Towards a unified analysis of correlatives and indefinites in Balkar

Tu+5

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1. Introduction

- Balkar is a Turkic language spoken mainly in Kabardino-Balkaria Republic and Karachay-Cherkessia Republic in Russia.
- In this talk we examine two morphosyntactically similar constructions: correlative clauses and *wh*-indefinites[1]:

(1) a. **kim e-se da** ol kel-di
who be-cond even that come-pst
Lit.: '**Whoever it is** that came.'

b. **kim e-se da** kel-di.
who be-cond even come-pst
'**Some or other person** came.'

- They both consist of three elements: (i) an interrogative pronoun, (ii) a verb marked by the conditional suffix *-sa*, and (iii) the particle *da* 'even'.
- While both the correlative in (1a) and the pronoun in (1b) convey the speaker's ignorance about the identity of the individual the speaker saw, the former is interpreted definitely (as a consequence cannot be used out-of-the-blue), while the latter receives an indefinite interpretation and is used in novel discourse contexts.

> **Main question**: How is it possible that two superficially similar constructions are interpreted in two opposite ways?
>
> **Answer:** Correlatives are clausal adjuncts whose maximalizaing semantics comes from the E-type pronoun, while indefinites are arguments interpreted via existentially closed choice functions.

- Roadmap:
  - Section 2. Balkar data on correlatives and indefinites
  - Section 3. Analysis
  - Section 4. Conclusion

2. Correlatives vs. indefinites

[1] Balkar data presented in this talk was obtained during a collective field-trip work to the village of Verkhniaya Balkaria as part of the project "" in the summer of 2019. We thank all the members of our team.

2.1. Correlatives: basic picture

- Correlativization is a relativization strategy wherein a relative clause appears on the left periphery of the clause and is linked to a nominal correlate in the main clause (Lipták, 2009).

(2) Hindi
[jo laRkii khaRii hai] vo lambii hai
rel girl standing is that tall is
Lit.: Which girl is standing, that is tall.
'The girl who is standing is tall.'
(Srivastav 1991)

- Correlatives are also found in some Turkic languages such as Turkish (see Iatridou 2013, Demirok 2017).

(3) [John ne pişir-se] Mary onu ye-r
John what cook-COND Mary DEM.ACC eat-AOR
Lit: If John cooks what, Mary eats that.
'Mary eats whatever John cooks.'

- Balkar has similar constructions which we will treat as correlatives as well. The correlative clause must contain an interrogative NP and its predicate must be marked with by conditional suffix *-sa*. Unlike the Turkish counterpart, it is also marked with the particle *da* 'even', (4).

(4) **kim kel-se da** bügün ol kitap kelti-riq-di.
who come-cond even tomorrow that bool bring-fut2-3sg
'Whoever comes tomorrow will bring the book.'

- These constructions exhibit all the properties of regular correlatives
  - the clause must precede the correlate:

(5) ***ol** kelter-gen-di xarbuz-nu tünene
that bring-pfct-3sg watermelon-acc yesterday
[$_{\text{CorrP}}$ kim kel-gen e-se da**]**
who come-pfct be-cond even
'Whoever came yesterday brought a watermelon.'

  - both the nominal head of the relative and the correlate can be spelled out and there is a demonstrative requirement on the correlate:

(6) qaisɨ sabij bügün oram-da ojna-ʁan e-se da
which child today street-loc play-pfct be-cond even
A child that was playing on the street today was laughing loudly... {a=b}

a. ...ol (sabij) ullu kül-e e-di.
that child big laugh-ipfv be-pst.3sg
b. ...*sabij ullu kül-e e-di
child big laugh-ipfv aux-pst.3sg

  - they have maximalizing semantics: they refer to the "largest" individual in the set of contextually salient individuals. As noted in Grosu,

Landman (1998), this semantics explains why the correlate DP must be definite or universal:

(7) qaisɨ zašciq-la süel-ip e-se-le da
which boy-pl stand-conv be-cond-pl even
The boys that stand there…

a. …ala fatima bla birge oqu-j-du-la
those Fatima with together study-ipfv-3-pl
those are Fatima's classmates.

b. …??az fatima bla birge oqu-j-du-la
minority Fatima with together study-ipfv-3-pl
the minority of them are Fatima's classmates.

- Correlatives in Balkar can have both definite and universal reading:

(8) kim et-gen e-se da anɨ kör-ür-ge sü-e-me
who do-pfct aux-cond even that.acc see-pot-inf want-ipfv-1sg
I want to see whoever did it {but I don't know who it is}.

(9) men ne aš xazɨrla-sa-m da kerim ani aša-j-di.
I what food cook-cond-1sg even Kerim that.acc eat-ipfv-3sg
Kerim eats whatever I cook.

- Notably, the correlate in the main clause can be optionally omitted[2]:

(10) kim kel-se da bügün kitap kelti-riq-di.
who come-cond even tomorrow book bring-fut2-3sg
'Whoever comes tomorrow will bring the book.'

- Building on the proposal in Iatridou (2013) for Turkish correlatives, we assume that even in the sentences with no overt correlate the correlative clause is a correlative adjunct, rather than an English-style free relative in an argument position (*Whoever Mary invited to the party came*).

- One argument in favour of it is the absence of the case-matching effects. In general, the *wh*-phrase in free relatives must bear a case marker that fits the case assigning properties of both the matrix clause and the free relative itself.

- In (11) the verb in the correlative clause assigns accusative to the *wh*-word, but the verb in the matrix clause assigns nominative.

(11) fatima **kim-ni** süj-e e-se da qonaq-ʁa kel-liq-di
Fatima who-acc love-ipfv be-cond even guest-dat come-fut2-3sg
'Whoever Fatima likes will come to visit.'

- If constructions like in (10) were free relatives, we would expect (11) to be ungrammatical, contrary to the fact. Instead, if we assume that there is a silent correlate, that the matrix verb assigns the nominative to, the acceptability of (11) is expected.

[2] A reviewer asks whether the overtness of the correlate overt contributes to the meaning of the sentence. The data we have does not suggest that it does.

- Due to this fact, we assume that the correlative clause is always an adjunct, while the (possibly null) correlate occupies the argument position in the main clause.

- We also assume that the correlative clause is base-generated as a TP adjunct, rather than as a DP adjunct (as was proposed in Bhatt 2003).

- One of the arguments in favor of this is that the relationship between a correlative clause and the associate demonstrative is not sensitive to island constraints.

★ Complex NP constraint

(12) *kerim-ni alim [[fatima qonaq-ʁa caqɨr-dɨ dep] xapar-la]
Kerim-acc Alim Fatima guest-dat invite-pst.3sg comp rumor-pl
ešit-gen-di
hear-pfct-3sg
'Alim has heard rumors that Fatima invited Kerim to come visit her.'

(13) [men kim-ni süje e-se da]
I who-acc love-acc be-cond even
alim [[fatima anɨ qonaq-ʁa caqɨr-dɨ dep] xapar-la]
Alim Fatima that.acc guest-dat invite-pst.3sg comp rumor-pl
ešit-gen-di
hear-pfct-3sg
'Whoever I love, Alim has heard rumors that Fatima invited him to come visit her.'

★ Adjunct island

(14) *zɨr [alim zɨrla-j] išle-j-di
song Alim sing-ipfv work-ipfv-3sg
'Alim works singing a song.'

(15) kün-nü axɨrɨ-n-da kallaj zɨr-nɨ ešit-se-q da
day-gen end-obl-loc which song-acc hear-cond-1pl even
alim [anɨ zɨrla-j] isle-j-di
Alim that sing-ipfv work-ipfv-3sg
'Whichever song we hear at the end of the day Alim works singing this song.'

- To sum up, Balkar possesses constructions that have core properties of correlatives. We have also demonstrated, that they cannot be analyzed as free relatives and are base-generated in the position of a TP adjunct.

2.2. Indefinite pronouns

- Balkar possesses what is traditionally called "indefinite pronouns" — items build from three elements: (i) an interrogative pronoun, (ii) the copula *e* 'be' marked by the conditional suffix *-sa* and (iii) the particle *da* 'even'.

- They function as indefinite noun phrases and obligatorily give rise to the inference that the speaker is ignorant about the identity of the individual denoted by them.

- This is seen from that the speaker cannot explicitly add that she knows who the referent is, (16).

  (16) Kim e-sa da kel-di #men bil-e-me Alim bol-ʁan-ɨn
  who be-cond even come-pst I know-ipfv-1sg A. be-pfct-acc.3sg
  'Some or other person came. # I know that it was Alim.'

- Similarly, utterances containing them cannot be followed by questions about the identity of the referent, (17).

  (17) A: Fatima kim-ge e-se da erge cɨk-dɨ
  F. who-dat be-cond even marry get-pst
  'Fatima married some or other person.'

  B: #Kim-ge?

- Given these facts, we conclude that these forms are "Epistemic Indefinites" (EIs) — expressions that conventionally convey ignorance on part of the speaker (see, e.g., Haspelmath 1997; and much further literature).

- It is known from the literature that across languages EIs can trigger different types of modals inferences. Following Alonso-Ovalle and Menéndez-Benito (2010), we distinguish between the so-called *free choice inference* and *modal variation inference*, (18).

  (18) a. **Free Choice**: all the alternatives in the contextually relevant domain are considered as possible options.

  b. **Modal Variation**: more than one (but not necessarily all) the alternatives in the contextually relevant domain are considered as possible options.

- Balkar EIs can trigger both free choice, (19), and modal variation, (20), inferences.

  (19) [**Context**: I am waiting for several people to come to my place. I hear that someone has just come but do not yet see this person. I belive that it can be any of those for whom I am waiting.]

  kim e-se da kel-di
  who be-cond even come-pst
  'Some or other person came.'

  (20) [**Context**: I am waiting for several people to come to my place. I hear that someone has just come but do not yet see this person. I know that it cannot be Alim or Albina because they were going to come later.]

  kim e-se da kel-di
  who be-cond even come-pst
  'Some or other person came.'

- Balkar EIs can range over singleton domains. Utterances containing them are felicitous in contexts from which it follows that there is only one witness in the domain, as in (21)[3].

  (21) [**Context**: I have come to a village school to talk with the principal.]

  men kim e-se da bir direktor bla
  I who be-cond even one director with
  tüb-er-ge kel-gen-me
  meet-pot-inf come-pfct-1sg
  'I have come to meet some principal.'

- Balkar EIs demonstrate peculiar scope behavior. First, that are banned from appearing under sentential negation: the sentence in (22) can only be interpreted with the indefinite taking wide scope.

  (22) Kerim ne zat e-se da satɨ-p al-ma-dɨ
  K. what thing be-cond even sell-conv take-neg-pst
  1. 'There is something that Kerim did not buy.' $^{OK}\exists > \neg$
  2. *'Kerim did not buy anything.' $^{*}\neg > \exists$

- They can never scope under low modal operators, such as deontic modals, (23).

  (23) qonaq-ʁa kim e-se da caqɨr-al-lɨq-sa
  guest-dat who be-cond even invite-pos-fut2-2sg
  1. 'You can invite some or other person.' $^{OK}\exists > \Diamond$
  2. *'You can invite any person.' $^{*}\Diamond > \exists$

- And universal quantifiers, (24).

  (24) biteu zaščiq-la ne zat e-se da kelter-di-le
  every boy-pl what thing be-cond even bring-pst-pl
  1. 'Every boy brought a particular unknown to the speaker thing.' $^{OK}\exists > \forall$
  2. *'Every boy brought his own thing.' $^{*}\forall > \exists$

- Moreover, they can take wide scope from within semantic islands, such as antecedents of conditionals, (25).

  (25) kim e-se da kel-se Alim quanɨ-rɨq-dɨ
  who be-cond even come-cond A. be.happy-fut2-3sg
  1. 'There is a particular unknown to the speaker person such that if this person comes, Alim will be happy.' $^{OK}\exists > if$
  2. 'If any person comes, Alim will be happy'. $^{OK}if > \exists$

- And clauses embedded under attitude predicates, (26).

  (26) Alim umut ete-di kim e-se da keli-r dep
  A. hope do-3sg who be-SA even come-fut1 comp
  1. 'Alim hopes that some or other person come.' $^{OK}\exists >$ hope

[3] Note that in () EI takes an overt NP restrictor. Although this happens regularly in Balkar, we do not separately discuss it here for the reasons of time.

2. ‘Alim hopes that at least someone will come.’ ^{OK}hope > ∃

- To sum up, Balkar EIs are not subject to domain constraints. EIs obligatorily take the widest scope within the clause they are merged in and can be interpreted outside of semantic islands.

2.3. Correlatives and indefinites: comparison

- Despite superficial similarities, the considered constructions differ in a number of respects.
- First, they differ semantically (recall the discussion in the Introduction). Second, while any verb can be used as a predicate in correlatives, indefinites only come with the verb *e* ‘be’.
- Moreover, *wh*-words in EIs can bear case-marking assigned by the main verb, while *wh*-words in correlatives cannot (cf. (27a) vs. (27b)).

(27) a. Indefinite
men **kim(-ni)** e-se da ker-gen e-di-m
I who-acc be-cond even see-pfct be-pst-1sg
‘I saw some or other person.’

b. Correlative
men **kim-(*ni)** e-se da ker-gen e-di-m
I who be-cond even see-pfct be-pst-1sg
Lit.: ‘I saw whoever it is.’

- In correlative constructions, the case assigned by the matrix verb can only appear on the correlate, (28).

(28) men **kim(*-ni)** e-se da **ani** ker-gen e-di
I who be-cond even that.acc see-pfct be-pst
Lit.: ‘Whoever it is, I saw that.’

- The accusative case on the *wh*-word in (27a) cannot be assigned by the verb *e* ‘be’ for two reasons: (i) it does not assign accusative in general which is evident from (28); (ii) *wh*-words in indeffinites cannot receive nominative when the pronoun itself is assigned another case, such as dative in (29).

(29) Fatima **kim-*(ge)** e-se da erge cik-di
F. who-dat be-cond even marry get-pst
‘Fatima married some or other man.’

Conclusion: In contrast to correlatives, the *ese* element in indefinites does not function as a true verb. Indefinites, unlike correlatives, do not have clausal structure. They occupy an argument position and receive their case from the main verb.

3. Towards an analysis

3.1. Correlatives

- Demirok (2017) provides a compositional-semantic account for what Iatridou (2013) identifies as correlatives in Turkish, (30).

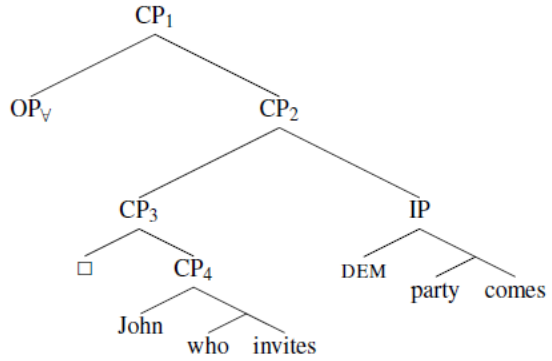
(30) John kimi çağır-sa o partiye gelir
John who invite-SA DEM party come.will
‘Whoever John invites will come to the party.’
Demirok (2017: 162)

- Demirok’s (2017) approach involves the following crucial components:
  - Unlike Dayal (1995), he treats *wh*-expressions not as relative operators (Turkish lack *wh*-relativization) but as alternative denoting expressions in the sense of Hamblin (1973). That explains island-insensitivity of *wh*-elements and the presence of intervention effects in Turkish.
  - Building on the analysis of unconditionals in English by Rawlins (2013), he analyzes correlative clauses as denoting sets of conditional antecedents and the whole correlative construction as a conjunction of conditional statements. The meaning of () then can be paraphrased as ():

(31) If John invites Bill, he will come to the party &
If John invites Susan, she will come to the party & …
Demirok (2017: 162)

  - The maximalizing semantics observed in correlatives comes not from the correlative clause itself but from the correlate being an E-type pronoun, that picks up the maximal individual in the context.

- The sentence in (30) has the following LF:



- Balkar is similar to Turkish in many relevant aspects: it is a *wh*-in-situ language lacking *wh*-relativization; *wh*-words are island-insensitive in situ and subject to intervention effects.

- Due to that we can largely adopt Demirok's (2017) analysis. The only difference between Turkish and Balkar correlatives is the presence of the particle *da* 'even' in the latter.

- To account for it we adopt the proposal in Balusu (2019) for the contribution of EVEN in related constructions in Dravidian, including unconditionals and free relatives.

(32) eedi icci-naa tin-Taanu Telugu
what give-IF-EVEN eat-will
'I will eat whatever you give me.'

- Balusu (2019) claims that the *even*-element attaches on top of the conditional clause bringing in a scalar presupposition and associates with the *wh*-word.

- The combination of IF and EVEN produces the implicature that for all the alternatives distinct from the current one the conditional consequent is also true[4], (33).

(33) **Assertion**:
I will eat whatever you give me.
$\forall p \in C\ \forall w$ [if you give me p in w → I will eat it]

(Scalar) Pressuposition:
It is less likely that I will eat if you give x to me than if you give me something else.
$\forall p \in C\ \forall w$ [if you give me p in w → I will eat it] $<_{\mu}$ $\forall q.q \neq p$[if you give me q in w → I will eat it]

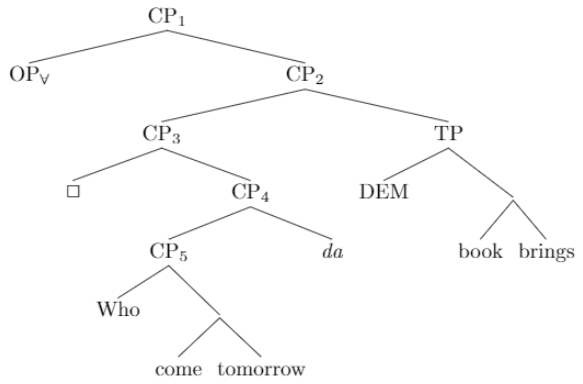
Implicature:
If you give me something, that is not x, I will eat it.
$\forall q.q \neq p$[if you give me q in w → I will eat it]

- We adopt this proposal for Balkar *da* 'even' is inserted in the derivation in between the conditional clause and the modal above it. Then (34) has the structure in (35)

(34) **kim** **kel-se** **da** bügün ol kitap kelti-riq-di.
who come-cond even tomorrow that bool bring-fut2-3sg
'Whoever comes tomorrow will bring the book.'

(35)

[4] It follows from the universal entailment of conditionals and the monotonic nature of the ordering, μ (Guerzoni & Lim 2007).



- The departure from Demirok (2017) takes place at the level of CP4: *da* 'even' brings in the scalar presupposition for every individual alternative in the denotation of the *wh*-word, (36)[5].

(36) ⟦CP4⟧ = {[Kerim brings the book] ∧
[Kerim brings the book in] $\leq_{\mu}$ $\forall q.q \neq$Kerim [q brings the book],
[Fatima brings the book] ∧
[Fatima brings the book] $\leq_{\mu}$ $\forall q.q \neq$Fatima [q brings the book],...}

- This generates the implicature that the predicate is true of all the contextually relevant alternatives of each individual alternative in the denotation of the *wh*-word, (37).

(37) **Implicature**: $\forall q.q \neq p$[if p comes → (s)he will bring the book]

- Althought this analysis correctly captures truth-conditions of correlatives, it cannot be straightforwardly extended to EIs. If they were to denote sets of propositional alternatives, they would be blocked from appearing in argument positions due to type-mismatch.

- We need to say something else...

3.3. *Wh*-EIs in Balkar

- To account for EIs in Balkar we maintain the idea that *wh*-words denote sets of individual alternatives. We propose that in indefinites the *ese* element lexicalizes a variable over choice functions (CF).

- To account for the properties of EIs in Balkar we build on Dawson's (2018, to appear) choice functional account of EIs in Tiwa (Tibeto-Birman).

[5] We underline the presupposition.

- According to Dawson (2018), in Tiwa the epistemic ignorance effect triggered by *-khí* indefinites arises not because of the domain constraints (as has been previously proposed for the German *irgendein* (Kratzer & Shimoyama 2002) and the Spanish *algún* (Alonso-Ovalle and Menéndez-Benito 2010)) but as the result of the choice functional nature and competition with other indefinites.

- Following Kratzer & Shimoyama (2002) and Shimoyama (2006), Dawson (2017) treats *wh*-words as denoting sets of individual alternatives, (38a), and following Yanovich (2005), takes *-khí* to introduces a CF that ranges over those sets and returns their members, (38b).

  (38) a. ⟦shar⟧ = {x: human(x)}

  b. ⟦-khí⟧ = λα{f(α)}, where $\alpha \subseteq D_e$, f is a CF

- Following Reinhart (1997), Dawson (2018) assumes that the choice function variable is existentially closed at the level of CP, (39).

  (39) a. shar-khí phi-dom
  who-KHI come-pst
  'Someone came.'

  b. ∃f[CH(f) & came(f(human))] (Dawson 2018: 361)

- Epistemic ignorance effect is claimed to be an implicature that arises due to the competition of choice functional *-khí* indefinites with other non-choice functional ones: existentially quantifying over the choice function implicates ignorance with respect to the ways the witness is to be selected.

- Choice functional approach to *-khí* indefinites allows to derive their exceptional wide scope behavior: they are interpreted above negation and modals, as well as escape semantic islands.

- Another advantage is that it accounts for the fact that the *-khí* particle is also used to form wide-scope disjunction, (40).

  (40) Lastoi [khónana **khí** sónena] phi-w
  Lastoi tomorrow KHI day.after come-NEUT
  'Lastoi will come tomorrow or the day after.'
  (Dawson 2019: 6)

- Under the view that disjunction also introduces Hamblin alternatives (see, e.g, Alonso-Ovalle (2006)), this follows naturally and allows for a unified treament of *-khí*: when forming a disjunction the choice function it introduces ranges over the set formed from disjuncts, (41).

  (41) ⟦Lastoi khí$_i$ Mukton⟧ = f({Lastoi, Mukton})

- We believe that this approach can and should be adopted for Balkar for the following reasons:
  - They do not obligatorily trigger epistemic FC inferences and are felicitous in contexts with the domain including only one individual (recall (19) and (20))[6]. That is, they are not subject to domain constraints;
  - Balkar EIs demonstrate island-violating scope behavior (recall (21)-(26))[7];
  - As in Tiwa, we find the *ese da*-element not only in indefinites but also in disjunction[8], (42).

  (42) Alim **e-se** **da** Kerim **e-se** **da** kel-di
  A. be-cond even K. be-cond even come-pst
  'Alim or Kerim came.'

- Analogously to what Dawson (2018) and Yanovich (2005), *ese* element introduces a choice function variable that ranges over a set of Hamblin alternatives and returns one of its members, (43).

  (43) ⟦*ese*⟧$_{<E,e>}$ = λα_E{f(α)}, f is a Hamblin CF

- The open question concerns the contribution of the particle *da* 'even'...

4. Conclusion

- ...

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[6] Which makes both Kratzer & Shimoyama's (2002) "maximal domain-widening" analysis and Alonso-Ovalle and Menéndez-Benito' (2010) "anti-singleton requirement" analysis untenable.

[7] It should be noted that in Tiwa EIs obligatorily take scope from the outside of semantic islands, while in Balkar they can be interpreted within them. This difference can easily be accounted if we assume that in Balkar the choice function variable can be existentially closed at the level of embedded CP.

[8] We thank Natalia Ivlieva for pointing our attention to this fact.

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