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REGULAR ARTICLE

Cross-clausal scrambling and subject case in Balkar: On multiple specifiers and the locality of overt and covert movement

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Abstract

We use fieldwork data about cross-clausal scrambling in Balkar (Turkic) to clarify the nature of movement and its constraints. Balkar has a variety of embedded nominalized clauses, with different subject cases and possibilities for movement. Clauses with nominative (NOM) subjects permit cross-clausal object extraction but not subject extraction. In contrast, clauses with accusative subjects permit both such movements, although 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: (i) multiple specifiers are usually possible provided that tucking-in applies; (ii) the highest of a phase's multiple specifiers is privileged for accessibility; (iii) movement is constrained by anti-locality (a ban on short movements); and (iv) Balkar DPs do not permit multiple specifiers. These factors are intertwined informatively in Balkar, and are supported by additional facts about possessors, binding, and covert movement.

KEYWORDS

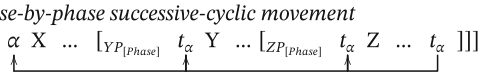
anti-locality, case, multiple specifiers, phases, scrambling, tucking-in

Balkar uses a cyrillic-based orthography, which we transliterate using the International Phonetic Alphabet with the following substitutions: /y/ = ü, /ø/ = ö, /ʃ/ = š, [ʧ] = 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. A great deal of research has contributed to the hypothesis that certain phrases establish limitations on the length of movement, among other syntactic operations. The theory of *barriers* (Chomsky, 1986), for instance, was an important approach in this vein, which has been superseded by the theory of *phases* (Chomsky, 2000, 2001, 2005, a.o.). In this theory, the set of boundary-demarcating 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 something like phase theory, the exact nature of phases is debated: see Citko (2014) for an overview of the approaches to and evidence for phases. Because phase 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. 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, McCloskey, 2000, Nissenbaum, 2000, Abels, 2012, van Urk & Richards, 2015, Davis, 2020a, 2021b, and many more). In this paper, we argue that the examination of cross-clausal movement in Balkar enriches our understanding of phase theory, successive-cyclicity, 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 nominative, accusative (ACC), or genitive (GEN), as we see in (2) below. Note that in (2) and throughout this paper, the subjects of embedded clauses are possessed third-person noun phrases, which we use for an important morphological reason.

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

a. *Nominative*

Ustaz-∅ [CLAUSE [fatima-nɨ sabij-i-∅] alma-nɨ aša-ʁan-ɨ-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-nɨ sabij-i-n] alma-nɨ aša-ʁan-ɨ-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-nɨ sabij-i-ni] alma-nɨ aša-ʁan-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].'

Under normal circumstances, accusative and genitive cases 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 (AGR) marker *(-s)I*, accusative and genitive are morphologically distinct.[1] In this situation, accusative case is *-n*, while genitive case remains *-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. Note that nominative case is always null in Balkar, as in other Turkic languages.

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

1.2 | The syntactic principles Balkar reveals

Following much current work in phase theory, 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 phasal effects in the DP (Bošković, 2005, 2016, Newell & Piggott, 2014, Jeoung, 2018, Simpson & 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

[1]Like 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], [ɨ], or [u]. The third-person possessive agreement marker *(-s)I* contains the harmonizing /I/, and also has an initial /s/ only when affixing to an element that ends in a vowel.

[2]The 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-nɨ kör-ö-me.
1SG child-ACC see-IPFV-1SG
'I see a child'

b. Bala-nɨ illew-u qanʁa-da tur-a-dɨ.
child-GEN toy-AGR table-LOC stand-IPFV-3SG
'A/the child's toy is (stands) on the table'

c. Men fatima-nɨ bala-sɨ-n/*nɨ kör-gem-me.
1SG fatima-GEN child-AGR-ACC see-NFUT-1SG
'I saw Fatima's child'

See Davis (2023) for an analysis of Balkar case and possessive morphology.

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 exit a given phase only if it reaches the edge (=specifier) of that phase first. The details of what happens at phase edges, and the constraints on their accessibility, are the main topic of this paper.

Embedded clauses with accusative subjects, which we argue are nominalized CPs in Balkar, 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. We argue that given the phasehood of vP and CP, these details emerge from two principles.

The first is the hypothesis that the CP and vP allow multiple specifiers, provided that all but the first specifier are formed by *tucking-in* to a lower position (Richards, 1997, 1999, Nissenbaum, 2000, a.o.), as schematized in (3) below:

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

a. *Initial movement*

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

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

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

Second, we argue that when a phase has multiple specifiers, only the highest is accessible for syntactic operations like movement (Rackowski & Richards, 2005, Bošković, 2016, Holmberg et al., 2019), but when the higher one moves away, the lower one then can be accessed:

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

a. *Higher specifier accessible*

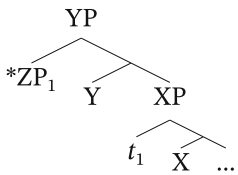
✓ $\alpha\ \ldots\ [_{XP_{[Phase]}}\ t_{\alpha}\ \beta\ X\ \ldots\ ]$

b. *Lower specifier inaccessible*

* $\beta\ \ldots\ [_{XP_{[Phase]}}\ \alpha\ t_{\beta}\ X\ \ldots\ ]$

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 in Balkar, 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 that bans movement from the edge of a given phrase XP to the edge of the next highest phrase YP (Bošković, 2005, 2016, Brillman & Hirsch, 2016, Erlewine, 2016, 2017, 2020, a.o.), as schematized in (5):

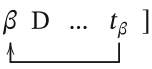
(5) *If YP immediately dominates XP, no movement from XP edge to YP edge*



We show that this hypothesis correctly predicts that although the nominative subject is immobile in Balkar, sub-extraction of a possessor from a nominative subject is permitted, because such movement crosses more structure. We support this analysis with further data about binding and covert movement, which we argue is like overt movement in being constrained by anti-locality.

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 & 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 that these facts emerge from the hypothesis that the Balkar DP does not permit multiple specifiers:

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



Because the genitive subject sits in spec-DP, object extraction out of the DP that heads such clauses is thus impossible. As we will discuss, the analysis of Mongolian scrambling 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, although 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.

Language consultants participated in about four elicitation sessions or less each day, each of which lasted 45 min. There were 15-min 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, Bowern, 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 vs. impossible, felicitous in context vs. 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 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 data 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. Although 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-∅ [$_{\text{CLAUSE}}$ [fatima-ni sabij-i-∅/*n/*ni] t_k
apple-ACC teacher-NOM Fatima-GEN child-AGR-NOM/*ACC/*GEN
aša-ʁan-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-∅ [$_{\text{CLAUSE}}$ alma-ni$_k$ bala-si-∅/*n/*ni t_k aša-ʁan-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. Although cross-clausal object scrambling over a nominative subject is permitted as we have 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 possible only for accusative or genitive subject*

[Fatima-nɨ bala-sɨ-n/nɨ/*∅]$_k$ ustaz-∅ [t_k alma-nɨ aša-ʁan-ɨ-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, although 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]

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

a. *S over O final order required*

[Fatima-nɨ sabij-ɨ-n]$_k$ (tünene) alma-nɨ$_j$ ustaz-∅ [$_{\text{CLAUSE}}$ t_k t_j
Fatima-GEN child-AGR-ACC yesterday apple-ACC teacher-NOM
aša-ʁan-ɨ-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-nɨ$_j$ (tünene) [fatima-nɨ sabij-ɨ-n]$_k$ ustaz-∅ [$_{\text{CLAUSE}}$ t_k t_j
apple-ACC yesterday Fatima-GEN child-AGR-ACC teacher-NOM
aša-ʁan-ɨ-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

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

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-∅ [$_{\text{CLAUSE}}$ 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-∅ [$_{\text{CLAUSE}}$ 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, although such scrambling can exceptionally succeed when the accusative subject scrambles as well. The following chart describes these patterns:

(12) *The Balkar cross-clausal scrambling patterns*

Subject case	Subject scrambling	Object scrambling	Scrambling of both
NOM	×	✓	×
ACC	✓	×	✓
GEN	✓	×	×

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 scrambling.

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 embed-

ded 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]

Although 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. The chart below summarizes 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:

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

Subject case	**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*:

(14) *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-ʁan-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 (NEG), implying at least a moderate amount of verbal/clausal structure:

(15) *Negation in all clause types*

Ustaz-∅ [fatima-ni sabij-i-∅/n/ni alma aša-ma-ʁan-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 (NFUT) participle /-ʁAn/ or a future-oriented one /-rIq/ (FUT).

[4]Recall 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.

Most examples shown so far use the former, so the following example demonstrates the latter:

(16) *Future marking in all clause types*

Ol-∅ [bala-sɨ-∅/n/nɨ (tambla) alma-sɨ-n aša-rɨʁ-ɨ-n]
(s)he-NOM child-AGR-NOM/ACC/GEN (tomorrow) apple-AGR-ACC eat-FUT-AGR-ACC
ajt-a-dɨ.
say-IPFV-3SG

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

Although 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. The following example uses temporal adverbs to make this fact explicit:

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

Kerim-∅ tünene [[fatima-nɨ bala-sɨ-∅/n/*nɨ tambla alim-ni
Kerim-NOM yesterday Fatima-GEN child-AGR-NOM/ACC/*GEN tomorrow Alim-GEN
kištig-i-n baʁar-lɨq-ɨ-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 with regard to tense, and thus contain T and C. In contrast, we assume the absence of these functional heads in clauses with genitive subjects, which accounts for their lack of independent tense interpretation.[5] While clauses with genitive subjects lack C and a finite T, we have 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 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

[5]Alternatively, 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, because 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, then it follows that *wh*-phrases should be illicit in clauses with genitive subjects where CP is absent, as in (i):

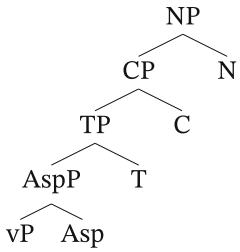
(i) Ustaz [sabij-i-∅/*ni ne-ni buz-ʁan-y-n] bil-di-mi?
teacher child-AGR-NOM/*GEN what-ACC break-FUT-AGR-ACC know-PST-Q
'What did the teacher find out that someone's child broke?' (Bondarenko 2018, ex. 43-44)

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

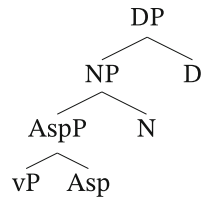
by more nominal structure—specifically a DP layer, which assigns genitive case. Genitive case assignment by D is also argued for other languages, such as Dagur (Hale, 2002), Turkish (Aygen, 2007), Sakha (Baker & Vinokurova, 2010), Uyghur (Asarina, 2011), and Japanese (Miyagawa, 2011), for instance. See Bondarenko (2018) for further arguments for the presence of D in Balkar genitive subject clauses, based on facts about agreement and pluralizability. See also Gürer (2020), who argues that Balkar relative clauses with genitive subjects include DP.

In summary, the diagrams in (18) below show the structures we thus assume for clauses with nominative or accusative subjects, versus those with genitive subjects:

(18) 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 mechanisms responsible for case assignment to each subject type. After this, we will be ready to begin the analysis of Balkar scrambling.[6]

3.2 | Case assignment 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 base position in spec-vP to the specifier of TP (Chomsky, 2000, 2001, a.o.), as diagrammed in (19) below. 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')

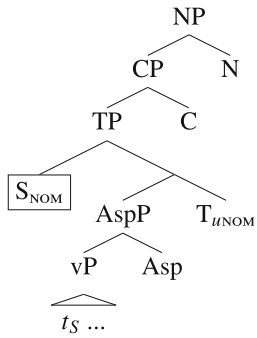
[6]Another piece of evidence that Balkar nominalized clauses with genitive subjects are less clause-like and more nominal is that use of elements like quantifiers and numerals is relatively acceptable with them, although this contrast is not absolute:

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

A reviewer asks whether clauses with genitive subjects differ from other clauses concerning specificity/definiteness because of having a DP layer. We must leave this for future work to test.

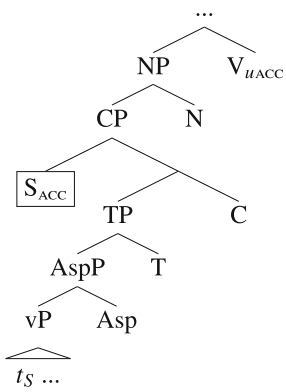
its c-command domain. For concreteness, we follow Chomsky (2000) and related work in assuming that this search is initiated by an unvalued feature (prefixed with 'u') on X, as shown with the case feature on T in (19) below, though we will omit such features from most diagrams for simplicity.[7]

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



We hypothesize that what distinguishes embedded clauses with nominative and accusative subjects is that in the latter type, T is defective such that it lacks the ability to assign nominative case. (See Chomsky (2000, 2001) for discussion of case and defective T.) In Section 3.1, we argued that clauses with accusative subjects are finite in the sense that they are tense-specified. We argue that, nevertheless, they are defective in that they cannot assign nominative case. We propose that for this reason, their subject must gain accusative case by skipping TP and landing in the edge of CP, where that subject is accessible for case assignment by the matrix V:

(20) *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

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

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 (21) shows. This is expected because 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 (21) 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, from T and D respectively.

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

[[Fatima-ni sabij-i-∅/ni/*n] alma aša-ʁan-i]-∅ 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 (22) shows. The matrix clause in (22) uses the verb 'be afraid of', which assigns ablative (ABL) case rather than the usual accusative. Here this ablative case is assigned to the embedded clause itself rather than the embedded subject, which can only be either nominative or genitive:[8,9]

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

Alim [[Fatima-ni sabij-i-∅/ni/*n] mašina buz-ʁan-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.'

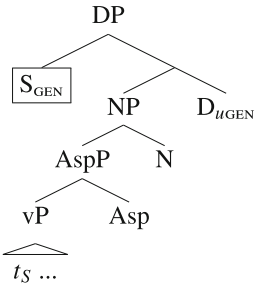
We thus maintain that accusative embedded subjects receive their case from matrix V. (Note that also, the V of the embedded clause assigns accusative case to its object as usual.)

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 (23) below shows. This nominalized AspP structure, in which the subject raises to spec-DP upon receiving genitive case, is exactly same as that posited by Hale (2002) for Dagur. We argue that this structure leads to correct predictions about Balkar as well.

[8]A 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.

[9]Normally 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. Because 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. As 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.

(23) *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 & 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 (24):[10]

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

Ustaz-$\emptyset_k$ [$_{\text{CLAUSE}}$ [kesi-kes-i-n/ni/*$\emptyset$]$_k$ alma aša-ʁan-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.'

[10]A 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, although 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 our Balkar example (24) if we were to replace these anaphors with pronouns. Example (i) below verifies this prediction using second-person singular (SG) pronouns:

(i) sen-$\emptyset$ [ʔsen-$\emptyset$ / *sen-ni xalat-nɨ 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.'

Although 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.

As discussed in Section 3.1, verbs in Balkar generally agree with their subject, in both main and embedded (nominalized) clauses. Note that the unacceptability of the nominative anaphor in (24) 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 (24) 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.[11] 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 (25a), while the object cannot (25b), unless the subject has scrambled as well (25c):

(25) *Cross-clausal scrambling from accusative subject clauses*

a. *Subject scrambling allowed*

[Fatima-nɨ bala-si-n]$_k$ ustaz-∅ [$_{\text{CLAUSE}}$ t_k alma-nɨ aša-ʁan-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-nɨ$_k$ ustaz-∅ [$_{\text{CLAUSE}}$ [fatima-nɨ sabij-i-n] t_k aša-ʁan-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].'

[11] A 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-∅ [[Fatima-nɨ bala-si-∅/n/*nɨ] konkurs-nu qat-xan-i-n]
Alim-NOM Fatima-GEN child-AGR-NOM/ACC/*GEN competition-DAT win-NFUT-AGR-ACC
bil-e-di
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 & Lohninger, 2019a, 2019b).

c. *Object scrambling allowed only if subject also scrambles*
[Fatima-nɨ sabij-ɨ-n]$_k$ tünene alma-nɨ$_j$ ustaz-Ø [$_{\text{CLAUSE}}$ t_k t_j
Fatima-GEN child-AGR-ACC yesterday apple-ACC teacher-NOM
aša-ʁan-ɨ-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 base 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 diagrammed in (20) above.

Given our proposal that accusative subjects inhabit the edge of their local phase, the fact that accusative subjects are accessible for scrambling into the higher clause is predicted. Nothing prevents some head in the matrix clause from attracting the accusative subject.

(26) *Schema for scrambling of accusative subject from edge of CP phase*

S_{ACC} ... [$_{NP}$ [$_{CP_{[PHASE]}}$ t_S [$_{TP}$ [$_{AspP}$ [$_{vP}$ t_S [$_{VP}$ O V] v] Asp] T] C] N]

Our account for the further fact that the object cannot scramble from such clauses when the subject remains unscrambled relies on two hypotheses mentioned in the introduction. The first is about multiple specifier formation. Richards (1997, 1999), as well as much following work, argues that when one head attracts multiple phrases, the highest relevant phrase in that head's c-command domain is moved first (as expected given the *superiority condition* (Chomsky, 1973), while any subsequently attracted phrases *tuck-in* to a lower specifier below the previously moved phrase:

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

a. *First movement*
[$_{XP}$ α X ... [$_{YP}$ t_α β]]

b. *Second movement tucks-in*
[$_{XP}$ α β X ... [$_{YP}$ t_α t_β]]

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 & 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*

✓ α ... [$_{XP_{[Phase]}}$ t_α β X ...]

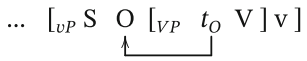
b. *Lower specifier inaccessible*

* β ... [$_{XP_{[Phase]}}$ α t_β X ...]

With these hypotheses in mind, let us first examine the derivation of attempted object scrambling from a clause with a non-scrambling accusative subject.

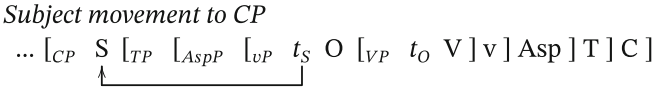
Assume that vP is a phase and that the subject originates in its specifier. If this is so, then the scrambling object must successive-cyclically move through the specifier of vP in order to move on further, but in the situation under consideration, the vP already has the subject in its edge. Therefore such movement of the object must tuck-in to a lower specifier, below the subject (29):

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



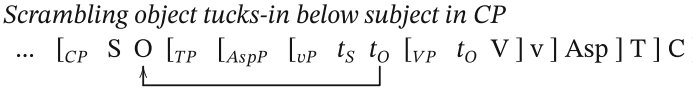
After merger of Asp, T, and C, C will then search its c-command domain for potential phrases to be moved. Because the subject is the highest specifier of the vP in (29), C will find the subject first, attracting it to spec-CP and making it available for later accusative case assignment:

(30) *Subject movement to CP*



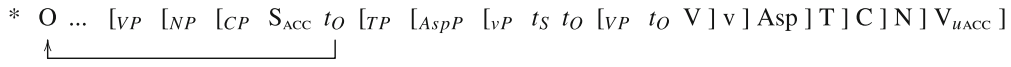
Further probing of C will find the object in the lower spec-vP, which it then attracts. Because the subject has already moved into the CP edge, the object must thus tuck-in to a lower spec-CP (31):

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



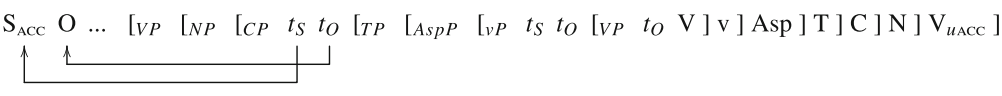
Importantly, Bošković (2016) argues that the highest of a phase's multiple specifiers blocks movement of lower ones, and that when the highest specifier moves away, the next highest specifier becomes accessible, because traces are syntactically inert. We adopt this hypothesis as well.[12] Given this, we indeed expect the scrambling object in the lower spec-vP in (31) to be able to move to CP, because of prior movement of the subject from vP to CP. Furthermore, 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:

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



We thus explain the fact that the accusative subject blocks cross-clausal scrambling of an object.[13] 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*



[12]The theory in Rackowski and Richards (2005) likely makes the same prediction because it includes the hypothesis that a specifier that has already been accessed for a syntactic operation can subsequently be ignored (see pp. 579–581).

[13]A 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.

Therefore, we accurately predict that object scrambling from a clause with an accusative subject can succeed only if that subject scrambles out as well.[14] However, there is a further constraint on such configurations that requires us to go into more detail about their derivation.

4.1 | On the order of a scrambled object and accusative subject

Although 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-nɨ sabij-ɨ-n]$_k$ (tünene) alma-nɨ$_j$ ustaz-∅ [$_{\text{CLAUSE}}$ t_k t_j
Fatima-GEN child-AGR-ACC yesterday apple-ACC teacher-NOM
aša-ʁan-ɨ-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-nɨ$_j$ (tünene) [fatima-nɨ sabij-ɨ-n]$_k$ ustaz-∅ [$_{\text{CLAUSE}}$ t_k t_j
apple-ACC yesterday Fatima-GEN child-AGR-ACC teacher-NOM
aša-ʁan-ɨ-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.

Because 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 us continue the derivation from (31) above, repeated below, where the embedded subject and object have both moved to the edge of the embedded CP:

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

... [$_{NP}$ [$_{CP}$ S O [$_{TP}$ [$_{AspP}$ [$_{vP}$ t_S t_O [$_{VP}$ t_O V] v] Asp] T] C] N]

[14] A reviewer suggests that the unacceptability of scrambling over an unmoved accusative subject might be re-analyzed as a case assignment problem, in the context of an analysis which assumes that movement always targets the top of the tree (as opposed to the tucking-in theory). Specifically, after movement of the embedded subject to the edge of CP, later movement of the object to CP would place it in a higher specifier of that CP. If the scrambled object is thus 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, case assignment to the embedded subject fails and the derivation crashes. We argue that this is not a viable analysis. Notice that 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 (unlike our (29) above) but rather will form a higher spec-vP above the subject. Later, when C searches its c-command domain for mobile phrases, it 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.

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*

... [$_{vP}$ 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]

Because 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. Because 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*

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

As the matrix subject in the bi-clausal configuration we are currently analyzing is nominative, we 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*

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

Notice that as a result of 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 attract the accusative subject into its edge.[15] After this, the only 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*

[$_{CP}$ S_{ACC} O [$_{TP}$ S_{NOM} [$_{AspP}$ [$_{vP}$ $t_{S_{NOM}}$ $t_{S_{ACC}}$ t_O [$_{VP}$ [$_{NP}$ CP N] V_{uACC}] v] Asp] T_{uNOM}] 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.[16] The object is always

[15]The same would have to occur in examples where the accusative subject scrambles alone into the matrix clause such as (25a). 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.

[16]This maintenance of S < O order resembles order preservation effects discussed in work on the *Cyclic Linearization* theory (CL; Fox & Pesetsky, 2005, Ko, 2014, Davis, 2020b, a.o.), which hypothesizes that all the contents of a phase are accessible in principle but that movement is constrained by phase-by-phase preservation of linear order. If all of a phase's contents are in principle accessible, we do not predict the fact that binding must take advantage of phase edges,

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 clauses with nominative subjects, as well as facts about possessors and covert movement, reveal a limitation on when the phase edge can be reached in the first place.

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:

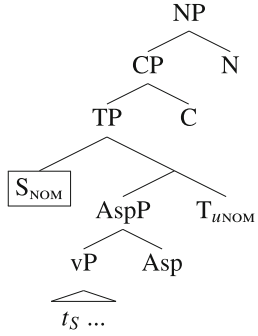
(40) *Nominative subject does not block cross-clausal object scrambling*

Alma-ni$_k$	ustaz-∅	[$_{\text{CLAUSE}}$	[fatima-ni	sabij-i-∅]	t_k aša-ʁan-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 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.

as discussed in Section 3.2.1. Furthermore, CL predicts that phrases at the linear edge (not necessarily the structural edge) of a phase should be accessible for movement. Thus this theory incorrectly predicts that nominative embedded subjects should be movable in Balkar (see Section 5 below). Finally, notice that in (37) the matrix subject precedes the scrambling phrases within the vP, but those phrases later precede the matrix subject as in (39). This inconsistency in linear order is not compatible with CL, which for these reasons we do not adopt.

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

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. Because the subject then moves to spec-TP upon being assigned nominative case, the scrambling object in the lower spec-vP becomes accessible by C, the specifier of which it passes through as a part of its movement path out of the embedded clause:

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

O ... [$_{NP}$ [$_{CP}$ t_O [$_{TP}$ S_{NOM} [$_{AspP}$ [$_{vP}$ t_S t_O [$_{VP}$ t_O V] v] Asp] T_{uNOM}] C] N

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).

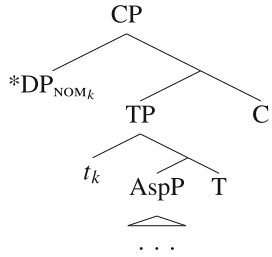
(43) *No cross-clausal scrambling of nominative subject*

* [Fatima-ni bala-si-$\underline{\emptyset}$]$_k$ (tünene) ustaz-Ø [t_k alma-ni aša-ʁan-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).

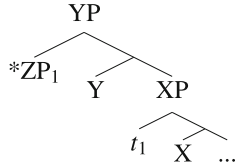
If a nominative embedded subject sits in the specifier of a TP that is dominated by CP, and if CP is a phase, then cross-clausal scrambling of a nominative subject would require the subject to move from spec-TP to spec-CP before continuing on out of the clause, as in (44) below. Because cross-clausal scrambing of the nominative subject is banned, such movement must be prevented:

(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 us 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 a higher clause:

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

Ustaz-∅$_k$ [$_{\text{CLAUSE}}$ [kesi-kes-i-n/ni/*∅]$_k$ alma aša-ʁan-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, this fact fits our proposal that accusative and genitive subjects inhabit the edge of their local phases (CP and DP), whereas nominative ones sit in spec-TP. Not being at the edge of the containing CP, nominative subjects are thus inaccessible for binding from the higher clause. Given the anti-locality principle in (45) above, we can

[18]If 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) Who$_1$ 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. However, so far, we have not encountered any clauses in Balkar that are plausibly bare TPs (although 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-nɨ sabij-i-∅]$_k$ tünene alma-nɨ$_j$ ustaz-∅ [t_k t_j
Fatima-GEN child-AGR-NOM yesterday apple-ACC teacher-NOM
aša-ʁan-i-n] ešit-ti.
eat-NFUT-AGR-ACC hear-PST
'The teacher heard that Fatima's child ate the apple yesterday.'

b. Alma-nɨ$_j$ tünene [fatima-nɨ sabij-i-∅]$_k$ ustaz-∅ [t_k t_j
apple-ACC yesterday Fatima-GEN child-AGR-NOM teacher-NOM
aša-ʁan-i-n] ešit-ti.
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.)

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

[19]A 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.).

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 evidence that movement into clause edges facilitates such binding in English, for instance, as (47) below shows with object *wh*-movement:

(47) *Binding fed by movement into clause edge*
(Nissenbaum, 2000: p. 143, ex. 1)
a. Mary$_1$ knows [$_{CP}$ [which picture of herself$_1$]$_2$ John is looking at t_2].
b. * Mary$_1$ knows [$_{CP}$ John is looking at [a picture of herself$_1$]].

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 what 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):

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

[Eki qɨz] [xar žaš-nɨ] 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:

[20] An 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, because covert movement cannot cause a garden path effect.

(49) *Scope of genitive embedded subject*

a. *Unscrambled*

[Eki qiz] [[fatima-ni xar žaš-i-ni] šaxar-ʁa bar-ʁan-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-ʁa bar-ʁan-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-ʁa bar-ʁan-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-ʁa bar-ʁan-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-∅] šaxar-ʁa bar-ʁan-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 unscrambled embedded subjects requires them to covertly move over the quantifier phrase in the matrix clause, presumably via *Quantifier Raising* (QR; Heim & 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 change 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, although the single syncretic accusative/genitive form behaves as predicted. Because 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-ʁan-dɨ.
man-PTCL apple eat-NEG-NFUT-AGR
'Nobody ate an apple.'

b. * Kiši-da alma aša-ʁan-dɨ.
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-ʁan-ɨ-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-ʁan-ɨ-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 be licensed only by embedded negation:

(54) a. *Licensing of embedded nominative NPI by embedded negation*
Ustaz-∅ [kiši-∅-da alma aša-ma-ʁan-ɨ-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-ʁan-ɨ-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 | A type of indefinite subject

The phrase *kim-ese-da* (literally 'who' with two additional particles (PTCL)) is an indefinite that must typically take wide scope. Thus it normally takes scope over negation in a mono-clausal sentence. When this element is a genitive or accusative subject of an embedded clause (these cases are syncretic for this element as well), it obligatorily takes wide scope with respect to matrix negation:

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

Ustaz-∅ [kim-ni-ese-da alma aša-ʁan-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.'
✓ ∃ >¬: 'There exists someone about whom the teacher didn't hear that they ate an apple.'
× ¬ >∃: *'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-∅ [kim-∅-ese-da alma aša-ʁan-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.'
× ∃ >¬: *'There exists someone about whom the teacher didn't hear that they ate an apple.'
✓ ¬ >∃: 'The teacher didn't hear that anyone ate an apple.'

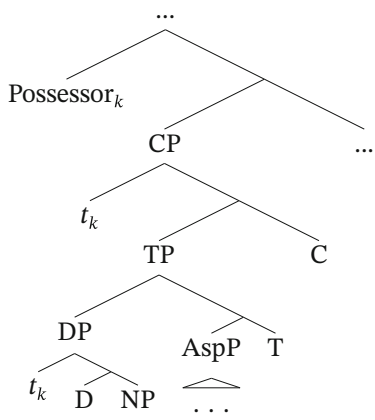
Assuming that wide scope over matrix negation is derived by covert movement of the accusative/genitive embedded subject into the matrix clause in (55), the hypothesis that nominative embedded subjects are syntactically frozen accurately predicts the obligatory exceptional surface scope in (56).

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, 2021b, 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. 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*



Indeed, in reality, possessor extraction is possible from all varieties of embedded subject in Balkar, importantly including nominative ones:[21]

(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-ʁan-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 to facilitate this:

(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-ʁan-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.'

[21] One 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 asiat-∅ [[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.'

.

Further facts show that all such possessors are also capable of covert movement. For instance, an unscrambled 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 qɨz-∅] [[xar oquc-u-nu nöger-i-∅/n/ni] alma aša-ʁan-ɨ-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-ɨ-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, as predicted, possessors of subjects of all cases in Balkar are capable of overt and covert cross-clausal movement, unlike nominative subjects.

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 QR 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, although 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].'

[22] Recall that in Section 4.1, we argued that locality constraints prevent an accusative object from overtly scrambling over an accusative subject. A reviewer points out that if covert movement is subject to the same locality conditions as overt movement, we similarly do not expect an accusative object to be able to covertly move over an accusative subject, and thus take scope over it. Similarly, we showed that overt accusative subject scrambling allows the accusative object to also exit the embedded clause, and we thus might predict that covert movement of an accusative subject from its clause should feed overt long-distance scrambling of the object, creating a surface configuration where the accusative object precedes the accusative subject. Testing these predictions would require being very careful about scope, but should be possible. We leave these questions for future research.

[23] Balkar also has non-nominalized embedded clauses, which use the complementizer (COMP) *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 impossibility of an accusative subject. Because 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-ʁan-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 subject over object order), but the same is not possible with genitive subjects. Whether or not the genitive subject scrambles, 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-ʁan-i-n] ešit-ti.
eat-NFUT-AGR-ACC hear-PST

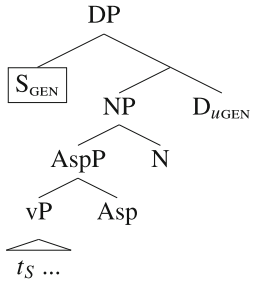
'The teacher heard yesterday that Fatima's child ate the apple.'

b. * Alma-ni$_j$ tünene [fatima-ni sabij-i-ni]$_k$ ustaz-∅ [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.'

To analyze these facts, we build on our proposal in Section 3 that the genitive subject is case-assigned by D and thus attracted to spec-DP:

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



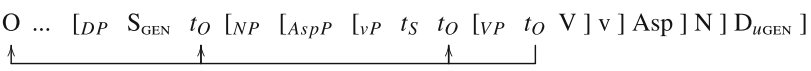
In Section 1.2, we cited a number of works that argue for the phase-hood of DP. If DP is a phase and the genitive subject sits in its edge, then we accurately predict that the genitive subject is accessible for binding as we saw in Section 3.2.1, and we also correctly predict that the genitive subject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

(65) *Genitive subject scrambling succeeds*

S_{GEN} ... [$_{DP}$ t_S [$_{NP}$ [$_{AspP}$ [$_{vP}$ t_S [$_{VP}$ O V] v] Asp] N] D_{uGEN}]

Given our analysis of accusative subject clauses, it is not surprising that an unscrambled 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 has to do with 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 for which there is independent evidence.

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 whereas many Slavic languages like Bulgarian (67b) move all *wh*-phrases to the CP edge:

(67) a. *English multiple wh-question: Single movement*
Who$_1$ did Ivan ask t_1 what?

b. *Bulgarian multiple wh-question: Multiple movement*
(Richards, 1997: p. 277 ex. 75a)
Kogo$_1$ kakvo$_2$ e pital Ivan t_1 t_2?
who.NOM what.ACC AUX asked Ivan

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*
* What$_2$ did you ask [$_{CP}$ who$_1$ t_1 bought t_2]?

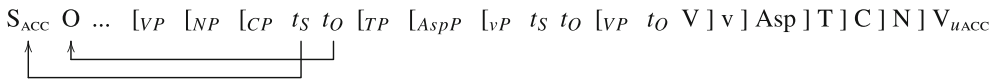
b. *No wh-island effect in Bulgarian*
(Richards, 1997: p. 277 ex. 75a)
[Koja kniga]$_2$ te popita učitelja [$_{CP}$ kogo$_1$ ubedi Ivan t_1 da publikuva t_2]?
Which book you asked teacher who convinced Ivan to publish
'Which book did the teacher ask you who Ivan convinced to publish?'

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-cyclicically 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.

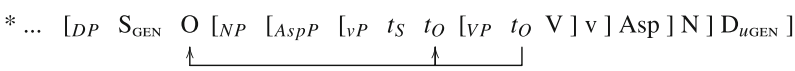
We saw in Section 4 that we get the right results for accusative subject clauses by hypothesizing that a scrambling object tucks-in beneath the accusative subject in CP, because after that subject scrambles away, the object then becomes accessible for movement as well:

(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*



Because 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, because by that time the object will have been trapped in the complement of D due to the Phase Impenetrability Condition.[25]

[24] A 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, because 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.

(i) Who$_1$ did you read [some/many/*his/*their/*my book(s) about t_1]?
(Adapted from Davies and Dubinsky (2003): ex. 9a/10)

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.

[25] Two speakers allowed object extraction from clauses with genitive subjects. Both 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.

This concludes our analysis of Balkar embedded clauses with genitive subjects. We have argued that because 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]

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.

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/accuative 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 Mongoloan nominalizations (NMN), entails that the accusative subject inhabits the DP phase edge. This is analogous to what we argue for Balkar, although for us the relevant phase is CP rather than DP.

[26]We have seen in Section 5 that extraction of possessors from DP is possible in Balkar. In contrast, extraction of adjectives is not, even if no possessor is present in the same DP (i):

(i) * Tünene tatıulu$_k$ asiat [t_k alma-si-n] aša-dı
yesterday tasty Asiyat apple-AGR-ACC eat-PST
'Yesterday Asiyat ate a tasty apple.'

A ban on multiple specifiers in DP cannot explain this, because 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. Because 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 such restriction is that topicalization from nominalized clauses is possible for a subject only when it bears accusative case. Most importantly, she shows that topicalization of an object out of a nominalized clause prevents that clause's subject from having accusative case, even though typically accusative subjects are permitted:

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

[Ene nom-iig]$_1$ bol bi [Bat / Bat-iin / *Bat-iig t_1 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 in Mongolian, subjects must reach the DP edge in order to be assigned accusative case, and that object topicalization out of nominalized clauses passes through the edge of the DP phase, 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 what 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 t_1 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 is parallel 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. The phase in question differs, which is no issue, because there is no reason to expect nominalized clauses to be structurally identical in all languages. However, we do expect to find similar behaviors 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 fact that in Balkar, accusative subjects and scrambled objects can co-exist provided that the subject scrambles also. If 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:

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

[Badma-iijə/*∅]$_k$ sajana-∅ [t_k tərgə əmdəl-əə gəžə] mədə-nə
Badma-ACC/*NOM 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-∅ [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-∅ [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.'

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

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-∅ [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 nominalized clauses, although genitive subject scrambling is not:

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

a. [Badm-iijə]$_k$ sajana-∅ türgör [t_k nom unša-ža bai-x-iijə-n'] xar-aa
Badma-ACC Sajana-NOM quickly book read-CONV be-NMN-ACC-3 see-PST
'Sajana suddenly saw that/how Badma was reading a book.'

b. * [Badm-iijn]$_k$ sajana-∅ türgör [t_k nom unša-ža bai-x-iijə-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 available for a subject only when accusative, while cross-clausal movement of other phrases over an accusative subject is 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. Because of this, accusative subjects are accessible for movement into a higher clause, but also conflict with successive-cyclic movement of an object through that same edge position when cross-clausal object scrambling is attempted.

Nominative subjects pattern the same in 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.[28] 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.[29]

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 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

[28] In Buryat, genitive behaves much like accusative in morphology, however. See Davis (2021a).

[29] 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):

(i) Kitab-ı$_k$ Ahmet-Ø [Ali-Ø/*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 states that it is possible to scramble a dative (DAT) phrase over an accusative subject (iia), or an object over a genitive subject of a nominalized clause (iib):

(ii) a. Ankara-ya$_1$ biz-Ø [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'

b. Ayşe-yi$_1$ Ahmet-Ø [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.'

It is also possible to scramble an object over a genitive subject in Mongolian and Buryat, as we have seen. However, this scrambling of a dative phrase (but not an accusative object) over an accusative subject is a puzzle. The reviewer suggests that this contrast is due to constraints on processing. However, facts about the syntax of Turkish may also be relevant. We leave this puzzle open.

identifies multiple specifier availability as a point of variation. Finally, we discussed parallel patterns in Mongolian and Buryat, although we must leave further cross-linguistic study to future research.

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DATA AVAILABILITY STATEMENT

The full original data generated by this study are available from the corresponding author upon reasonable request

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