij [methodology of fieldwork]: (k postanovke problemy) [towards posing the problem]*. Monograph 10. Publications of the Department of Structural and Applied Linguistics, Moscow State University.
- Kibrik, Aleksandr Evgen’evič. 2017. *The methodology of field investigations in linguistics: (Setting up the problem)*, volume 142. Walter de Gruyter GmbH & Co KG.
- Kornfilt, Jaklin. 2003. Subject Case in Turkish Nominalized Clauses. In *Syntactic Structures and Morphological Information*, ed. U. Junghanns and L. Szucsich, 129–215. Berlin and New York: Mouton de Gruyter.
- Lebeaux, David. 1988. *Language Acquisition and the Form of the Grammar*. Doctoral dissertation, University of Massachusetts, Amherst: GLSA.
- Legate, Julie Anne. 2014. *Voice and v: Lessons from Acehnese*. Cambridge, MA: MIT Press, Linguistic Inquiry Monographs.
- Marvin, Tatjana. 2003. *Topics in the Stress and Syntax of Words*. PhD thesis, MIT.
- Matthewson, Lisa. 2004. On the methodology of semantic fieldwork. *International journal of American linguistics* 70:369–415.
- 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.
- 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.
- Rudin, Catherine. 1988. On Multiple Questions and Multiple WH Fronting. *Natural Language and Linguistic Theory* 6.
- Shklovsky, Kirill, and Yasutada Sudo. 2014. The syntax of monsters. *Linguistic Inquiry* 45:381–402.
- 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.
- van Urk, Coppe. 2015. *A uniform syntax for phrasal movement: A case study of Dinka Bor*. PhD Dissertation, MIT.
- van Urk, Coppe. 2020. Successive cyclicity and the syntax of long-distance dependencies. *Annual Review of Linguistics* 6. <https://doi.org/10.1146/annurev-linguistics-011718-012318>.
- van Urk, Coppe, and Norvin Richards. 2015. Two Components of Long-Distance Extraction: Successive Cyclicity in Dinka. *Linguistic Inquiry* 46:113–155.

- Wurmbrand, Susi. 2019. Cross-clausal A-dependencies. In *Proceedings of the Fifty-Fourth Annual Meeting of the Chicago Linguistic Society*. Chicago: University of Chicago, Chicago Linguistic Society.
- Wurmbrand, Susi, and Magdalena Lohninger. 2019a. An implicational universal in complementation — Theoretical insights and empirical progress. In *Propositional arguments in cross-linguistic research: Theoretical and empirical issues*. Berlin: Mouton de Gruyter.
- Wurmbrand, Susi, and Magdalena Lohninger. 2019b. Typology of Complement Clauses. In *Handbook of clausal embedding*, ed. Anton Benz, Werner Frey, Manfred Krifka, Thomas McFadden, and Marzena Zygis. Oxford: Oxford University Press.