

# Deconstructing Inverse Case Attraction

Rafael Abramovitz - rafabr@mit.edu

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## Abstract

Inverse case attraction (ICA) is a phenomenon where the head of a seemingly externally-headed relative clause is marked with the case assigned to the gap inside the relative clause, rather than the case assigned to the position the entire modified noun phrase appears in. This paper presents an analysis of inverse case attraction (ICA) based primarily on novel fieldwork data from Koryak, a highly endangered Chukotko-Kamchatkan language of the Russian Far East. The paper argues that Koryak relative clauses with inverse case attraction are actually surface-internally-headed, but their heads appear in the embedded left periphery, thereby instantiating a type of relative clause that has so far been argued to exist only in the Gur languages of West Africa. I show that there are syntactic parallels between Gur relative clauses and Koryak ICA, despite the fact that Gur languages have no morphological case marking. An important consequence of the relative clause being surface-internally-headed is that the head should be assigned its case inside the relative clause, deriving ICA while dispensing with case attraction as a morphosyntactic primitive. Implications for the raising analysis of relative clauses are also discussed. A survey of other languages with ICA suggests that internally-headed relative clauses with embedded left-peripheral heads are likely to be a general solution to ICA crosslinguistically.

## 1 Introduction

Noun phrases modified by a relative clause (NPRC) in Koryak (Chukotko-Kamchatkan) have a curious property that no other noun phrases in the language systematically<sup>1</sup> have: under certain circumstances, they can be marked with one of two morphological cases. Consider first the

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<sup>1</sup>I say 'systematically' as there are a few verbs whose complements can be marked with either of two cases with no apparent change of meaning, such as *peɣɲ* 'attack' in (1) below. This is by all appearances merely a lexical fact about

sentence in (1a), where the noun phrase *inenyǝjulevətɕʔ*- ‘teacher’ is marked with narrative case, which contributes the meaning of the English preposition ‘about’. As expected, other cases, such as ergative, are not permitted, given that the noun phrase in question is not a transitive subject. However, when the relative clause (RC) *that t scolded you* is adjoined to this noun phrase, it can be marked either with either narrative case or ergative case (1b). The latter of these is allowed because the gap in the relative clause is the subject of a transitive verb, a pattern known as *inverse case attraction* (ICA).<sup>2</sup>

- (1) a. {inenyǝjulevətɕʔ-ə-kjit / \*inenyǝjulevətɕʔ-e} *pro*<sub>1du</sub>  
 {teacher-EP-NARR / \*teacher-ERG} 1DU.ABS  
 mətɕ-tɕe-kətɕviʔ-et-ə-ŋ-Ø mitiw  
 1NSG.S/A-FUT-talk.about-VBLZ-EP-FUT-1NSG.S/O tomorrow  
 ‘Tomorrow we two will talk about the/a teacher.’
- b. [ {inenyǝjulevətɕʔ-ə-kjit / inenyǝjulevətɕʔ-e} mikə-ne-k<sub>i</sub> t<sub>i</sub> na-kətʔajŋa-ye  
 {teacher-EP-NARR / teacher-ERG} who-OBL.SG-ERG INV-scold-2SG.O  
*pro*<sub>2sg</sub> ] *pro*<sub>1du</sub> mətɕ-tɕe-kətɕviʔ-et-ə-ŋ-Ø mitiw  
 2SG.ABS 1DU.ABS 1NSG.S/A-FUT-talk.about-VBLZ-EP-FUT-1NSG.S/O tomorrow  
 ‘Tomorrow we two will talk about the teacher that scolded you.’

The existence of ICA raises a few puzzles about the grammar of Koryak and other languages that have this phenomenon. First and foremost, what is it about being modified by a relative clause that allows a noun phrase to reject the case it would normally be assigned? Second, why can the head of a (by all appearances) externally-headed relative clause (EHRC) be case-marked as though it were inside of the relative clause? Finally, given that ICA occurs in a variety of unrelated languages and could be a syntactically heterogeneous phenomenon, is there a single crosslinguistically adequate analysis of ICA?

In this paper, I investigate the syntax of noun phrases containing relative clauses (NPRC) with inverse case attraction. Starting with data from Koryak as a baseline, I argue that relative clause heads with the expected case are in a structurally different position than those with ICA: the former are outside of the relative clause, whereas the latter are inside the relative clause in its left periphery, *pace* all previous analyses of this phenomenon. As a result, the head of NPRCs with ICA these verbs, rather than a property of a particular syntactic position.

- (1) a. kajŋ-ə-n Ø-pejŋ-e qoja-jtəŋ  
 bear-EP-ABS.SG 2/3.S/A.IND-attack-AOR reindeer-ALL  
 ‘The bear attacked the reindeer.’
- b. kajŋ-a Ø-pejŋ-ə-nen qoja-ŋa  
 bear-ERG 2/3.S/A.IND-attack-EP-3SG.A > 3.O reindeer-ABS.SG  
 ‘The bear attacked the reindeer.’

<sup>2</sup>This is also known as *tractio inversa*, which is used particularly by classical philologists (e.g. Probert (2015) and sources therein) and syntacticians from Russian universities (e.g. Kholodilova 2013; Privizenceva 2016). I will employ ‘inverse case attraction’ or ‘ICA’ from here on out.

are never in the same clause as the RC-external case assigner, so they cannot receive case-marking from it. This provides a solution to the first puzzle: an NPRC can have its head either outside or inside the relative clause, and in the latter case it is not eligible for external case assignment.<sup>3</sup> This also provides a solution to the second puzzle: relative clauses with inverse case attraction are not, in fact, externally headed, but merely appear to be so at first glance because their heads are high in the embedded left periphery. That relative clauses with inverse case attraction are a type of internally-headed relative clause (IHRC) makes the fact that they bear RC-internal case-marking unremarkable. Unexpectedly, this discovery leads to an unnoticed connection between inverse case attraction and the left-headed internally-headed relative clauses widely found in the Gur language family (Hiraiwa 2005, 2009a,b; Bodomo and Hiraiwa 2010; Hiraiwa et al. 2017; a.o). On the analysis put forward in this paper, languages with ICA are simply languages with Gur-like relative clauses that happen to have case-marked nouns and relative pronouns. Finally, based on a survey of other languages with ICA that finds no data incompatible with the proposal I make for Koryak, I suggest that the analysis of ICA as involving internally-headed relative clauses with heads in the left periphery is the correct analysis for this phenomenon crosslinguistically.

This analysis has implications not only for the analysis of inverse case attraction, but also for theories of relative clauses more generally. In particular, the version of the raising analysis of what are usually called externally-headed relative clauses adopted in the Antisymmetry framework proposes that the heads of these relative clauses are located not externally to the relative clause, but in its left periphery (Kayne 1994; Bianchi 1999, 2000a,b). This is exactly what I show to be the structure involved in ICA. While proponents of this analysis propose that this high left peripheral position is sufficiently close to the matrix clause for the RC head to have its case overwritten by the DP that embeds the relative clause, my analysis shows that this cannot be correct: in order for external case to be marked on the head of a relative clause, the head must be in a position above the relative CP.

The structure of the paper is as follows. In §2, I lay out relevant background information on relative clause types, inverse case attraction and its analysis, and the Koryak language. In §3, I present the relevant data on Koryak relative clauses, arguing that they instantiate neither correlatives nor externally-headed relatives, and §4 presents the analysis of this data. In §5, I discuss some correct predictions of the analysis. §6 discusses relative clauses in Gur languages, which I argue involve the same structure as ICA, and §7 presents data from all the languages I am aware of in which ICA has been studied, none of which are incompatible with my proposal.

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<sup>3</sup>I use the terms ‘external case’ to refer to the case that the head is required to be marked with in the absence of a relative clause and ‘internal case’ to refer to the case assigned to the gap inside the relative clause.

## 2 Background

### 2.1 Relative Clauses

Headed relative clauses can be broadly categorized into two types: externally-headed, where the head is pronounced outside of the relative clause, and internally-headed, where the head is inside the relative clause, usually in situ. Consider the Russian EHRC in (2a). As the subject of a finite verb, the head of the NPRC *ženščina* ‘woman’ receives nominative case, just as it would if it were not modified by a relative clause (2b). Likewise, it also triggers number and gender agreement on the matrix verb just as it does when it is not modified by a relative clause. The relative pronoun *kotoruju*, however, is marked with the accusative case assigned to the object of the verb inside the relative clause.

#### (2) Russian

- a. [ *ženščina*     *kotoruju<sub>i</sub>*     *ja*     *vstretil*     *t<sub>i</sub>*     *na počte*     ] *ran’še*  
woman.NOM which.ACC I.NOM met.M.SG.PST at.the.post.office earlier  
*žila*     *v ètom dome.*  
live.F.SG.PST in.this.house  
‘The woman that I met at the post office used to live in this house.’<sup>4</sup>
- b. *ženščina*     *ran’še žila*     *v ètom dome.*  
woman.NOM earlier live.F.SG.PST in this house  
‘The woman used to live in this house.’

An example of an internally-headed relative clause is in (3), from Imbabura Quechua.<sup>5</sup> Here, the head of the relative clause (‘child’) is found inside an RC-internal embedded clause and is case marked as an object of the embedded RC-internal verb, rather than as the subject of the RC-external verb. Also unlike in Russian, the relative clause has no relative pronoun reflecting the case or *phi*-features of the RC-head. In their external syntax, however, IHRCs share properties with EHRCs. For example, the Japanese IHRC in (4) is marked with accusative case, just as the unmodified object of a transitive verb would be. The Navajo IHRC in (5) is marked with the determiner *-ąa*, which also appears on nominals. Finally, the matrix verb in the Lakhota sentence in (6) is inflected for the *phi*-features (3rd person animate plural) of the internal head of the relative clause. These facts show that, at least in some languages, IHRCs behave for the purposes of external syntax like EHRCs.

#### (3) Imbabura Quechua

- [ *Marya* [ *Juan wawa-ta riku-shka*]-*ta*     *ni-shka*     ] *llugshi-rka*  
*Maria*     *Juan* child-ACC see-NOMINAL-ACC say-NOMINAL leave-PAST

<sup>4</sup>I omit from the example sentences the commas that are used to set off relative clauses according to the punctuation norms of certain languages. For example, according to the punctuation norms of Russian, a comma should be placed after both *ženščina* and *počte*.

<sup>5</sup>See Hiraiwa (2017) for an overview of the syntax of IHRCs.

‘The child that Maria said that Juan saw left.’ Cole (1987, ex. 39)

(4) Japanese

Ken-wa [ tebburu-no-ue-ni ringo-ga oiteat-ta no]-o mi-ta  
Ken-TOP table-GEN-on-LOC apple-NOM put-PST COMP-ACC see-PST

‘Ken saw an apple that was put on the table.’ Hiraiwa (2017, ex. 41)

(5) Navajo

[ [ Tl’édáá ashkii ałhą́ą’]-áa ] yádoołtih  
last.night boy snore-DEM will.speak

‘The boy who was snoring last night will speak.’ Platero (1974, 204), as cited in Hiraiwa (2017, ex. 52)

(6) Lakhota

[ Čhápa eyá wičháo k’uŋ hená ] waŋwíčhablake ló  
beaver some shoot.3PL.O ANT DEF.PL see.1SG.S > 3PL.AN.O MS

‘I saw the beavers that he had shot.’<sup>6</sup> Ullrich and Black Bear Jr (2016, 264)

## 2.2 Inverse Case Attraction

Relative clauses with inverse case attraction complicate the picture presented above: as mentioned in the introduction, they are characterized by a head that is marked with the case assigned by the verb inside the relative clause (as in an IHRC), but nonetheless appear to the left of the relative clause, as in an EHRC. We saw an example of this in (1b) above, where the head of the relative clause could be marked with narrative case, as it would be without the relative clause, but could also be marked with ergative case because the gap in the relative clause was a transitive subject. Another example of internal case surfacing on the head of a relative clause is in (7a), where the head of the relative clause bears the absolutive case corresponding to the subject of the verb *jəpʔajŋa* ‘howl’ in the relative clause, though it must bear the dative case associated with the object of *t̤ejejm̩ev* ‘approach’ if it is not modified by a relative clause (7b). In this sense, the relative clause with ICA behaves like IHRC.

(7) Koryak

a. RC-external case: DAT, RC-internal case: NOM

[<sub>XP</sub> ʔeyəlŋ-ə-n meŋin<sub>i</sub> t<sub>i</sub> Ø-ko-jəpʔajŋa-ŋ-Ø ] qəjəm *pro*<sub>1sg</sub>  
wolf-EP-ABS which.ABS 2/3.S/A.IND-PRS-howl-PRS-3.S.IND NEG.IRR 1SG.ABS  
m-ə-t̤ejejm̩ev-ə-k  
1SG.S/A.IMP-EP-close-VBLZ-EP-1SG.S

<sup>6</sup>Thanks to Adam Albright for providing the glosses for the sentence.

‘I will not approach the wolf that is howling.’

- b. { $\eta$ anen- $\eta$ eyəl $\eta$ -ə- $\eta$  / \* $\eta$ ajen  $\eta$ eyəl $\eta$ -ə-n} qəjəm *pro*<sub>1sg</sub>  
 {DIST.DEM-wolf-EP-DAT / \*DIST.DEM.ABS.SG wolf-EP-ABS.SG} NEG.IRR 1SG.ABS  
 m-ə-t̤ejm-ev-ə-k  
 1SG.S/A.IMP-EP-close-VBLZ-EP-1SG.S  
 ‘I will not approach that wolf.’

However, as expected with an EHRC, the head of the relative clause is peripheral to RC, and the triggers agreement on the matrix verb.<sup>7</sup> The word-order similarities between EHRCs and RCs with ICA are underscored by the fact that all languages I am aware of that allow ICA also have run-of-the-mill EHRCs, where the head of the RC gets external case. This is exemplified by the Koryak sentence in (8), which differs from the sentence in (7a) only in that the head of the relative clause bears the dative case corresponding to the internal argument of the matrix verb *t̤ejm-ev-* ‘approach’. The heads in both of these sentences appear to be in the same position to the left of the (internally-)case-marked relative pronoun *meŋin* ‘which’, and yet one head is case-marked in line with its relationship to the matrix verb, and the other in line with its relationship to the embedded verb.

(8) RC-external case: DAT, RC-internal case: NOM

[<sub>XP</sub>  $\eta$ eyəl $\eta$ -ə- $\eta$  meŋin<sub>i</sub> t<sub>i</sub> Ø-ko-jəp $\eta$ ajŋa- $\eta$ -Ø ] qəjəm *pro*<sub>1sg</sub>  
 wolf-EP-DAT which.ABS 2/3.S/A.IND-PRS-howl-PRS-3.S.IND NEG.IRR 1SG.ABS  
 m-ə-t̤ejm-ev-ə-k  
 1SG.S/A.IMP-EP-close-VBLZ-EP-1SG.S

‘I will not approach the wolf that is howling.’

Notice the way I have schematized the sentences in (7a): the entire NPREC is enclosed in brackets and assigned the label XP. As we will see in §2.3, one of the analyses on the market is that ICA instantiates a correlative structure, which would make the entire NPREC a CP (and would make the designation of that constituent as a *noun phrase* containing a relative clause incorrect.) I will argue against the correlative analysis of ICA, and instead argue that relative clauses headed by noun phrases both with and without ICA are DP constituents, though their surface syntax is different. For the time being, I will demarcate the NPREC from the rest of the clause with brackets labeled XP, and will update the schematization as I produce arguments for the structure instantiated by the NPREC.

<sup>7</sup>As the agreement on the matrix verb in the Lakhota sentence in (6) demonstrates, internally-headed relative clause structures also allow the matrix verb to agree with the head of the relative clause, so it might appear disingenuous to describe this quality as characteristic of EHRCs. However, the fact that this should be allowed with IHRCs is in and of itself a surprising fact, which analyses beginning with Cole (1987) and Williamson (1987) have made sense of by positing silent nominal structure outside of the relative clause coindexed with its head. That the matrix verb can agree in *phi*-features with the heads of both IHRCs and RCs with ICA is therefore a way in which they both behave like EHRCs.

Turning now to agreement, the sentences in (9) demonstrate that agreement with an NPRC with ICA follows the *phi*-features of the head: the singular RC head *eʔanak* ‘woman’ in (9a) triggers (unmarked) singular agreement on the matrix verb *kaŋaŋjaŋvoŋ* ‘sings’, whereas the plural RC head *eʔajək* ‘women’ in (9b) triggers plural agreement on the matrix verb *kaŋaŋjaŋvolaŋ* ‘sing.’

- (9) a. RC-external case: ABS, RC-internal case: ERG

[<sub>X</sub>P eʎʔa-na-k mik-ə-ne-k  
woman-OBL.SG-ERG who-EP-OBL.SG-ERG  
Ø-ine-n-ə-kj-ev-i yəmmo ] metʔa-ŋ  
2/3.S/A.IND-1SG.O-CAUS-EP-wake.up-VBLZ-AOR 1SG.ABS beautiful-ADV  
Ø-k-aŋaŋja-ŋvo-ŋ-Ø  
2/3.S/A.IND-PRS-sing-HAB-PRS-3.S.IND

‘The woman that woke me up sings well.’

- b. RC-external case: ABS, RC-internal case: ERG

[<sub>XP</sub> eɬʔa-jək-Ø                      mik-ə-jək-Ø                      ne-n-ə-kj-ew-γəm  
 woman-OBL.NSG-ERG who-EP-OBL.NSG-ERG INV-CAUS-EP-wake.up-VBLZ-1SG.O  
 γəmmo ] metʔa-ŋ                      Ø-k-aŋaŋja-ŋvo-la-ŋ-Ø  
 1SG.ABS beautiful-ADV 2/3.S/A.IND-PRS-sing-HAB-PL-PRS-3.S.IND

‘The women that woke me up sing well.’

Lest we think that the presence of a relative clause modifying a noun triggers a case free-for-all, the sentence in (10) shows that only the absolutive and ergative cases are permitted on the head of the relative clause, corresponding to the subject of an intransitive verb (the position of the NPRC) and the subject of a transitive verb (the pivot of the relative clause), respectively. However, neither the dative nor the narrative case, which are unrelated to either the syntactic position of the NPRC or the RC pivot, is permitted on the RC head.

- (10) RC-external case: ABS, RC-internal case: ERG

[<sub>XP</sub> {ʔujemtewilʔ-ə-n / ʔujemtewilʔ-e / \*ʔojamtawelʔ-ə-ŋ / \*ʔujemtewilʔ-ə-kjit}  
 {person-EP-ABS.SG / person-ERG / \*person-EP-DAT / \*person-EP-NARR}  
 mikə-ne-k<sub>i</sub>      t<sub>i</sub> na-kətʔajŋa-ye *pro*<sub>2sg</sub> ] wutku  
 who-OBL.SG-ERG    INV-scold-2SG.O 2SG.ABS    here  
 Ø-ku-jun-et-ə-ŋ-Ø  
 2/3.S/A.IND-PRS-live-VBLZ-EP-PRS-3.S.IND

‘The person who scolded you lives here.’

Inverse case attraction is by no means unique to Koryak. Ancient Indo-European languages like Latin provide the most famous examples of this phenomenon, like the sentence in (11), where the head of the relative clause is marked accusative despite the NPRC being the subject of the verb ‘be.’ ICA is also found in Old Georgian, the earliest attested South Caucasian language,

in sentences like (12), where the RC head is marked with oblique case instead of the expected nominative. It is also found in a variety of modern languages. An example of this in Moksha, a Uralic language of western Russia, is given in (13a), where the head of the relative clause bears the dative case assigned to the goal of the RC-internal verb, as opposed to the nominative case found on the subject of the intransitive matrix verb, as in (13b).

- (11) Latin, RC-external case: NOM, RC-internal case: ACC

[ urb-em qu-a-m<sub>i</sub> statu-o t<sub>i</sub> ] vestr-a est  
city-ACC which-FEM-ACC build-1SG.PRS 2PL.POSS-FEM.NOM be.3SG.PRS

‘The city that I am building is yours.’ Vergil, *Aeneid* book 1, line 573

- (12) Old Georgian, RC-external case: NOM, RC-internal case: OBL

[ sit’q’wa-ta romel-ta<sub>i</sub> get’q’wi t<sub>i</sub> tkwen ] sul arian da  
word-OBL.PL which-OBL.PL tell.1SG.S > 2.O 2PL spirit.NOM.SG be.3PL.PRS and  
tsxovreba  
life.NOM.SG

‘The words which I tell you are spirit and life.’ John 6:63

- (13) Moksha

- a. RC-external case: ABS, RC-internal case: DAT

jalga-z’ə-n’d’i, kona-n’d’i<sub>i</sub> t’əš-n’ə-n’ kizə-n’ per’f s’orma-t  
friend-1SG.POSS.SG-DAT which-DAT write-IPFV-PST.1SG year-GEN around letter-PL  
t<sub>i</sub>, vandi sa-j  
tomorrow come-NPST.3SG

‘The friend of mine to whom I wrote letters all year long is arriving tomorrow.’ (Privizentseva 2016, ex. 8)

- b. {jalga-z’ə / \*jalga-z’ə-n’d’i} vandi sa-j  
{friend-1SG.POSS.SG / \*friend-1SG.POSS.SG-DAT} tomorrow come-NPST.3SG

‘My friend is arriving tomorrow.’ (Mariia Privizentseva, p.c.)

A note on the term ‘inverse case attraction’ is in order before moving on to a review of the previous literature on this phenomenon. The use of ‘inverse’ here is due to a contrast drawn with a similar phenomenon called *case attraction*, whereby both the RC head and the relative pronoun inside the relative clause are marked with the case assigned to the head in the matrix clause. That is, ICA is precisely the opposite pattern from case attraction, which Koryak does not have.<sup>8</sup> We see

<sup>8</sup>All of the originally-studied languages where inverse case attraction has been documented also display regular case attraction, including Ancient Greek, Latin, various historical stages of German, Old English, and Nez Perce (Bianchi 1999; Deal 2016; Cypionka et al. 2018), leading Grimm (2005) to posit (incorrectly, I think) that the two kinds of attraction should receive symmetrical analyses. Among Uralic languages, Ingrian Finnish and Moksha do not allow regular case attraction (Mariia Privizentseva p.c.), while Hill Mari does (Julia Demina, p.c.). Whether the distinction between languages with both types of attraction and ones with only ICA has any broader significance is not yet clear to me.



evidence of this in (14): the dative case that the noun phrase gets from being the goal argument of a ditransitive cannot be realized on the relative pronoun, which must bear ergative, as the pivot of the relative clause is a transitive subject.

(14) RC-external case: DAT, RC-internal case: ERG

[ \*ʔoʎa-ŋ mek-ə-na-ŋ<sub>i</sub> t<sub>i</sub> Ø-ena-kətʔajŋa-j *pro*<sub>1sg</sub> ] *pro*<sub>1sg</sub>  
 man-DAT who-EP-OBL.SG-DAT 2/3.S/A.IND-1SG.O-scold-AOR 1SG.ABS 1SG.ERG  
 t-ə-je-jəl-ŋ-ə-ne-w kanpeta-w  
 1SG.S/A-EP-FUT-give-FUT-EP-3.O-3PL candy-ABS.PL

intended: ‘I will give candy to the man that scolded me.’

### 2.3 Previous Work on Inverse Case Attraction

The existence of ICA has long been known by philologists and grammarians of ancient Indo-European languages, having been noted at least as early as Lily and Hoole (1670).<sup>9</sup> However, only a small syntactic literature on it exists, most of whose analyses fall into two camps.<sup>10</sup> The majority view, represented by, among others, Harbert (1982); Bader and Bayer (2006); Gračanin-Yuksek (2013); Deal (2015); Privizenceva (2016) holds that inverse case attraction constructions are, at their core, externally-headed relatives to which an extra process has applied. A minority view, argued for by Bianchi (1999, 2000a), suggests that relative clauses with inverse case attraction are not externally headed, but are instead correlatives.

I begin with the externally-headed accounts of ICA. For Harbert (1982) and Gračanin-Yuksek (2013), the relevant difference between relative clauses with external case on the head and those with internal case on the head is that the latter has undergone a process of case transmission that proceeds from the relative pronoun to the head. This process allows the case of the head to be overwritten by the case of the relative pronoun. In a similar vein, Bader and Bayer (2006), who primarily are trying to account for instances of inverse case attraction in modern German, which they uniformly consider speech errors, argue that it is due to ‘oversharing’ of syntactic features between the head and the relative pronoun: given that they must in any case bear the same number and gender features, Bader and Bayer claim that ICA occurs when a speaker produces a structure that mistakenly allows all the features borne by the head and the relative pronoun to be shared. More recent work has raised a significant problem with this account. Privizenceva (2016) argues that, despite inverse case attraction involving externally-headed relative clauses,

<sup>9</sup>Sentences with inverse case attraction were pointed out as anomalous as early as Donatus’ *Ars Maior* in the 4th century A.D, when inverse case attraction no longer seems to have been acceptable to speakers of Latin. Consequently, he, like the other Roman grammarians, took sentences with ICA to be errors (in fact, sentences with inverse case attraction appear in the *Ars Maior* in a section entitled *De Solecismo* (On Grammatical Errors).) Based on what I have found, it is not until the early-modern era that it was noticed that these so-called errors were due to the presence of a relative clause.

<sup>10</sup>An account of ICA drawing both on the philological and syntactic traditions is proposed in Probert (2015, ch. 7) for early Ancient Greek.

it does not involve feature sharing between the head and the relative pronoun. This is based on the fact that in Moksha, as well as in other Uralic languages, when the relativized position is governed by an element that can freely assign more than one case, mismatches between the case of the head and the relative pronoun are permitted, so long as the cases of both the head and the relative pronoun are cases that the case assigner can assign. This, Privizenceva argues, excludes an analysis whereby case is shared between the relative pronoun and the head. Instead, she suggests that there is a mechanism that allows both the relative pronoun and the head of the relative clause to be assigned case by the same clause-internal element.

A related view is proposed in Deal (2015), which accepts that relative clauses with inverse case attraction are externally headed, but does not posit any mechanism of case transmission between the relative clause and its head. There, it is argued that relative clauses with inverse case attraction are that are derived by head-raising (Kayne 1994 et. seq.) and are left-dislocated. The fact that they are derived by head raising naturally accounts for the RC-internal case on the head, and their appearance only in a left-dislocated position accounts for the fact that the case on their head is not overwritten by main-clause lexical or functional material.

The other main view is represented by Bianchi (1999, 2000a), which holds that inverse case attraction involves a correlative structure, where the head bearing inverse case and the relative pronoun are both inside a correlative CP left-adjoined to the main clause. The fact that both the head and the relative pronoun remain inside the (cor)relative clause on this analysis straightforwardly accounts for RC-internal case appearing on the head. Further, as we will see, most (and possibly all) languages with inverse case attraction have a positional restriction on the NPRC with ICA forcing it to occur somewhere to the left of where it would be allowed to occur if it did not have ICA. Given that correlatives usually appear at the left edge of the clause whose arguments they modify, this analysis easily captures the positional restriction found with ICA.

## 2.4 Koryak

Koryak is a Chukotko-Kamchatkan language spoken in northern part of Kamchatka Krai in the Russian Far East. It probably has less than 1000 speakers, most of whom were born in the 1950s or earlier. Nowadays, most Koryaks are monolingual speakers of Russian, and the language is therefore highly endangered. The language is made up of two dialect continua, Chawchuven and Nymylan, with limited mutual intelligibility between them. Chawchuven Koryak, spoken by the nomadic reindeer herders (*tɕawtɕəvaw*), is the focus of this paper. The data presented here were elicited by the author primarily in the towns of Palana and Petropavlovsk-Kamchatsky over the course of three field trips in 2018 and 2019, though some of it was elicited remotely in 2020-2021. Koryak has a limited literary tradition, most of whose works were written in the 1930s. Unfortunately, I have not been able to find any instances of inverse case attraction either in Koryak written materials or in previous grammatical descriptions (Moll 1960; Zhukova 1972), and will

therefore not be discussing textual examples of ICA in this paper.<sup>11</sup>

Koryak case-marking follows an ergative pattern without splits (15). Case affixes are usually suffixes (though occasionally circumfixes), and may be preceded by an oblique marker like *-na* in (15b). The oblique marker suppletes for number (singular vs. dual-plural, henceforth ‘non-singular’) and is found on second declension (to use Zhukova (1972)’s term) nouns in all cases but the absolutive.<sup>12</sup> The sentences in (15) also shows that Koryak verbs show agreement with up to two arguments (ergative and absolutive); for the most part, subject agreement is the leftmost prefix and object agreement is the rightmost suffix on transitive verbs, whereas subject agreement involves both a prefix and a suffix (one or both of which may be null) on intransitive verbs. There is no fixed order of nouns and verbs with respect to each other: though the default order of constituents seems to be SVO (Zhukova 1984), non-quantificational nouns can come in any order with respect to each other to to or the heads in the extended verbal projection without affecting the truth conditions of the sentence.

- (15) a. *meλλo*                      *∅-ku-le-η-∅*  
Melljo.ABS.SG 2/3.S/A.IND-PRS-walk-PRS-3.S.IND  
‘Melljo is walking.’
- b. *meλλo-na-k*                      *∅-ku-nu-η-nin*                      *əletɕʔ-u*  
Melljo-OBL.SG-ERG 2/3.S/A.IND-PRS-eat-PRS-3SG.A > 3.O honeysuckle.berry-ABS.PL  
‘Melljo is eating honeysuckle berries.’

Koryak has a large inventory of relative constructions, including various participial relative clauses, incorporated relatives, externally headed relative clauses, light-headed relative clauses (Citko 2004), free relatives, and in-situ internally-headed relative clauses. This paper focuses on relative clauses with external (or seemingly external) heads. The basic structure for these is exemplified in (16-17). Here, the heads of the relative clauses are the noun *metʔaʔeŋətkənpeλλaqtajn-* ‘(the area) near the beautiful little cape’ and *iniji-* ‘blanket’, which are marked with locative case and instrumental case respectively. The relative clause follows the head (though it can be extraposed) and contains a relative pronoun, here a form of *mejɪn-* ‘which’<sup>13</sup>, that is case-marked

<sup>11</sup>Kholodilova and Privizentseva (2015) observe that ICA is found much more frequently in non-standard language varieties than in literary languages. The apparent nonappearance of ICA in Koryak written material is perhaps a reflection of this fact. The fact that (standard) Russian does not allow ICA (though see Kholodilova 2013, ex. 3) may have also had a similar effect.

<sup>12</sup>Zhukova (1972, §105) describes these suffixes as definite articles, though the speakers I have worked with do not treat them as such. In fact, there appears to be no morphosyntactic expression of definiteness or specificity in Koryak, and consequently the definiteness of noun phrases in the English translations does not reflect anything about the original sentences.

<sup>13</sup>The texts that these sentences were drawn from were originally published in the 1930s. In these and other texts from that period I have read, the relative pronoun is seemingly always *mejɪn-* ‘which’. However, most of the relative clauses that I have elicited use *mejɪn-* as the relative pronoun only if the head is singular and the relativized position is assigned absolutive. Otherwise, the relative pronoun is a *wh*-word that varies with the humanness of the head: *jeq-* ‘what’ for nonhumans and *mek-* ‘who’ for humans. Modern speakers, however, sometimes use *mejɪn-* as the relative pronoun outside of the absolutive (especially for inanimate heads), and in my experience accept it in grammaticality judgment tasks without hesitation in a variety of environments.

according to the position of the gap: nominative in (16), and instrumental in (17). In all other ways, relative clauses look identical to matrix clauses: their verbs have the same morphology, their case marking properties are the same, and they display the same word-order properties.

- (16)  $\widehat{\text{ot}\check{\text{c}}\text{t}\check{\text{c}}\text{a}}$ -w                      to    milk-u                       $\text{ya-n-t}\check{\text{a}}\text{v-al-lena-w}$   
storehouse-ABS.PL and fish.drying.shed-ABS.PL RES.PTCP-CAUS-be-VBLZ-3.RES.PTCP-3PL  
[  $\text{met}^{\text{a}}\text{-}\check{\text{e}}\text{ŋ}\check{\text{a}}\text{t}\check{\text{k}}\text{a}\text{n-pe}\check{\text{a}}\check{\text{a}}\text{q-taj-n-}\check{\text{a}}\text{-k}$      $\text{me}\check{\text{ŋ}}\text{in}_i$                        $t_i$   $\check{\text{o}}\text{-ko-tva-}\check{\eta}\text{-}\check{\text{o}}$   
beautiful-cape-DIM-APUD-EP-LOC which.ABS.SG    2/3.S/A.IND-PRS-be-PRS-3.S.IND  
 $\text{mal-waj}\check{\text{a}}\check{\eta}\text{qal } \widehat{\text{ot}\check{\text{c}}\text{t}\check{\text{c}}\text{a}}\text{-k}$                       ]  
good-close    storehouse-LOC  
‘The storehouses and fish-drying sheds were placed near the beautiful little cape, which was a bit closer to the storehouses.’ Kekketyn (2018b, 6.82)
- (17)  $\text{na-n-at}\check{\text{c}}\text{t}\check{\text{c}}\check{\text{a}}\text{?aw-na-t}$                        $\text{a}\check{\text{n}}\text{nan-ajkola-k}$                       to     $\text{n-e}\check{\eta}\text{at}\check{\text{c}}\text{?e-na-t}$   
INV-CAUS-lie.down-VBLZ-3.O-3DU one-sleeping.hide-LOC and INV-cover-3.O-3DU  
 $\text{jaqam}$                       [  $\text{a}\check{\text{j}}\check{\text{a}}\text{k-iniji-te}$                        $\text{me}\check{\eta}\text{ine-te}_i$      $\text{jepp}\check{\text{a}} \widehat{\text{a}}\text{t}\check{\text{c}}\text{t}\check{\text{c}}\text{-i}$   
immediately    3NSG.POSS-blanket-INST which-INST still    3NSG-ABS.DU  
 $\text{k}\check{\text{a}}\text{jul?et-}\check{\text{a}}\text{-k}$                        $\text{qonp}\check{\text{a}}\check{\eta} \text{ omak}\check{\text{a}}\check{\eta} \check{\text{o}}\text{-k-enejet}\check{\text{c}}\text{?e-}\check{\eta}\text{vo-}\check{\eta}\text{-e}$                        $t_i$  ]  
alive-VBLZ-EP-PST.CVB always together 2/3.S/A.IND-PRS-cover.oneself-HAB-PRS-3DU  
‘They lay down [the two who died] on one sleeping hide and immediately covered them with their blanket, which when they were still alive they always covered themselves with.’ Kekketyn (2018a, 12.10)

### 3 Inverse Case Attraction in Koryak

#### 3.1 Introduction

In this section, I argue for an analysis of ICA involving left-peripherally-headed internally-headed headed relative clauses. The argument for this will proceed in two steps. First, after establishing some basic morphosyntactic properties of ICA, I will argue that NPRCs with ICA are nominal, and therefore are true nominals modified by relative clauses as opposed to correlative, which are CPs. Then, I will argue that despite the head of the relative clause preceding the relative pronoun both when it has internal and external case, it is actually located inside of the relative clause when it has internal case, and located outside of the relative clause when it has external case.

#### 3.2 RCs with ICA are not Correlatives

Having discussed some of the morphosyntactic properties of relative clauses with inverse case attraction, I will now concentrate on those aspects of their syntax that show that neither of the previous analyses of ICA found in the literature are applicable to the Koryak facts. In this subsection, I address the proposal from Bianchi (1999) and Bianchi (2000a) that relative clauses with ICA

are correlatives clauses, relative structures with an adjunct CP (usually left-dislocated) containing a *wh*-element that is related<sup>14</sup> to a pronominal or demonstrative element in the matrix clause (Keenan 1985 et seq.) An example of a correlative structure in Hindi is given in (18) for comparison. Here, the correlative clause is bracketed and labeled 'CP', and the correlative pronoun is italicized.

- (18) [<sub>CP</sub> *jo* laRkiyaaN khaRii haiN] [ve lambii haiN]  
 which girls standing be.PRS they tall be.PRS  
 'The girls who are standing are tall.' Dayal (1996, p. 12)

A full discussions of the differences between headed relatives and correlatives is beyond the scope of this paper. What is instead crucial for our purposes is that correlative clauses have a cluster of properties that headed relative clauses lack because the two types of relative structures are syntactically and semantically distinct. As we will see, Koryak NPRCs with ICA systematically pattern like the latter.

### 3.2.1 Stacking

The first relevant property is that correlatives disallow stacking, unlike headed relatives (Dayal 1996; Grosu and Landman 1998; McCawley 2004). Bhatt and Pancheva (2006) argue that this is due to a semantic difference between the two relative structures: correlative clauses combine with the demonstrative/pronoun in the main clause by binding it, whereas headed relatives combine with their heads by set intersection. The stacking restriction falls out from this because a variable can only be bound once, whereas set intersection can occur any number of times. As shown in (19a-19b), NPRCs with inverse case attraction allow stacked relative clauses, just as relative clauses whose heads bear external case do. Additionally, as the unacceptability of dative case on the head in (19b) shows, the internal case that the head is marked with must be that of the linearly first relative clause, a fact that will become relevant in §4. The existence of stacked relatives in ICA provides a first argument against Bianchi's proposal that RCs with ICA are correlatives.

- (19) a. RC-external case: ABS, RC<sub>1</sub>-internal case: ERG, RC<sub>2</sub>-internal case: ERG

[<sub>XP</sub> ŋavətɕŋ-a [<sub>YP<sub>1</sub></sub> mik-ə-ne-k<sub>i</sub> t<sub>i</sub> Ø-en-anja-j *pro*<sub>1sg</sub>  
 woman-ERG who-EP-OBL.SG-ERG 2/3.S/A.IND-1SG.O-praise-AOR 1SG.ABS  
 ] [<sub>YP<sub>2</sub></sub> mik-ə-ne-k<sub>j</sub> t<sub>j</sub> ʏətɕtɕi na-ja-kətʔajŋa-ʏe ] ] wutku  
 who-EP-OBL.SG-ERG 2SG.ABS INV-FUT-scold-2SG.O here  
 Ø-ku-jun-et-ə-ŋ-Ø  
 2/3.S/A.IND-PRS-live-VBLZ-EP-PRS-3.S.IND

'The woman who scolded me who will praise you lives here.'

<sup>14</sup>What exactly the nature of that relation is syntactically is debated, and the answer can vary both between and within languages (Bhatt 2003; Cable 2009). It is generally accepted that semantically this relationship is one of variable binding by the correlative clause.

- b. RC-external case: ABS, RC<sub>1</sub>-internal case: INST, RC<sub>2</sub>-internal case: DAT

[<sub>XP</sub> {pīt̪ç̪-ə-n / pīt̪ç̪-e / \*pēt̪ç̪-ə-ŋ} [<sub>YP<sub>1</sub></sub> jeq-e<sub>i</sub> *pro*<sub>1sg</sub>  
 {food-EP-ABS.SG / food-INST / \*food-EP-DAT} what-INST 1SG.ABS  
 t-ewji-k t<sub>i</sub>] [<sub>YP<sub>2</sub></sub> jaq-ə-ŋ<sub>j</sub> ɣə-nan Ø-ineɣej-ə-n  
 1SG.S/A-eat-1SG.S what-EP-DAT 2SG-ERG 2/3.S/A.IND-add-EP-3(SG).O  
 t̪oʌt̪oʌ t<sub>j</sub>] ] n-ə-mel-qin  
 salt.ABS.SG ADJ-EP-good-ADJ.SG

‘The food that I ate that you added salt to is tasty.’

### 3.2.2 Non-restrictive Modification

It has been widely reported since Dayal (1996) that correlatives clauses must be restrictive.<sup>15</sup> This also follows from their variable-binding semantics, because the head of a non-restrictive relative clause denotes an individual and cannot be bound. If inverse case attraction involves a correlative clause, we predict that it should disallow non-restrictive relative clauses. The sentences in (20a-20b) belie this prediction. In these sentences, a relative clause modifies a proper name (20a) or a noun phrase that denotes a unique individual (20b), and the head of this relative clause can bear either the external case (absolutive in (20a) and narrative in (20b)), or the internal case (ergative in both).<sup>16</sup> The latter sentence also has stacked relative clauses, which provides further support against the correlative analysis.<sup>17</sup>

- (20) a. RC-external case: ABS, RC-internal case: ERG

[<sub>XP</sub> {ʌenin / ʌenin-ə-ne-k} mikə-ne-k<sub>i</sub> t<sub>i</sub>  
 {Lenin.ABS.SG / Lenin-EP-OBL.SG-ERG} who-OBL.SG-ERG  
 Ø-jəle-nin majŋ-ə-rjevoʌutsia-n əmət̪ç̪wiʌu-jəʔiʌ-ə-k ]  
 2/3.S/A.IND-lead-3SG.A > 3.O big-EP-revolution-ABS.SG October-moon-EP-LOC  
 Ø-viʔ-i 1924 ɣivi-k  
 2/3.S/A.IND-die-AOR 1924 year-LOC

‘Lenin, who led the Great October Revolution, died in 1924.’

- b. RC-external case: NARR, RC<sub>1</sub>-internal case: ERG, RC<sub>2</sub>-internal case: DAT

<sup>15</sup>A reported exception to this is found in Marathi, which has been claimed to allow non-restrictive correlatives (Gupte 1975; Pandharipande 1997), as shown in (1):

- (1) gāndʰi-nni jā-nnā guru mānale te gokʰale mawāl hote  
 Gandhi-INST REL-to teacher regarded that Gokhale moderate was

‘Gokhale, whom Gandhi regarded as his teacher, was a moderate.’ Gupte (1975, 77), Kinjal Joshi, p.c.

<sup>16</sup>The internal case in (20b) is degraded due to the lack of a resumptive pronoun in the matrix clause. The consultant found the sentence with ergative on the RC head fully acceptable when the 3rd person singular narrative pronoun *ənkekjit* was added, and mentioned that she preferred adding a pronoun here (and not in other sentences with ICA) because of how long this sentence is.

<sup>17</sup>Note that this sentence is also a counterexample to the (now controversial) claim that non-restrictive relative clauses cannot be stacked, which to my knowledge was first put forward in Andrews (1975). For what it’s worth, the English translation of this sentence sounds perfectly acceptable to me.

$[_{XP} \{ \text{mojək-ʔəlləʔ-ə-kjet} \quad / \quad ? \text{mojək-ʔəlləʔ-ə-na-k} \quad /$   
 $\{ 1\text{NSG.POSS-mother-EP-NARR} / 1\text{NSG.POSS-mother-EP-OBL.SG-ERG} /$   
 $* \text{mojək-ʔəlləʔ-ə-na-ŋ} \} \quad [_{Y P_1} \text{mik-ə-ne-k}_i \quad t_i$   
 $* 1\text{NSG.POSS-mother-EP-OBL.SG-DAT} \quad \text{who-EP-OBL.SG-ERG}$   
 $\text{na-n-mit-ə-tv-an-mək} \quad \text{pro}_{1du} \quad \text{wəpav-at-ə-k}$   
 $\text{INV-CAUS-skilled-EP-INCH.VBLZ-VBLZ-1NSG.S/O 1DU.ABS word-VBLZ-EP-INF}$   
 $\widehat{\text{təawtəəva-təʔənəŋ}} \quad [_{Y P_2} \text{mek-ə-na-ŋ}_j \quad \text{motəy-ə-nan}$   
 $\text{Koryak-ADV} \quad \text{who-EP-OBL.SG-DAT 1NSG-EP-ERG}$   
 $\text{mət-ku-jeŋ-ŋ-ə-ne-w} \quad \text{ovoə-w} \quad t_j \quad \widehat{\text{yamyatəʔəlo}} \quad ] \quad ]$   
 $1\text{NSG.S/A-PRS-bring-PRS-EP-3.O-3PL vegetable-ABS.PL} \quad \text{every.day}$   
 $\text{mət-ko-wəpav-at-ə-ŋ-Ø}$   
 $1\text{NSG.S/A-PRS-word-VBLZ-EP-PRS-1NSG.S/O}$

‘We are talking about our mother, who taught us to speak Koryak, to whom we bring vegetables every day.’

### 3.2.3 Correlative Pronoun

As mentioned above, correlatives are composed of both a correlative clause and a correlative ‘pronoun’, a pronoun, demonstrative, or quantifier found in the main clause. However, if the correlative pronoun is a quantifier, it must be a universal quantifier: existential quantifiers such as numerals are not permitted in this position (Dayal 1996). The sentences in (21) show that relative clauses with ICA do not pattern like correlatives in this respect: the correlative pronoun in these cases is a numeral.<sup>18</sup> This is another point on which the correlative analysis of ICA fails to account for the Koryak data.

- (21) a. RC-external case: ABS, RC-internal case: DAT

$[_{XP} \text{ʔojamtawelʔ-ə-ŋ} \text{mek-ə-na-ŋ}_i \quad \text{pro}_{1sg} \quad \text{t-ə-jəl-ne-w} \quad t_i$   
 $\text{person-EP-DAT} \quad \text{who-EP-OBL.SG-DAT 1SG.ERG 1SG.S/A-EP-give-3.O-3PL}$   
 $\text{kanpeta-w}^{19} \quad ] \quad \text{pro}_{1sg} \quad \text{t-ə-je-jətʔ-əŋ-ŋ-ə-ne-t}$   
 $\text{candy-ABS.PL} \quad 1\text{SG.ERG 1SG.S/A-EP-FUT-meet-VBLZ-FUT-EP-3.O-3DU}$   
 $\widehat{\text{ŋəje-təyej-i}}$   
 $\text{two-COLL-ABS.DU}$

‘I will meet two people that I gave candies to.’<sup>20</sup>

- b. RC-external case: DAT, RC-internal case: ERG

<sup>18</sup>It is worth noting that the numerals used here are collective numerals rather than plain ones. What exactly the contribution of the collective suffix is here is unclear to me, though it may be nothing, as collective numerals can be used as nominal modifiers seemingly identically to non-collective ones.

<sup>19</sup>The word for candy (usually found in the plural) will make multiple appearances throughout the examples in this paper, with variable spelling across the sentences. It is a relatively recent borrowing from Russian [kənʔet], and has been nativized differently by different speakers. In the plural, at least three forms are found: *kanpetaw*, *kampetaw*, and *kampeto*.

<sup>20</sup>One thing that is surprising about this sentence is that the relative pronoun has the oblique singular suffix, rather than oblique non-singular one (the sentence in (22b) has the same feature.) For reasons that I don’t entirely understand, some speakers only optionally put plural morphology on *wh*-elements.

[<sub>XP</sub> *ŋanen-eʃʔa-jək-∅*                      *mik-ə-jək-∅<sub>i</sub>*                      *t<sub>i</sub> n-aŋja-γəm*  
DIST.DEM-woman-OBL.NSG-ERG who-EP-OBL.NSG-ERG INV-praise-1SG.O  
*pro<sub>1sg</sub>* ] *ŋəja-tɕɣaj-ə-ŋ*      *pro<sub>1sg</sub>*      *t-ə-je-jəl-ŋ-ə-ne-w*  
1SG.ABS four-COLL-EP-DAT 1SG.ERG 1SG.S/A-EP-FUT-give-FUT-EP-3.O-3PL  
*kanpeta-w*  
candy-ABS.PL

‘I will give candy to four of the women who praised me.’

### 3.2.4 Nominal Material Above CP

The previous two diagnostics for correlativehood having concerned their variable-binding semantics, we now turn to syntactic diagnostics. Since correlatives are bare CPs, they do not allow nominal material, such as demonstratives and quantifiers, above them (Keenan 1985). Headed relatives, however, are nominal, and like noun phrases can be modified by demonstratives and quantifiers. As the examples in (22) demonstrate, relative clauses with ICA behave like headed relatives: the distal demonstrative *ŋanen-*, the numeral *ŋəjaq* ‘four’, and the quantifier *γemye-* (here *γamyə-* due to vowel harmony) all can occur on the head of a relative clause with internal case. This provides a third argument against the correlative analysis of inverse case attraction in Koryak.

- (22) a. RC-external case: ERG, RC-internal case: DAT

[<sub>XP</sub> *ŋanen-ʔojamtawelʔ-ə-ŋ*      *mek-ə-na-ŋ<sub>i</sub>*                      *pro<sub>1sg</sub>*  
DIST.DEM-person-EP-DAT who-EP-OBL.SG-DAT 1SG.ERG  
*t-ə-je-jəl-ŋ-ə-ne-w*                      *kanpeta-w*      *t<sub>i</sub>* ]  
1SG.S/A-EP-FUT-give-FUT-EP-3.O-3PL candy-ABS.PL  
*∅-ku-tejk-ə-ŋ-nin*                      *jaja-wwe*  
2/3.S/A.IND-PRS-make-EP-PRS-3SG.A > 3.O house-ABS.PL

‘That person to whom I gave candies builds houses.’

- b. RC-external case: ERG, RC-internal case: DAT

[<sub>XP</sub> *ŋəjaq-ʔojamtawelʔ-ə-ŋ*      *mek-ə-na-ŋ<sub>i</sub>*                      *pro<sub>1sg</sub>*  
four-person-EP-DAT who-EP-OBL.SG-DAT 1SG.ERG  
*t-ə-je-jəl-ŋ-ə-ne-w*                      *kanpeta-w*      *t<sub>i</sub>* ]  
1SG.S/A-EP-FUT-give-FUT-EP-3.O-3PL candy-ABS.PL  
*ne-ku-tejk-ə-ŋ-ne-w*                      *jaja-wwe*  
INV-PRS-make-EP-PRS-3.O-3PL house-ABS.PL

‘Four people to whom I gave candies build houses.’

- c. RC-external case: ABS, RC-internal case: DAT

[<sub>XP</sub> *γamyə-ʔojamtawelʔ-ə-jək-ə-ŋ*      *mek-ə-jək-ə-ŋ<sub>i</sub>*                      *pro<sub>1sg</sub>*  
each-person-EP-OBL.NSG-EP-DAT who-EP-OBL.NSG-EP-DAT 1SG.ERG  
*t-ə-jəl-ne-w*                      *t<sub>i</sub> kampeta-w* ] *∅-ko-ʃajv-ə-tko-la-ŋ-∅*  
1SG.S/A-EP-give-3.O-3PL candy-ABS.PL 2/3.S/A.IND-walk-PLACT-PL-PRS-3.S.IND



γajqə-ənək-ʔətʔ-a  
COM-3SG.POSS-dog-COM

‘[Each person]<sub>j</sub> that I gave candies to is walking around with {his/her}<sub>j</sub> dog.’

### 3.2.5 Interim Summary

In this subsection, I have argued that relative clauses with ICA pattern like headed relative clauses rather than correlative clauses on a variety of tests that distinguish the two structures. The conclusion, then, is that they instantiate DP structures, rather than bare CP ones. Consequently, we can rewrite the *XP* bracketing the NPRC with *DP*, both for RCs with internal and external case, as shown in (23), repeated from (1b) above.

- (23) [<sub>DP</sub> {inenγəjulevətʔ-ə-kjit / inenγəjulevətʔ-e} mikə-ne-k<sub>i</sub> t<sub>i</sub> na-kətʔajŋa-γe  
           {teacher-EP-NARR / teacher-ERG} who-OBL.SG-ERG INV-scold-2SG.O  
   *pro*<sub>2sg</sub> ] *pro*<sub>1du</sub> mətʔ-tʔe-kətʔviʔ-et-ə-ŋ-Ø mitiw  
   2SG.ABS 1DU.ABS 1NSG.S/A-FUT-talk.about-VBLZ-EP-FUT-1NSG.S/O tomorrow  
   ‘Tomorrow we two will talk about the teacher that scolded you.’

## 3.3 RCs with ICA are not Externally-Headed

I have argued against a correlative analysis of inverse case attraction based on the fact that ICA structures lack multiple syntactic and semantic properties of correlatives, and instead share them with headed relative clauses. Given that the head of a relative clause with ICA is to the left of the relative clause (including the relative pronoun), it is tempting to conclude that ICA involves run-of-the-mill externally-headed relatives. However, I will show that they also have notable syntactic differences from relative clauses whose heads have external case, complicating the analytical picture. In this section, I will discuss three such differences, and will show that two of them can be accounted for by positing that the former are externally-headed, whereas the latter have their heads in the left-periphery of the relative clause. However, one of their properties, the left-edge requirement, will not be accounted for by this difference in head position. I will discuss this further in §4.

### 3.3.1 Extraposition

Koryak usually permits relative clause extraposition. An example from a recent newspaper article is given in (24), where the relative clause *who arrived at the finish line* is separated from *dog racers*, the noun it modifies, by the matrix verb *remained*.

- (24) jatan ŋəjoq-məlləŋen [ ʔətʔ-ə-lʔ-u t<sub>i</sub> ] Ø-pajotʔ-a-la-j [   
   only three-five dog-EP-PTCP-ABS.PL 2/3.S/A.IND-remain-VBLZ-PL-AOR  
   meŋi-w<sub>j</sub> Ø-pəkej-ʃa-j t<sub>j</sub> pəʃətko-nv-etəŋ jatʔvəŋtʔat-γəjŋ-en ]<sub>i</sub>  
   which-ABS.PL 2/3.S/A.IND-arrive-PL-AOR finish-PLACE-ALL race-NMLZ-POSS

məlləŋ-ə-tɕəjaj-o      Ø-pəjə-ŋt-a-la-j      jatɕvəŋtɕat-γəjŋ-ə-ŋqo <sup>21</sup>  
five-EP-COLL-ABS.PL 2/3.S/A.IND-take.off-ANCS-VBLZ-PL-AOR race-NMLZ-EP-ABL

However, this is only possible if the head of the relative clause has the RC-external case. This is a moot point in the previous sentence, both because the internal and external case are identical (absolutive), and because the NPRC is not in the matrix left periphery. The anti-extraposition requirement is exemplified in (25a), where the internal narrative case is banned as the RC has extraposed, and in (25b), where the internal dative is banned for the same reason.

[<sub>DP</sub> {ʔoʔa-ta / \*ʔoʔa-kjet} t<sub>i</sub>] Ø-ine-jəl-i yəmk-ə-ŋ  
 {man-ERG / \*man-NARR} 2/3.S/A.IND-1SG.O-give-AOR 1SG-EP-DAT  
 kampeta-w [<sub>CP</sub> mik-əne-kjit<sub>j</sub> muj-u  
 candy-ABS.PL who-OBL.SG-NARR 1NSG-ABS.PL  
 mət-ko-waŋav-al-la-ŋ-Ø t<sub>j</sub>]<sub>i</sub>  
 1NSG.S/A-PRS-word-VBLZ-PL-PRS-1NSG.S/O

b. RC-external case: ERG, RC-internal case: DAT

‘The girl that I gave candies to is laughing at me.’

<sup>21</sup> <https://fareastvip.ru/newswire/detail.php?ID=250880> accessed May 2021. Original text: *Ятан нүёкмьллыһэн г'ытг'ылг'у паёчалай, меһио пыкейляй пылтконэтын ячвынчатгыһын, мьллыһычгаё пыйынталай ячвынчатгыһынко. Novosti Dal'nego vostoka*, the newspaper this sentence is from, does not publish using the standard Koryak orthography, so the segment-to-grapheme mapping is not the one usually found in written Koryak material. The sentence as published also contains a typo independent of the nonstandard spelling: the final word should be *ячвынчатгыһэн* according to the newspaper's spelling conventions. In the standard Koryak orthography, the (corrected) sentence would be *Ятан нүёкмьллыһэн г'ытг'ылг'у паёчаллай, мэһиэ' пыкэйляй пылтконэтын ячвынчатгыһынэн, мьллыһычгаё пыйынталай ячвынчатгыһынко*.

- (26) a. RC-external case: ERG, RC-internal case: DAT

[<sub>DP</sub> {eʎʔa-ta / eʎʔa-na-ŋ} t-ə-jəl-ne-w *pro*<sub>1sg</sub>  
 {girl-ERG / girl-OBL.SG-DAT} 1SG.S/A-EP-give-3.O-3PL 1SG.ERG  
 mek-na-ŋ kampeta-w ] at̪at̪çy-o  
 who-OBL.SG-DAT candy-ABS.PL laugh-NFIN  
 Ø-k-ine-lŋ-ə-ŋ-Ø *pro*<sub>1sg</sub>  
 2/3.S/A.IND-PRS-1SG.O-consider-EP-PRS-3.S.IND 1SG.ABS

‘The girl that I gave candies to is laughing at me.’

- b. RC-external case: NARR<sup>22</sup>, RC-internal case: DAT

[<sub>DP</sub> ŋavət̪çŋ-ə-ŋ ajyəve mek-ə-na-ŋ<sub>i</sub> t-ə-jəl-ne-w  
 woman-EP-DAT yesterday who-EP-OBL.SG-DAT 1SG.S/A-EP-give-3.O-3PL  
 kanpeta-w t<sub>i</sub> ] mət-ko-kət̪çveʎʔ-al-la-ŋ-Ø  
 candy-ABS.PL 1NSG.S/A-PRS-discuss-VBLZ-PL-PRS-1NSG.S/O

‘We are discussing the woman to whom I gave candies yesterday.’

These two facts are accounted for if the head of the relative clause is internal to it in ICA structures, and external to it in non-ICA ones. On the assumption that the entire relative clause is the target of extraposition (that is, that you can’t extrapose only part of a relative clause), we derive the fact that extraposition is not possible with inverse case attraction because the head is within the target of extraposition. Fortunately, this makes no prediction about the adjacency of the head of the relative clause and the relative pronoun; as long as either 1) there is a projection between the one hosting the head and the one hosting the relative pronoun or 2) the relative pronoun does not have to move all the way to the embedded left periphery, the fact in (26) fall out. By taking ICA to involve a relative clause with a left-peripheral internal head, we therefore successfully account for the non-extraposition restriction on ICA.

### 3.3.2 Scrambling

Another argument in favor of the internally-headed analysis of ICA comes from scrambling. As the sentences in (27) show, only heads marked with internal case allow RC-internal material to scramble across them. For example, in the sentence in (27a), the temporal adverbial *ajyəve* ‘yesterday’ precedes the RC head but must be interpreted in the embedded clause, as the matrix clause is marked with future tense. This is only possible, however, with internal ergative case on the head; if the head has external case, the sentence is unacceptable as this forces an RC-external reading of the adverb, resulting in a contradiction. The sentence in (27b) shows something similar: the locational adjunct *əʃkolak* ‘at school’ can occur before the head and be interpreted inside the relative clause, but only if the head has internal case.

<sup>22</sup>Although most Koryak speakers I have worked with (including the speaker who provided this sentence) mark the complement of *kət̪çviʎʔet-* ‘discuss’ with narrative case, some mark it with dative case. For the latter group, then, a sentence like (26b) would not be a clear example of ICA.

- (27) a. RC-external case: ABS, RC-internal case: ERG

[<sub>DP</sub> ajɣəve { \*ɣavətɕŋ-ə-n / ✓ɣavətɕŋ-a } mik-ə-ne-k<sub>i</sub> t<sub>i</sub>  
 yesterday { \*woman-EP-ABS.SG / woman-ERG } who-EP-OBL.SG-ERG  
 Ø-ena-kətʔajŋa-j pro<sub>1sg</sub> ] pro<sub>1sg</sub>  
 2/3.S/A.IND-1SG.O-scold-AOR 1SG.ABS 1SG.ERG  
 t-ə-je-ləʔu-ŋ-ə-n mitiw  
 1SG.S/A-EP-FUT-see-FUT-EP-3(SG).O tomorrow

‘Tomorrow I will see the woman that scolded me yesterday.’

- b. RC-external case: ABS, RC-internal case: ERG

[<sub>DP</sub> əʃkola-k { \*ɣavətɕŋ-ə-n / ✓ɣavətɕŋ-a } mik-ə-ne-k<sub>i</sub> t<sub>i</sub>  
 school-LOC { \*woman-EP-ABS.SG / woman-ERG } who-EP-OBL.SG-ERG  
 Ø-ena-kətʔajŋa-j pro<sub>1sg</sub> ] pro<sub>1sg</sub> ɣajŋən  
 2/3.S/A.IND-1SG.O-scold-AOR 1SG.ABS 1SG.ERG outside  
 t-ə-je-ləʔu-ŋ-ə-n mitiw  
 1SG.S/A-EP-FUT-see-FUT-EP-3(SG).O tomorrow

‘Tomorrow I will see [the woman that scolded me at school] outside.’

The fact that the head of the relative clause can be interwoven with RC-internal material only if it is marked with RC-internal case provides further evidence that relative clause heads with internal and external case have different syntactic positions. Specifically, it suggests that the head with internal case is actually part of the relative clause, whereas the head with external case is part of the matrix clause.<sup>23</sup>

<sup>23</sup>Recent work by Ivy Sichel raises another possibility for analyzing these sentences. Specifically, Sichel (2018) analyzes a class of counterexamples to the otherwise robust generalization that relative clauses are islands, such as the sentence (1), and argues that these relative clauses are derived by head-raising (Brame 1968; Schachter 1973; Kayne 1994 a.o.). What if, then, relative clauses with ICA are in fact externally-headed, but instantiate a raising derivation, which allows material to be extracted from them?

- (1) This is the child<sub>i</sub> that there is [nobody who is willing to accept t<sub>i</sub>]. (Kuno 1976)

The problem with this reanalysis of the scrambling data is that the type extraction from a relative clause exemplified (1) is highly restricted: the NPREC that is extracted from must be an indefinite and must be in an existential sentence. While the definiteness or specificity of a noun phrase is difficult to test with Koryak speakers because neither Koryak nor Russian has a morphosyntactic means of expressing it, the fact that the scrambling of adverbs can occur with proper names (2a) or noun phrases denoting unique entities (2b) shows that Koryak ICA doesn’t have the indefiniteness requirement that the sentences Sichel analyzes do.

- (2) a. RC-external case: ABS, RC-internal case: ERG

[<sub>DP</sub> 1917 ɣivi-k lenin-ə-ne-k mik-ə-ne-k<sub>i</sub> t<sub>i</sub> Ø-jəle-nin  
 1917 year-LOC Lenin-EP-OBL.SG-ERG who-EP-OBL.SG-ERG 2/3.S/A.IND-lead-3SG.A > 3.O  
 majŋ-ə-revoɭutsija-n əmətɕwiɭu-jəʔilɣ-ə-k ] Ø-viʔ-i 1924 ɣivi-k  
 big-EP-revolution-ABS.SG October-moon-EP-LOC 2/3.S/A.IND-die-AOR 1924 year-LOC

‘Lenin, who led the Great October Revolution in 1917, died in 1924.’

- b. RC-external case: ABS, RC-internal case: ERG

[<sub>DP</sub> ajɣəve ɣəmək-ʔəlləʔ-a mik-ə-ne-k<sub>i</sub> t<sub>i</sub> Ø-ekmin-nin  
 yesterday 1SG.POSS-mother-ERG who-EP-OBL.SG-ERG 2/3.S/A.IND-take-3SG.A > 3.O

### 3.3.3 Left Edge Requirement

The third aspect of relative clauses with ICA that sets them apart from externally-headed relatives is that the NPRC has to be left peripheral in the clause it occurs in. This is illustrated in (28): the head can only bear external case if it follows the realis high negation particle *uj̃ne* (28a), another argument (28b), the verb (28c), or another NPRC with ICA (28d).<sup>24</sup>

- (28) a. RC-external case: DAT, RC-internal case: ERG

uj̃ne [DP {eʎʔa-na-ŋ / \*eʎʔa-ta} mik-ə-ne-k<sub>i</sub> t<sub>i</sub>  
 NEG.RLS {woman-OBL.SG-DAT / \*woman-ERG} who-EP-OBL.SG-ERG  
 na-kətʔaj̃na-ye pro<sub>2sg</sub> ] pro<sub>1sg</sub> e-jəl-ke t-ə-nt-ə-ne-w  
 INV-scold-2SG.O 2SG.ABS 1SG.ERG NEG-give-NEG 1SG.S/A-EP-AUX.TR-EP-3.O-3PL  
 kanpeta-w  
 candy-ABS.PL

‘I did not give candy to the woman that scolded you.’

- b. RC-external case: ERG, RC-internal case: ABS

yəmmo [DP {ʔuj̃emtewilʔ-e / \*ʔuj̃emtewilʔ-ə-n} meŋin<sub>i</sub>  
 1SG.ABS {person-ERG / \*person-EP-ABS} REL.ABS.SG  
 t-ə-jətʔ-et-ə-n t<sub>i</sub> ] Ø-ena-kətʔaj̃na-j  
 1SG.S/A-EP-encounter-VBLZ-EP-3(SG).O ] 2/3.S/A.IND-1SG.O-scold-AOR

‘The person that I encountered scolded me.’

- c. RC-external case: ABS, RC-internal case: ERG

qoja-tʔol ] et̃ɕyi votq-ə-tve-γəj̃ŋ-ə-ma  
 reindeer-PART.ABS.SG today dark-EP-INCH.VBLZ-NMLZ-EP-PRS.CVB  
 Ø-ja-ta-katʎeta-ŋ-ə-ŋ-Ø  
 2/3.S/A.IND-FUT-make-Hamburg.steak-make-EP-FUT-3.S.IND

‘My mother, who bought reindeer meat yesterday, will make Hamburg steak this evening (lit. today while it is becoming dark).’

Further, as is clear from the sentences presented so far in the paper, there is no requirement that NPRCs with ICA be in an existential sentence. I am grateful to Mariia Privizentseva for pointing out this alternative to me.

<sup>24</sup>One of my consultants has pointed out that, with a significant prosodic break before it, an NPRC with ICA can be interleaved with other parts of the clause, as in (1) (without the pause, only dative is allowed on the head.) I take this noun phrase to be an appositive, and therefore to not be a part of the rest of the clause.

- (1) RC-external case: DAT, RC-internal case: ERG

yəm-nan \*(||) [DP ʔətʔ-a jeq-e<sub>i</sub> uj̃ne t<sub>i</sub> e-je-jyu-ŋ-ke Ø-ine-nt-i  
 1SG-ERG dog-ERG what-ERG NEG.RLS NEG-DES-bite-DES-NEG 2/3.S/A.IND-1SG.O-AUX.TR-AOR  
 pro<sub>1sg</sub> ] t-ə-jəl-ne-w ʔətʔəm-u  
 1SG.ABS 1SG.S/A-EP-give-3.O-3PL bone-ABS.PL

‘I gave bones to the dog that did not try to bite me.’

woteŋ-ŋa-k Ø-ku-jun-et-ə-ŋ-Ø [DP  
 PROX.DEM-house-LOC 2/3.S/A.IND-PRS-live-VBLZ-EP-PRS-3.S.IND  
 {ŋavətɕŋ-ə-n / \*ŋavətɕŋ-a} mik-ə-ne-k<sub>i</sub> t<sub>i</sub> na-kətʔajŋa-ye pro<sub>2sg</sub> ]  
 {woman-EP-ABS / woman-ERG} who-EP-OBL.SG-ERG INV-scold-2SG.O 2SG.ABS

‘The woman who scolded you lives in this house.’<sup>25</sup>

- d. RC<sub>1</sub>-external case: DAT, RC<sub>1</sub>-internal case: ERG, RC<sub>2</sub>-external case: ABS, RC<sub>2</sub>-internal case: ERG

\*[DP<sub>1</sub> ʔoʌa-ta mikə-ne-k<sub>i</sub> t<sub>i</sub> na-kətʔajŋa-ye pro<sub>2sg</sub> ] [DP<sub>2</sub> kali-ta  
 man-ERG who-OBL.SG-ERG INV-scold-2SG.O 2SG.ABS book-ERG  
 meŋine-te<sub>j</sub> t<sub>j</sub> Ø-ine-ŋ-nimɣəmy-ev-i pro<sub>1sg</sub> ] pro<sub>1sg</sub>  
 which-ERG 2/3.S/A.IND-1SG.O-CAUS-fear-VBLZ-AOR 1SG.ABS 1SG.ERG  
 t-ə-je-jəl-ŋ-ə-n mitiw  
 1SG.S/A-EP-FUT-give-FUT-EP-3(SG).O tomorrow

intended: ‘Tomorrow I will give the book that scared me to the man that scolded you.’

However, this does not mean that it needs to be sentence-initial: the sentences in (29) show that ICA can occur in embedded finite clauses, where the NPRC immediately follows the complementizer. It also does not always have to be clause-initial, though there is variation among speakers on this point. Many speakers allow an NPRC with ICA to follow an adjunct *wh*-word like *tite* ‘when’ (30a), and some also allow it to follow the irrealis negation particle *qəjəm* (30b).

- (29) a. RC-external case: ABS, RC-internal case: ERG

pro<sub>1sg</sub> t-ə-valom-ə-k [CP əno [DP {eʌʔa / eʌʔa-ta}  
 1SG.ABS 1SG.S/A-EP-hear-EP-1SG.S that {girl.ABS.SG / girl-ERG}  
 mikə-ne-k<sub>i</sub> t<sub>i</sub> Ø-ine-ləʔu-j pro<sub>1sg</sub> ]  
 who-OBL.SG-ERG 2/3.S/A.IND-1SG.O-see-AOR 1SG.ABS  
 Ø-ku-jun-et-ə-ŋ-Ø qətɕʔet-ə-k ]  
 2/3.S/A.IND-PRS-live-VBLZ-EP-PRS-3.S.IND Palana-EP-LOC

‘I heard that the girl that saw me lives in Palana.’

- b. RC-external case: ABS, RC-internal case: ERG

pro<sub>1sg</sub> t-ə-ko-ɣajm-at-ə-ŋ-Ø [CP tit [DP {kəmiŋ-u /  
 1SG.ABS 1SG.S/A-EP-PRS-want-VBLZ-EP-PRS-1SG.S so.that {child-ABS.PL /  
 kəmiŋ-ə-jək-Ø} mik-ə-ne-k<sub>i</sub> t<sub>i</sub> ne-nu-ne-w kanpeta-w ]  
 child-EP-OBL.NSG-ERG} who-EP-OBL.SG-ERG INV-eat-3.O-3PL candy-ABS.PL  
 n-ilyət-ew-ne-w ]  
 3.S/A.IMP-wash.one’s.face-VBLZ-3S.IMP-3PL

‘I want the children who ate candy to wash their faces (lit. I want that the children who ate candy wash their faces).’

<sup>25</sup>There are one or two speakers I have worked with who occasionally accept inverse case attraction when the NPRC with ICA is at the right edge of the sentence.

- (30) a. RC-external case: ABS, RC-internal case: ERG

tite [DP {ʔujemtewilʔ-ə-n / ʔujemtewilʔ-e} mik-ə-ne-k<sub>i</sub> t<sub>i</sub>  
 when {person-EP-ABS.SG / person-ERG} who-EP-OBL.SG-ERG  
 na-kətʔajɲa-ye pro<sub>2sg</sub> ] Ø-jett-i qətɕʔet-etəŋ?  
 INV-scold-2SG.O 2SG.ABS 2/3.S/A.IND-come-AOR Palana-ALL

‘When did the person that scolded you come to Palana?’

- b. RC-external case: DAT, RC-internal case: ERG

qəjəm [DP {ʔojamtawelʔ-ə-ŋ / %ʔujemtewilʔ-e} mik-ə-ne-k<sub>i</sub> t<sub>i</sub>  
 NEG.IRR {person-EP-DAT / person-ERG} who-EP-OBL.SG-ERG  
 Ø-ena-kətʔajɲa-j pro<sub>1sg</sub> ] pro<sub>1sg</sub> m-ə-jəl-ne-w  
 2/3.S/A.IND-1SG.O-scold-AOR 1SG.ABS 1SG.ERG 1SG.S/A.IMP-EP-give-3.O-3PL  
 kanpeta-w  
 candy-ABS.PL

‘I will not give candy to the person that scolded me.’

A similar requirement is found in almost all of the languages with ICA, though, as we will see in §7, it varies slightly from language to language. The language where this requirement has been investigated most closely is Nez Perce, for which Deal (2016) provides both syntactic and prosodic evidence that the NPRC with ICA is generated in the left periphery of the clause as a topic left-dislocate. While this approach is initially attractive for Koryak, the NPRC with ICA does not behave syntactically either like a topic or a left-dislocate. To the first point, the pair of sentences (31) show that an NPRC with ICA can serve as the answer to a *wh*-question, a canonical focus position.<sup>26</sup> Likewise, the sentence in (32), repeated from (22c) above, has an NPRC with ICA modified by a quantifier. Neither focused nor quantified noun phrases can be topics, so even if this ICA involved a type of left-dislocation, it could not be *topic* left-dislocation.<sup>27</sup>

- (31) a. meki ɲanko Ø-ku-jun-et-ə-ŋ-Ø  
 who.ABS.SG there 2/3.S/A.IND-PRS-live-VBLZ-EP-PRS-3.S.IND  
 ‘Who lives there?’

- b. RC-external case: ABS, RC-internal case: ERG

[DP {inenyəjuʔevətɕʔ-ə-n / inenyəjuʔevətɕʔ-e} mik-ne-k<sub>i</sub> t<sub>i</sub> na-kətʔajɲa-ye  
 teacher-EP-ABS.SG / teacher-ERG who-OBL.SG-ERG INV-scold-2SG.O  
 pro<sub>2sg</sub> ] ɲanko Ø-ku-jun-et-ə-ŋ-Ø  
 2SG.ABS there 2/3.S/A.IND-PRS-live-VBLZ-EP-PRS-3.S.IND

‘The teacher that scolded you lives there.’

- (32) RC-external case: ABS, RC-internal case: DAT

<sup>26</sup>Interestingly, there is interspeaker variation as to whether or not a fragment answer made up of only an NPRC can have ICA or not.

<sup>27</sup>This does not mean that NPRCs with ICA can *never* be topics, but merely that they don’t have to be.

[<sub>DP</sub> yamy-a-ʔojamtawelʔ-ə-jək-ə-ŋ mek-ə-jək-ə-ŋ<sub>i</sub> *pro*<sub>1sg</sub>  
 each-person-EP-OBL.NSG-EP-DAT who-EP-OBL.NSG-EP-DAT 1SG.ERG  
 t-ə-jəl-ne-w t<sub>i</sub> kampeta-w ] Ø-ko-ʕajv-ə-tko-la-ŋ-Ø  
 1SG.S/A-EP-give-3.O-3PL candy-Abs.PL 2/3.S/A.IND-walk-PLACT-PL-PRS-3.S.IND  
 yajqə-ənək-ʔətʔ-a  
 COM-3SG.POSS-dog-COM

‘[Each person]<sub>j</sub> that I gave candies to is walking around with {his/her}<sub>j</sub> dog.’

As to whether it instantiates any kind of left-dislocation, the answer is unfortunately not totally clear. To show why, we first need to be clear on what we are calling left-dislocation; since Koryak allows the constituents in a sentence to appear in almost any order, it’s not obvious that something like left-dislocation is identifiable as an independent phenomenon in the language. However, there is a construction in which a noun phrase has a particularly tenuous relationship with the rest of the sentence in that it lacks the case-marking associated with the position it is interpreted in. Examples of this are given in (33), where the sentence begins with an absolutive-marked noun phrase whose reference is picked up later in the sentence by an obligatory resumptive pronoun with the expected case-marking.<sup>28</sup> The fact that this pronoun is obligatory distinguishes this left-dislocation construction from the pattern seen with inverse case attraction, where no obligatory pronoun is found.<sup>29</sup> Further, left dislocation is only allowed by some speakers, whereas all speakers allow inverse case attraction. Both of these facts render impossible an analysis on which inverse case attraction requires the type of left dislocation exemplified in (33).

- (33) a. % kəmiŋ-u, t-ə-jəl-ne-w \*(əjk-ə-ŋ) kampeta-w  
 child-Abs.PL 1SG.S/A-EP-give-3.O-3PL \*(3NSG-EP-DAT) candy-Abs.PL  
 ‘The children, I gave them candy.’  
 b. % t̤ənin-kin nute-nut, \*(ənka-jtəŋ) t-ə-k-emŋol-ə-ŋ-Ø  
 own-Adj.Abs.SG land-Abs.SG \*(3SG-ALL) 1SG.S/A-EP-PRS-miss-EP-PRS-1SG.S  
 ‘My native land, I miss it.’

The fact that relative clauses whose heads have internal case have a positional restriction that relative clauses whose heads have the expected case do not have provides a third argument in favor of treating these two types of RC differently. This fact does not obviously fall out from an analysis that takes these relative clauses to be internally headed, nor does it constitute an argument against an internally-headed analysis. Since some sort of left-edge requirement exists in many (though not all) languages with this type of relative clause, I will argue that these must be analyzed on a language-particular basis and probably independently of the internal-headedness of relative clauses with ICA. Unlike in Nez Perce, where ICA constructions are parasitic on the independently

<sup>28</sup>I use the term ‘resumptive pronoun’ here in a merely descriptive way; I do not mean to suggest that it is the spellout of a trace of movement, for example.

<sup>29</sup>There is variation among speakers as to whether or not a case-marked resumptive pronoun is allowed in cases of ICA: most find it acceptable but not ideal, though as we saw in (20b) above, some speakers prefer them when there is a lot of material between the NPRC and the position it is interpreted in.



existing hanging topic left-dislocation structure, such a unification is not possible in Koryak. I will therefore suggest that no insightful synchronic analysis of the left edge requirement is yet possible given what is known about Koryak syntax, and simply posit a high functional projection in the clause that hosts the NPRC with ICA.

### 3.4 Summary

In this section, I have presented arguments showing that relative clauses with inverse case attraction are nominal. I have also presented three arguments that argue in favor of the proposal that relative clauses with inverse case attraction have a different structure from run of the mill externally-headed relative clauses. Two of these arguments support a structure where the head of the relative clause is in a position high in the left periphery of the relative clause. This results in a further modification to the bracketing of the relative clauses we have seen. Consider, for example, the sentence in (10), repeated below as (34) with the first bracketing update.

(34) RC-external case: ABS, RC-internal case: ERG

[<sub>DP</sub> {ʔujemtewilʔ-ə-n / ʔujemtewilʔ-e} mikə-ne-k<sub>i</sub> t<sub>i</sub> na-kətʔajɲa-ye pro<sub>2sg</sub> } ]  
 {person-EP-ABS.SG / person-ERG} who-OBL.SG-ERG INV-scold-2SG.O 2SG.ABS  
 wutku Ø-ku-jun-et-ə-ŋ-Ø  
 here 2/3.S/A.IND-PRS-live-VBLZ-EP-PRS-3.S.IND

‘The person who scolded you lives here.’

As argued in the previous subsection, the entire relative construction in (34) is a DP. What I have argued in this subsection is that the position of the CP boundary vis-à-vis the head differs depending on the case-marking head has. If the head has external case, the relative CP boundary is between the head and the relative pronoun, as in (35a). If, on the other hand, the head has internal case, the relative CP is outside of the head, which is located in the left periphery of the RC (35b).

(35) a. RC-external case: ABS

[<sub>DP</sub> ʔujemtewilʔ-ə-n [<sub>CP</sub> mikə-ne-k<sub>i</sub> t<sub>i</sub> na-kətʔajɲa-ye pro<sub>2sg</sub> ] ] wutku  
 person-EP-ABS.SG who-OBL.SG-ERG INV-scold-2SG.O 2SG.ABS here  
 Ø-ku-jun-et-ə-ŋ-Ø  
 2/3.S/A.IND-PRS-live-VBLZ-EP-PRS-3.S.IND

‘The person who scolded you lives here.’

b. RC-internal case: ERG

[<sub>DP</sub> [<sub>CP</sub> ʔujemtewilʔ-e mikə-ne-k<sub>i</sub> t<sub>i</sub> na-kətʔajɲa-ye pro<sub>2sg</sub> ] ] wutku  
 person-ERG who-OBL.SG-ERG INV-scold-2SG.O 2SG.ABS here  
 Ø-ku-jun-et-ə-ŋ-Ø  
 2/3.S/A.IND-PRS-live-VBLZ-EP-PRS-3.S.IND

‘The person who scolded you lives here.’

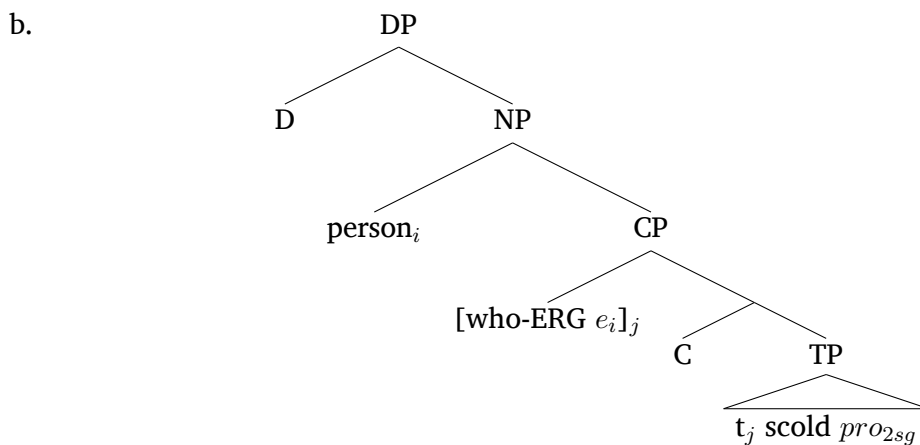
## 4 Putting Things Together

As outlined in the previous section, my proposal has two parts. First, I partially follow the line of analysis developed by Harbert (1982) which takes ICA to involve a headed relative clause rather than a correlative. Second, I depart from previous analyses by taking the head of the relative clause to be surface-left-peripheral inside the relative clause, whereas the Harbert analysis holds that the head is RC-external and requires an otherwise unnecessary process of case attraction otherwise. Let's see how these principles interact to derive the data presented in the previous section, beginning with the internal structure of the relative clause itself.

For relative clauses whose heads have the expected case marking, I take the internal structure of the NPRC in (36a), repeated from (35a) above, to be as in (36b). The symbol  $e$  here represents an empty category corresponding to the head of the relative clause (represented by their coindexation), and is chosen because I am agnostic as to whether they are derived by head-raising (in which case the empty category would be a movement trace) or by matching (in which case it would be a noun phrase deleted under identity with the head of the RC.) The reason for this agnosticism is that I have not been able to successfully carry out any of the tests that I am aware of that distinguish between the two derivations, and some of them (involving multiword idioms, for example) are probably impossible to test in Koryak. We see schematized in this structure that the interrogative structure containing the relative pronoun and the empty category corresponding to the head moves from its base position in [Spec,vP] into a specifier of CP the relative clause.<sup>30</sup>

(36) a. RC-external case: ABS

[<sub>DP</sub> ʔujemtewilʔ-ə-n [<sub>CP</sub> mikə-ne-k<sub>i</sub> t<sub>i</sub> na-kətʔajɲa-ɣe pro<sub>2sg</sub> ] ] wutku  
 person-EP-ABS.SG who-OBL.SG-ERG INV-scold-2SG.O 2SG.ABS here  
 Ø-ku-jun-et-ə-ŋ-Ø  
 2/3.S/A.IND-PRS-live-VBLZ-EP-PRS-3.S.IND  
 'The person who scolded you lives here.'



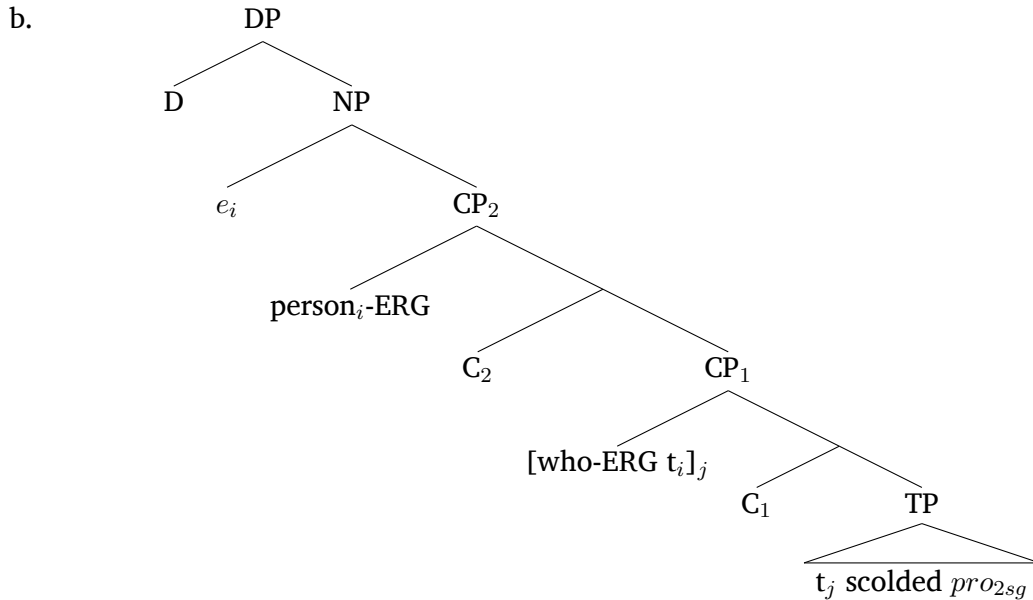
<sup>30</sup>I do not represent the movement of the subject to [Spec,TP], for which there is, at best, only weak evidence in Koryak, and which does not have an effect on the analysis.

For relative clauses with inverse case attraction like (37a), repeated from (35b) above, the structure is similar, except that the head of the relative clause is generated in and remains inside the relative clause. The head moves with the relative pronoun into the specifier of the lower CP, from which it exorporates and moves into the higher one, as is standardly assumed for the raising analysis of relative clauses. The multiple-CP structure I invoke here is based on Rizzi (1997)'s Split Comp hypothesis: I refrain from labelling the various complementizer projections with more specific names (e.g. TopicP, ForceP, FocusP) because it does not have an effect on the analysis. In this instance, the empty category *e* is in the matrix clause.

(37) a. RC-external case: ABS, RC-internal case: ERG

[<sub>DP</sub> [<sub>CP</sub> ?ujemtewil?-e mikə-ne-k<sub>i</sub> t<sub>i</sub> na-kət?ajŋa-ye pro<sub>2sg</sub> ] ] wutku  
 person-ERG who-OBL.SG-ERG INV-scold-2SG.O 2SG.ABS here  
 Ø-ku-jun-et-ə-ŋ-Ø  
 2/3.S/A.IND-PRS-live-VBLZ-EP-PRS-3.S.IND

‘The person who scolded you lives here.’

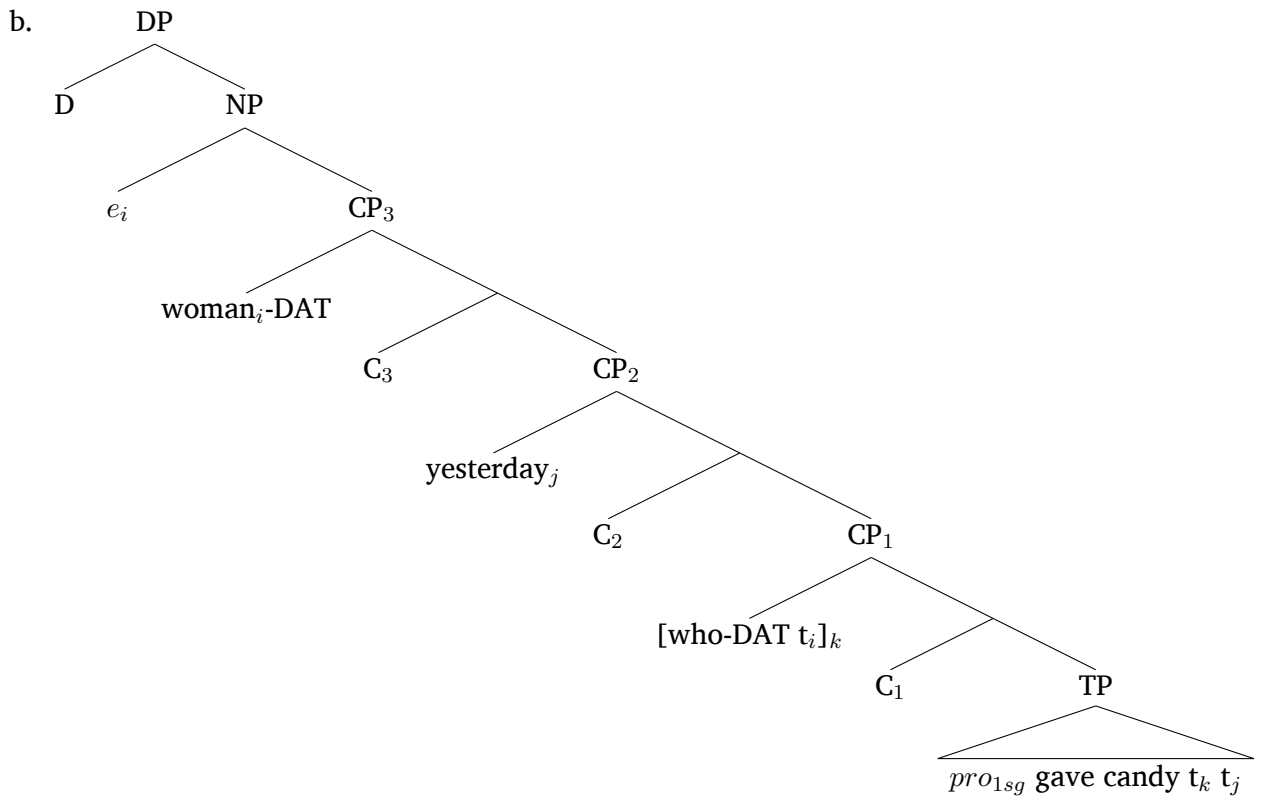


Why posit that the head of the relative clause moves out of the *wh*-phrase in CP<sub>1</sub> at all? The word order is, after all, compatible with a head-final structure where no exorporation has taken place. First, determiners' default position in Koryak is before, not after, their nominal complement. Second, as we saw in (26), repeated below in (38a) material from the the relative clause can come between the head and the relative pronoun. Both of these facts suggest that the head and the relative pronoun do not form a surface constituent, showing that the head is in a higher position than the relative pronoun. The multiple CP structure used to analyze the relative position of the head and the relative pronoun allows us to analyze sentences where RC-internal material precedes the relative pronoun. For example, the structure for the relative clause in (38a), where the adverb

*ajɣəve* ‘yesterday’ is between the head and the relative pronoun, is as in (38b), and the structure for the relative clause in (39a), where that adverb occurs to the left of the head, is as in (39b). In both of these sentences, one of the multiple CPs hosts the moved adverb.

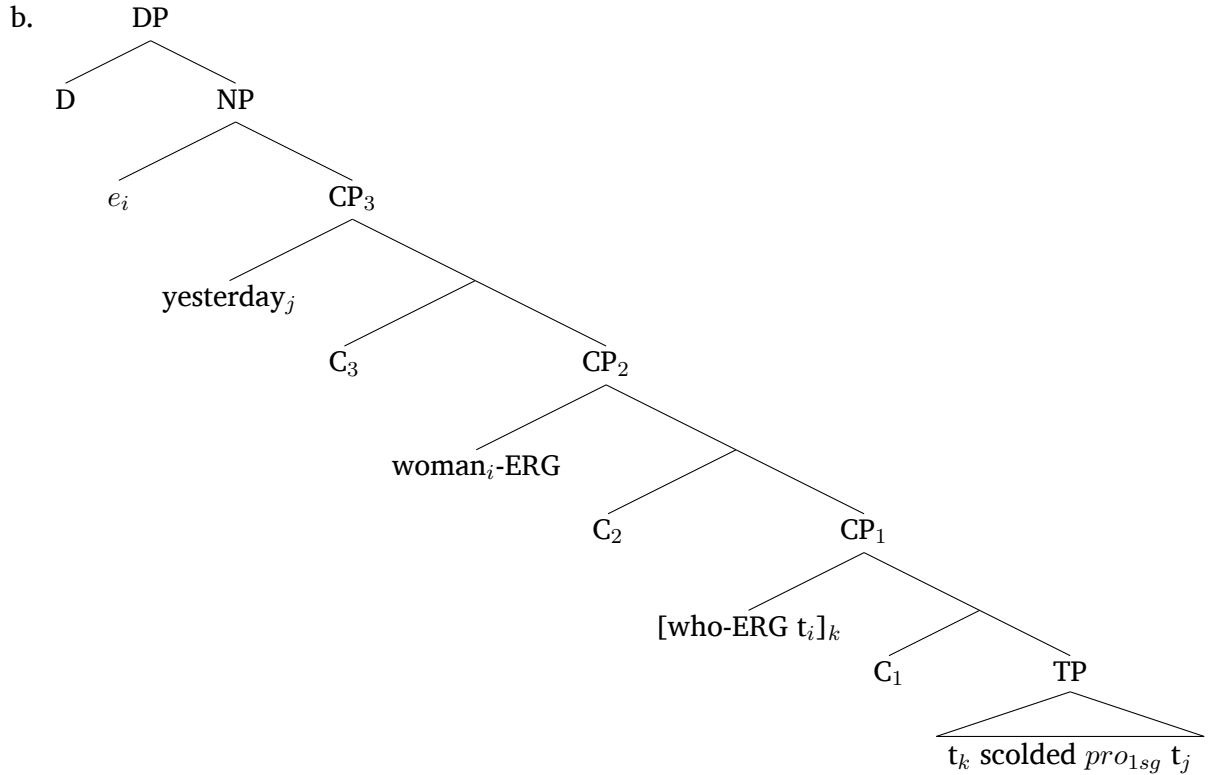
- (38) a. RC-external case: NARR, RC-internal case: DAT

[<sub>DP</sub> [<sub>CP</sub> ɲavətɕɛŋ-ə-ŋ ajɣəve mek-ə-na-ŋ<sub>k</sub> t-ə-jəl-ne-w  
 woman-EP-DAT yesterday who-EP-OBL.SG-DAT 1SG.S/A-EP-give-3.O-3PL  
 kanpeta-w t<sub>k</sub> ] ] mət-ko-kətɕveʔ-al-la-ŋ-Ø  
 candy-ABS.PL 1NSG.S/A-PRS-discuss-VBLZ-PL-PRS-1NSG.S/O  
 ‘We are discussing the woman to whom I gave candies yesterday.’



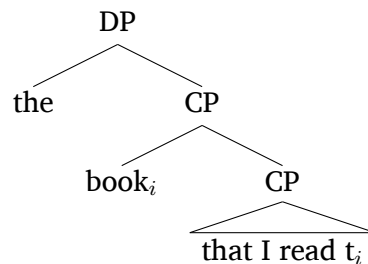
- (39) a. RC-external case: ABS, RC-internal case: ERG

[<sub>DP</sub> [<sub>CP</sub> ajɣəve ɲavətɕɛŋ-a mik-ə-ne-k<sub>i</sub> t<sub>i</sub> Ø-ena-kətʔajɲa-j  
 yesterday woman-ERG who-EP-OBL.SG-ERG 2/3.S/A.IND-1SG.O-scold-AOR  
 pro<sub>1sg</sub> ] ] pro<sub>1sg</sub> t-ə-je-ləʔu-ŋ-ə-n mitiw  
 1SG.ABS 1SG.ERG 1SG.S/A-EP-FUT-see-FUT-EP-3(SG).O tomorrow  
 ‘Tomorrow I will see the woman that scolded me yesterday.’



The structure sketched out for the relative clause in (39b) and (38b) have precedent in the syntactic literature: defenders of the raising analysis of externally headed relative clauses propose an identical structure for those clauses. For example, Bianchi (1999) defends the structure in (40) for the relative clause ‘the book that I read’ (Bianchi 1999, p. 41). What the data from Koryak (and other languages with ICA, as we will see in §7) shows is that this structure cannot be correct for externally-headed relatives: the head in the specifier of the relative CP is not local enough to the RC-external determiner in order to have its case overwritten by it, and instead is marked with RC-internal case.<sup>31</sup> Consequently, if a language allows RCs without ICA (and all languages with externally-headed relative clauses I am aware of do), it must allow a type of relative clause other than the kind represented in (40), where the head is outside of the relative CP.

(40)



Returning to Koryak, note that even when the relative clause is externally-headed (that is, has external case), it needs to be able to have multiple CPs, as RC-internal material can still occur to

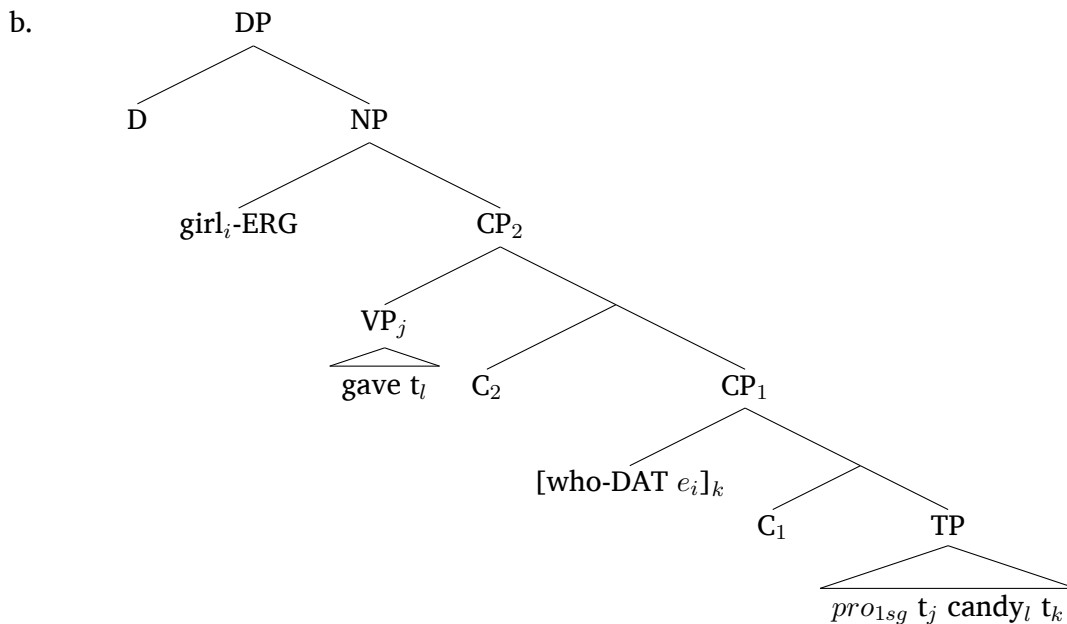
<sup>31</sup>This does leave open the possibility that Bianchi’s structure is correct for externally headed relative clauses in languages without morphological case marking on nominals, such as English or most of modern Romance.

the left of the relative pronoun, as exemplified in (41a). The tree for the external case variant of this sentence is given in (41b).

(41) a. RC-external case: ERG, RC-internal case: DAT

[<sub>DP</sub> {eʎʔa-ta / eʎʔa-na-ŋ}      t-ə-jəl-ne-w      mek-na-ŋ<sub>k</sub>  
           {girl-ERG / girl-OBL.SG-DAT} 1SG.S/A-EP-give-3.O-3PL who-OBL.SG-DAT  
<sub>pro</sub><sub>1sg</sub>    kəmpetə-w    t<sub>k</sub> ] atʃatʃy-o  
 1SG.ERG candy-Abs.PL    laugh-NFIN  
 Ø-k-ine-lŋ-ə-ŋ-Ø      <sub>pro</sub><sub>1sg</sub>  
 2/3.S/A.IND-PRS-1SG.O-consider-EP-PRS-3.S.IND 1SG.ABS

‘The girl that I gave candies to is laughing at me.’



Let's now turn to the structure of the clause containing the NPRC. Unfortunately, based on the available evidence the picture is considerably more murky. I showed in the previous section that NPRCs with ICA differ from ones with the expected case in having a left-peripherality restriction. Let's call the position that the relative clause with ICA occurs in [Spec, $\alpha$ P]. The position of  $\alpha$ P within the clausal extended projection is high, though not maximally so, given that NPRCs with ICA follow complementizers and, for some speakers, certain *wh*-words and negative particles. This interspeaker variation also suggests that  $\alpha$ P may be in different positions for different speakers, or even that its identity may vary between speakers. Given that relative clauses whose heads have external case can occur in the same position as those whose heads have internal case, [Spec, $\alpha$ P] can presumably host them too. I have argued that, whatever position the NPRC with ICA is in, it is not (obligatorily) the position of topic left-dislocated elements (if there even is a single such position in Koryak).

Independently of figuring out the specific position(s) that the NPRC can be located it, we

can ask how the NPRC gets into that position: is it by movement or is it base-generated there? Unfortunately, there are inconsistencies both within and across speakers regarding whether a relevant complex noun phrase can be separated from the position it is interpreted in by an island boundary (in particular, by a *wh*-island). It is therefore not possible to tell at this point whether the left peripherality of the NPRC is derived by movement or base-generation, though a better understanding of constraints on movement out of islands in Koryak might clear this up.

Clearly, more work on Koryak is necessary to be able to identify the exact relation between the NPRC and the position it is interpreted in, as well as the nature of its left-edge requirement. What  $\alpha$ P is specifically is not known, at least in part because of how little we know about the structure of the Koryak left periphery and the relationship between word order and information structure in the language. Were more known about these aspects of the language, we might be able to determine exactly which position(s) NPRCs with ICA occur in. Understanding this would also help elucidate *why* it is that these noun phrases must appear in the left periphery of the sentence. For example, it might be that there is a limited set of information-structural roles that the NPRC with ICA can have, and all of those roles happen to be expressed by putting the relevant nominal in the left periphery of the sentence. Alternatively, there could be a prosodic requirement on internally-headed relative clauses that requires them to be in the clausal left periphery (see Richards (2016) for arguments that prosodic requirements can drive syntactic operations). Finally, the left peripheral requirement may be purely formal and therefore synchronically unmotivated, as Simpson (2004) argues for certain movement operations in a variety of Southeast Asian languages. Bianchi (1999) argues on the basis of the history of relative structures in Indo-European that relative clauses with ICA are an intermediate historical step between correlatives and standard externally-headed clauses. Since correlatives usually have a left-edge requirement, if the connection between ICA and correlatives that Bianchi proposes is correct, the left edge requirement on ICA could be the residue of these clauses' history as correlatives. I leave it to future work to resolve these issues.

## 5 Some Correct Predictions

In this section, I discuss three correct predictions of the analysis I have developed. One of them comes from the lack of effect of case marking on the availability of ICA, and the others from the distribution of cases and adverbial fronting in stacked relative clauses.

### 5.1 No Effect of Case Markedness

Phenomena involving multiple morphological cases are often sensitive to the relative markedness of those cases. For example, the Icelandic passive causes a promoted object that would otherwise be marked with accusative case to be marked with nominative (42), but famously leaves the case of promoted objects otherwise marked with genitive (43) or dative (44) case alone.

- (42) a. Lögreglan tók Siggu fasta  
 police.DEF.NOM took Sigga.ACC fast.ACC  
 ‘The police arrested Sigga.’ Zaenen et al. (1985, ex. 2a)
- b. Sigga var tekin föst af lögreglunni  
 Sigga.NOM was taken fast.NOM by police.DEF.DAT  
 ‘Sigga was arrested by the police.’ *ibid.* ex. 2b
- (43) a. Ég hjálpaði honum  
 I.NOM helped him.DAT  
 ‘I helped him.’ *ibid.* ex. 8a
- b. Þeim var hjálpað  
 them.DAT was helped  
 ‘They were helped.’ *ibid.* ex. 11a
- (44) a. Ég mun sakna hans  
 I.NOM will miss him.GEN  
 ‘I will miss him.’ *ibid.* ex. 8b
- b. Hennar var saknað  
 her.GEN was missed  
 ‘She was missed.’ *ibid.* ex. 11b

Direct case attraction<sup>32</sup> (DCA) is also sensitive to a case hierarchy: case attraction may only take place if the attracting (external) case is more marked than the expected (internal) case (Harbert 1982; Young 1988). Take the case hierarchy proposed in Marantz (1991), which Abramovitz (2020) argues is implicated in the case and agreement phenomena of Koryak. In this hierarchy, unmarked case (absolutive) is the least marked, dependent cases (ergative and certain datives) are more marked than absolutive, and lexical and oblique cases are the most marked.<sup>33</sup> If Koryak ICA is like direct case attraction (in the languages that have it), we predict that it should only occur

<sup>32</sup>Recall from (14) above, repeated here as (1), that direct case attraction is not allowed in Koryak with a sentence-initial NPRC. The sentence in (2) shows that this is also not possible for an in-situ noun phrase.

- (1) RC-external case: DAT, RC-internal case: ERG

[ \*ʔoʎa-ŋ mek-ə-na-ŋ<sub>i</sub> t<sub>i</sub> Ø-ena-kətʔajŋa-j pro<sub>1sg</sub> ] pro<sub>1sg</sub>  
 man-DAT who-EP-OBL.SG-DAT 2/3.S/A.IND-1SG.O-scold-AOR 1SG.ABS 1SG.ERG  
 t-ə-je-jəl-ŋ-ə-ne-w kanpeta-w  
 1SG.S/A-EP-FUT-give-FUT-EP-3.O-3PL candy-ABS.PL

intended: ‘I will give candy to the man that scolded me.’

- (2) \*pro<sub>1sg</sub> t-ə-je-jəl-ŋ-ə-ne-w kanpeta-w [ <sub>DP</sub> ʔoʎa-ŋ mek-ə-na-ŋ<sub>i</sub> t<sub>i</sub> ]  
 1SG.ERG 1SG.S/A-EP-FUT-give-FUT-EP-3.O-3PL candy-ABS.PL man-DAT who-EP-OBL.SG-DAT  
 Ø-ena-kətʔajŋa-j pro<sub>1sg</sub> ]  
 2/3.S/A.IND-1SG.O-scold-AOR 1SG.ABS  
 intended: ‘I will give candy to the man that scolded me.’

<sup>33</sup>No Koryak-internal evidence that I am aware of establishes the relative markedness of lexical and oblique cases with respect to each other.



when the attracting case is more marked than the expected one, that is, when the internal case is more marked than the external one. This prediction is false, as the sentences in (45), repeated from (7a) and (8) above, and (46) show. In both instances, the internal case (absolutive in (45) and ergative in (46)) is less marked than the external one (ergative in (45) and narrative in (46)), but there is no restriction on which can appear on the head. When the internal and external cases are both dependent, and therefore equally marked, inverse case attraction is also permitted, as is exemplified in (47).<sup>34</sup>

(45) RC-external case: DAT, RC-internal case: ABS

[<sub>XP</sub> {ʔeyəlŋ-ə-ŋ / ʔeyəlŋ-ə-n} meŋin<sub>i</sub> t<sub>i</sub> Ø-ko-jəpʔajŋa-ŋ-Ø ]  
 {wolf-EP-DAT / wolf-EP-ABS} which.ABS 2/3.S/A.IND-PRS-howl-PRS-3.S.IND  
 qəjəm pro<sub>1sg</sub> m-ə-t̪ɕejm-ev-ə-k  
 NEG.IRR 1SG.ABS 1SG.S/A.IMP-EP-close-VBLZ-EP-1SG.S

‘I will not approach the wolf that is howling.’

(46) RC-external case: NARR, RC-internal case: ERG

[<sub>XP</sub> {inenyəjulevət̪ɕʔ-ə-kjit / inenyəjulevət̪ɕʔ-e} mikə-ne-k<sub>i</sub> t<sub>i</sub> na-kətʔajŋa-ye  
 {teacher-EP-NARR / teacher-ERG} who-OBL.SG-ERG INV-scold-2SG.O  
 pro<sub>2sg</sub> ] pro<sub>1du</sub> mət̪ɕ-t̪ɕe-kət̪ɕviŋʔ-et-ə-ŋ-Ø mitiw  
 2SG.ABS 1DU.ABS 1NSG.S/A-FUT-talk.about-VBLZ-EP-FUT-1NSG.S/O tomorrow

‘Tomorrow we will talk about the teacher that scolded you.’

(47) RC-external case: ERG, RC-internal case: DAT

[<sub>XP</sub> {ʔujemtewilʔ-e / ʔojamtawelʔ-ə-ŋ} mek-ə-na-ŋ<sub>i</sub> pro<sub>1sg</sub>  
 {person-ERG / person-EP-DAT} who-EP-OBL.SG-DAT 1SG.ERG  
 t-ə-jəl-ne-w t<sub>i</sub> kampeta-w ] Ø-anja-nen uvik  
 1SG.S/A-EP-give-3.O-3PL candy-ABS.PL 2/3.S/A.IND-praise-3SG.A > 3.O self.ABS.SG

‘The person that I gave candy to praised himself/herself.’

## 5.2 Back to Stacked Relative Clauses

Let’s take another look at the stacked relative clauses, which are repeated from (19b) and (20b) above. Previously, these were used as an argument against a correlative analysis of ICA, as correlative clauses systematically disallow RC-stacking. I now want to focus on a different aspect of these sentences, namely, the fact that the evidence for RC-internality of the head only applies to the linearly first relative clause. For example, the only internal case that the head can be marked with is that of the first relative clause: instrumental (not dative) in (48a) and ergative (not dative)

<sup>34</sup>See Abramovitz (2020) for arguments that ergative and the dative case found on the goal argument of *jəl*- ‘give’ is dependent.

in (48b). Similarly, the contrast in (49) shows that the head of a relative clause can be preceded by an adverb from the linearly first relative clause ('yesterday'), but not by one from the linearly second one ('tomorrow').

- (48) a. RC-external case: ABS, RC<sub>1</sub>-internal case: INST, RC<sub>2</sub>-internal case: DAT

[<sub>DP</sub> {pītēγ-ə-n / pītēγ-e / \*petēγ-ə-ŋ} [<sub>RC<sub>1</sub></sub> jeq-e<sub>i</sub> *pro*<sub>1sg</sub>  
 {food-EP-ABS.SG / food-INST / \*food-EP-DAT} what-INST 1SG.ABS  
 t-ewji-k t<sub>i</sub>] [<sub>RC<sub>2</sub></sub> jaq-ə-ŋ<sub>j</sub> γə-nan Ø-ineyej-ə-n  
 1SG.S/A-eat-1SG.S what-EP-DAT 2SG-ERG 2/3.S/A.IND-add-EP-3(SG).O  
 t̪əʊlt̪əʊlt̪ t<sub>j</sub>] ] n-ə-mel-qin  
 salt.ABS.SG ADJ-EP-good-ADJ.SG

'The food that I ate that you added salt to is tasty.'

- b. RC-external case: NARR, RC<sub>1</sub>-internal case: ERG, RC<sub>2</sub>-internal case: DAT

[<sub>DP</sub> {mojək-ʔəlləʔ-ə-kjet / ʔmojək-ʔəlləʔ-ə-na-k /  
 {1NSG.POSS-mother-EP-NARR / 1NSG.POSS-mother-EP-OBL.SG-ERG /  
 \*mojək-ʔəlləʔ-ə-na-ŋ} [<sub>RC<sub>1</sub></sub> mik-ə-ne-k<sub>i</sub> t<sub>i</sub>  
 \*1NSG.POSS-mother-EP-OBL.SG-DAT who-EP-OBL.SG-ERG  
 na-n-mit-ə-tv-an-mək *pro*<sub>1du</sub> wəpav-at-ə-k  
 INV-CAUS-skilled-EP-INCH.VBLZ-VBLZ-1NSG.S/O 1DU.ABS word-VBLZ-EP-INF  
 t̪əawt̪əəva-t̪əʔenəŋ] [<sub>RC<sub>2</sub></sub> mek-ə-na-ŋ<sub>j</sub> motēγ-ə-nan  
 Koryak-ADV who-EP-OBL.SG-DAT 1NSG-EP-ERG  
 mət-ku-jep-ŋ-ə-ne-w ovoʕa-w t<sub>j</sub> γamγat̪əʔəʎo ] ]  
 1NSG.S/A-PRS-bring-PRS-EP-3.O-3PL vegetable-ABS.PL every.day  
 mət-ko-wəpav-at-ə-ŋ-Ø  
 1NSG.S/A-PRS-word-VBLZ-EP-PRS-1NSG.S/O

'We are talking about our mother, who taught us to speak Koryak, to whom we bring vegetables every day.'

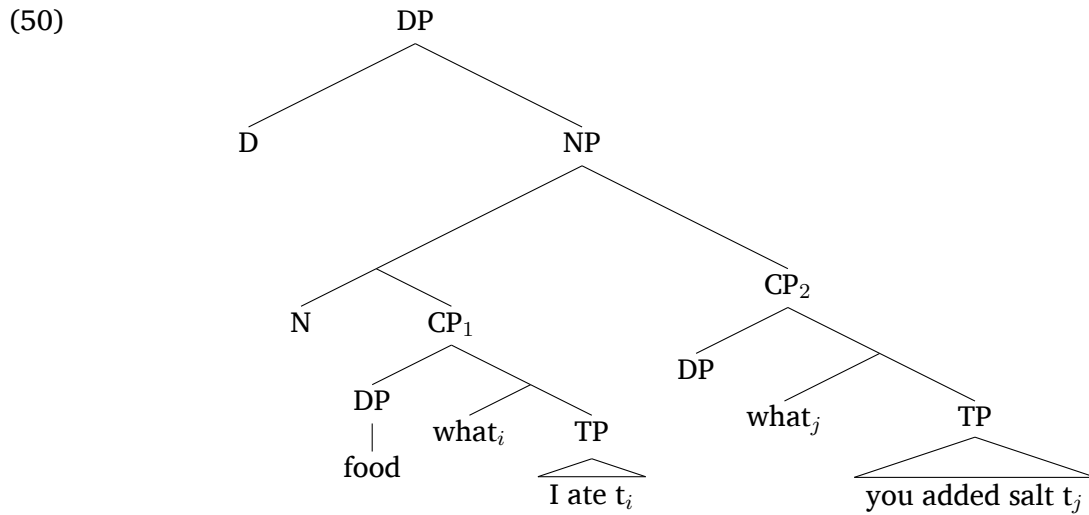
- (49) a. [<sub>DP</sub> [<sub>CP</sub> ajγəve ŋavətēŋ-a mik-ə-ne-k<sub>i</sub> t<sub>i</sub>  
 yesterday woman-ERG who-EP-OBL.SG-ERG  
 Ø-en-əŋja-j *pro*<sub>1sg</sub>] [<sub>CP</sub> mik-ə-ne-k<sub>j</sub> t<sub>j</sub> γət̪ət̪ēi  
 2/3.S/A.IND-1SG.O-praise-AOR 1SG.ABS who-EP-OBL.SG-ERG 2SG.ABS  
 mitiw t<sub>j</sub> na-ja-kətʔajŋa-ye ] ] wutku  
 tomorrow INV-FUT-scold-UW.PST here  
 Ø-ku-jun-et-ə-ŋ-Ø  
 2/3.S/A.IND-PRS-live-VBLZ-EP-PRS-3.S.IND

'The woman who praised me yesterday who will scold you tomorrow lives here.'

- b. \* [<sub>DP</sub> mitiw<sub>i</sub> [<sub>CP</sub> ŋavətēŋ-a mik-ə-ne-k<sub>j</sub> t<sub>j</sub> ajγəve  
 tomorrow woman-ERG who-EP-OBL.SG-ERG yesterday  
 Ø-en-əŋja-j *pro*<sub>1sg</sub>] [ mik-ə-ne-k<sub>k</sub> t<sub>k</sub> γət̪ət̪ēi t<sub>i</sub>  
 2/3.S/A.IND-1SG.O-praise-AOR 1SG.ABS who-EP-OBL.SG-ERG 2SG.ABS  
 na-ja-kətʔajŋa-ye ] ] wutku Ø-ku-jun-et-ə-ŋ-Ø  
 INV-FUT-scold-UW.PST here 2/3.S/A.IND-PRS-live-VBLZ-EP-PRS-3.S.IND

intended: ‘The woman who praised me yesterday who will scold you tomorrow lives here.’

Both of these facts fall out straightforwardly if inverse case attraction is due to the RC-head being inside the relative clause. In the case of stacked relatives, this means that the head is pronounced inside of the first relative clause and is not pronounced in the second one, as schematized in (50) for the sentence in (48a). Since there is no syntactic relationship between the pronounced head and the second relative clause, it stands to reason that the second relative clause’s case should not be able to appear on the head. Likewise, assuming the displacement of the temporal adverb is clause-bound, it should not be able to precede material from the first relative clause unless it comes from that clause.



## 6 Left-Headed Internally-Headed Relative Clauses in Gur

The structure I have proposed for Koryak relative clauses with ICA involves internally-headed relative clauses where the head moves into the left periphery. This, as I have mentioned, is the structure proposed by Bianchi (1999) a.o. for EHRCs. However, I have shown that this cannot be correct, as relative clause heads in the left periphery of the relative clause are not marked with external case in Koryak. Apart from the arguments for Koryak inverse case attraction I have discussed, I have presented no evidence that the RC-internal left periphery is a valid landing site for the head of a relative clause. We might therefore be skeptical of complicating the analytical landscape for what may not appear to be significant extra data coverage. Fortunately for this proposal, relative clauses whose heads move into their left-periphery are widely attested in the Gur languages of West Africa. Most of the languages of this family have two types of relative clauses: one where the head of the relative clause (*mángò*) appears in-situ (51a), and another where it appears to the left of all of the RC-internal material (51b) (both of these examples come

from Bùlì, a Gur language spoken in Northern Ghana). As argued in a series of works beginning with Hiraiwa (2005) (also including Hiraiwa 2009a,b; Bodomo and Hiraiwa 2010; Hiraiwa et al. 2017; a.o), the head of the relative clause in (51b) is in fact pronounced in a left-peripheral (pre-complementizer) position. In this section, I will present the arguments in favor of this analysis for Gur relative clauses, and show that this is in fact exactly the type of relative clause I argue to be instantiated by relative clauses with ICA.

(51) Bùlì (< Gur < Niger-Congo)

- a. Àtìm dè Àmòak àlì dà mángò-tì: lá  
 Atim ate Amoak C bought mango-REL DEM  
 ‘Atim ate the mango that Amoak bought yesterday.’ Hiraiwa (2005, p. 219)
- b. Àtìm dè mángò-tì: àtì Àmòak dà lá  
 Atim ate mango-REL C Amoak bought DEM  
 ‘Atim ate the mango that Amoak bought yesterday.’ Hiraiwa (2005, p. 219)

Recall from above that an RC-internal adjunct can appear before the head of an NPRC with inverse case attraction in Koryak, as illustrated in (52), repeated from (39a) above. In Bùlì, when the head of the relative clause precedes the rest of the RC, adverbial material like like *dìem* ‘yesterday’ can precede the head, as in (53). Koryak relative clauses with ICA and Bùlì left-headed relative clauses therefore pattern identically with respect to their ability to scramble RC-material across their head. Though not all Gur languages behave like Bùlì (and Koryak) in this respect, Hiraiwa (2009a) additionally reports that Kabiyé also allows RC-internal adverbs to precede the RC head.<sup>35</sup> The fact that RC-internal adjuncts can precede the head even when it is to the left of the complementizer shows that the head is located inside the relative clause.

- (52) [<sub>DP</sub> ajəve { \*ŋavətɕŋ-ə-n / ✓ŋavətɕŋ-a } mik-ə-ne-k<sub>i</sub> t<sub>i</sub>  
 yesterday { \*woman-EP-ABS.SG / woman-ERG } who-EP-OBL.SG-ERG  
 Ø- ena-kətʔajŋa-j pro<sub>1sg</sub> ] pro<sub>1sg</sub> t-ə-je- ləʔu-ŋ-ə-n  
 2/3.S/A.IND-1SG.O-scold-AOR 1SG.ABS 1SG.ERG 1SG.S/A-EP-FUT-see-FUT-EP-3(SG).O  
 mitiw  
 tomorrow  
 ‘Tomorrow I will see the woman that scolded me yesterday.’
- (53) Àtìm dè [<sub>RC</sub> (dìem) mángò-tì: àtì Àmòak dà lá ]  
 Atim ate yesterday mango-REL C Amoak bought DEM  
 ‘Atim ate the mango tha Amoak bought (yesterday).’ Hiraiwa (2005, p 219)

Another piece of evidence that leads to the same conclusion is illustrated in (54) and comes from the interpretation of quantifiers modifying relative clause heads. The sentence in (54a) has an in-situ internally-headed relative clause, whose head, *mángò*, is modified by a quantifier.

<sup>35</sup>The native-speaker-linguist of Bùlì that I consulted did not agree with the judgment in (53), saying that *dìem* could only occur immediately preverbally for him. I assume that this represents a dialectal or ideolectal difference.

The translation of the sentence shows that the quantifier is interpreted inside the relative clause, rather than outside of it, which would instead have the translation ‘Atim ate all/some/most of the mangoes that Amoak bought.’ The same interpretation obtains if the head of the relative clause moves past the complementizer and strands the quantifier (54b). In order to get the RC-external reading of the quantifier, the quantifier must occur to the right of the demonstrative *lá*, which marks the right edge of the relative clause (54c). What is crucial for our purposes is the sentence in (54d), where the quantifier moves past the complementizer with the RC head. Were the head in pre-complementizer position external to the RC, we would expect the sentence in (54d) to have the same interpretation as the sentence in (54c), which it does not have; instead, its interpretation is the same as that in (54a) and (54b). From this, we deduce that the quantifier is RC-internal rather than RC-external, leading to the conclusion that the pre-complementizer position that the RC head can occur in is inside the relative clause.

- (54) a. Àtìm dè [Àmòak àlì dà mángò-tì: {mé:ná / gèlà / yègà} lá]  
 Atim ate Amoak C bought mango-REL.PL {all / some / most} DEM  
 ‘Amoak bought all / some / most (of the) mangos and Atim ate them.’ (Hiraiwa 2005, 220)
- b. Àtìm dè [mángò-tì: àtì Àmòak dà {mé:ná / gèlà / yègà} lá]  
 Atim ate mango-REL.PL C Amoak bought {all / some / most} DEM  
 ‘Amoak bought all / some / most (of the) mangos and Atim ate them.’ (ibid. 221)
- c. Àtìm dè [mángò-tì: àtì Àmòak dà lá] {mé:ná / gèlà / yègà}  
 Atim ate mango-REL.PL C Amoak bought DEM {all / some / most}  
 ‘Atim ate all/most/some of the mangoes that Amoak bought.’ (ibid.)
- d. Àtìm dè [mángò-tì: {mé:ná / gèlà / yègà} àtì Àmòak dà lá]  
 Atim ate mango-REL.PL {all / some / most} C Amoak bought DEM  
 ‘Amoak bought all / some / most (of the) mangos and Atim ate them.’ (ibid.)

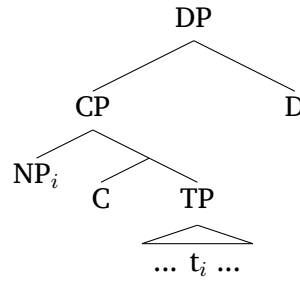
A final argument that Bùlì relative clauses with ex-situ heads are internally-headed comes from the interaction between selection and pied-piping. Consider the Bùlì sentence in (55a), which features a relative clause with a precomplementizer head without pied-piping. If this precomplementizer position were RC-external, the head *gbòŋ* ‘roof’ would be an argument of the matrix predicate *zyùàyi* ‘be big’. This is plausible: the subject of such a predicate must be a noun phrase. However, as (55b) shows, the postposition *zúk* ‘on’ can be pied-piped with the head into the pre-complementizer position. Were this position RC-external, the predicate ‘be big’ would have the PP ‘on the roof’ as its subject, which it cannot have (cf. \**On the roof that I slept is big*). Consequently, the head must be RC-internal.

- (55) a. [ gbòŋ-kū:y àtì n gwà \*(kù) zúk lá ] zyùàyi  
 roof-REL C 1SG slept 3SG on DEM be.big  
 ‘The roof that I slept on is big.’ Hiraiwa (2005, p. 222)

- b. [ gbòŋ-kū:y zúk àtì ò gwà lă ] zyùàyi  
 roof-REL on C 1SG slept DEM be.big  
 ‘The roof that I slept on is big.’ (ibid.)

All of these facts motivate a structure whereby the head of the relative clause is on its left, but is nonetheless still inside it, as schematized in (56), which is identical to the one I have argued gives rise to inverse case attraction. This shows that the same syntax responsible for inverse case attraction in Koryak is also found in languages without morphological case marking. Put another way, left-headed internally-headed relative clauses are found not only in the Gur languages, but also in languages with morphological case like Koryak, where we call them relative clauses with ICA.

(56)



## 7 The Crosslinguistic Picture

### 7.1 Introduction

I have argued so far for an analysis of inverse case attraction that is specific to Koryak. However, this phenomenon is found in a variety of unrelated languages across the world (most famously, in ancient Indo-European languages,) and we might therefore wonder whether my account generalizes beyond Koryak. I will now argue that it does. This section surveys the properties of ICA in other languages where it is found, in particular, whether the head can be extraposed from the relative clause when it has internal case, whether RC-internal material can scramble across the head when it has internal case, and whether the entire relative construction has the distribution of a nominal. A negative answer to the first question and positive answers to the second and third constitute evidence in favor of my proposal. As we will see, for many languages (in particular, the ancient ones,) at least some of the relevant data does not exist, making it impossible to answer all of the relevant questions. Crucially, though, for most languages with ICA that have been documented, sufficient data exists to answer some of the questions, and no language that I have found has data that explicitly contradicts the analysis I propose for Koryak.<sup>36</sup> Based on this, I conclude that the analysis of ICA whereby the head bearing internal case is in a left-peripheral position

<sup>36</sup>The observation that ICA forbids extraposition in a variety of languages was first made in Cinque (2015).

inside of the relative clause can be extended to a wide variety of unrelated languages, and that it may provide a general solution to the problem of inverse case attraction in all languages.

## 7.2 Indo-European

As mentioned before, ICA was first noticed in ancient Indo-European languages. Given that these languages are no longer spoken, negative evidence in favor of my proposal does not exist. However, evidence from corpora suggests that ICA in Ancient Greek behaved identically to Koryak. For example, while the language allowed relative clause extraposition (Cooper and Krüger 1998, 544), the discussions of inverse case attraction in Kühner and Gerth (1904), Schwyzer and Debrunner (1950), and Probert (2015) contain no examples of phrasal material separating the head bearing internal case and the rest of the relative clause, though as Probert (2015, 164) notes, second-position clitics may intervene.<sup>37</sup> Indeed, Schwyzer and Debrunner (1950, 641) is rather explicit about this, writing that “when, of all the matrix clause, only the head noun precedes the relative clause, the head noun often assimilates in case to the relative pronoun...more rarely, when the whole matrix clause precedes the relative clause [the head noun often assimilates in case to the relative pronoun].”<sup>38</sup> Consequently, it appears that Ancient Greek, like Koryak, forbade the head of an RC with ICA (but not one without ICA) from being separated from the rest of the relative clause by phrasal material, but unlike Koryak, allowed the NPRC to either be clause-initial or clause-final. Additionally, a relative clause with ICA could be modified by an article Probert (2015, 164), showing that it was an NP/DP rather than a CP. I have not found any evidence of whether RC-internal material could scramble across a head with internal case. Consequently, Ancient Greek patterns like Koryak on two of the three tests for RC-head left-peripherality, and the data is so far indecisive on the third.<sup>39</sup>

Inverse case attraction is also found in some modern Indo-European languages, including Dari (Afghan Persian) and Xranje Albanian. According to Houston (1974), relative clauses both without (57a) and with (57b) inverse case attraction are permitted in Dari: in the former, the head of the relative clause is marked with nominative case, which is expected for the subject of the verb ‘to be’, whereas in the second, the head of the relative clause is marked with accusative since the pivot of the relative clause is an object. The contrast in (58) shows that Dari behaves like Koryak with regards to extraposition: the relative clause can be extraposed when the head has external case (58a), but not if it has internal case (58b). Consequently, the facts extraposition facts of Dari support the Koryak-like analysis of inverse case attraction.<sup>40</sup>

<sup>37</sup>I am grateful to Stanislaw Zompì for looking through Kühner and Gerth (1904) and Schwyzer and Debrunner (1950) for me.

<sup>38</sup>Goodell’s 1902 grammar of Attic Greek, a more pedagogical than linguistic work, says something similar though less explicit (§613): ‘Rarely the antecedent is attracted to the case of the relative, the two standing side by side.’

<sup>39</sup>Despite the fact that the existence of inverse case attraction in Latin is well-established, I have not found any philological works that systematically describe its properties.

<sup>40</sup>Whether or not Dari behaves like Koryak with regards to scrambling is not mentioned in any sources on the language that I have found. Unfortunately, ICA is not allowed in the much better studied Iranian dialect of Persian, Farsi (Zahra

- (57) a. dɔxtar ey ke jɔn miʃnose inja æs  
 girl the.NOM PTCL John know.3SG here be.3SG  
 ‘The girl that John knows is here.’ (Houston 1974, 43)
- b. dɔxtar ey ra ke jɔn miʃnose inja æs  
 girl the ACC PTCL John know.3SG here be.3SG  
 ‘The girl that John knows is here.’ (ibid.)
- (58) a. dɔxtar ey inja æs ke jɔn miʃnose  
 girl the.NOM here be.3SG PTCL John know.3SG  
 ‘The girl that John knows is here.’ (constructed based on the description)
- b. \*dɔxtar ey ra inja æs ke jɔn miʃnose  
 girl the ACC here be.3SG PTCL John know.3SG  
 intended: ‘The girl that John knows is here.’ (Houston 1974, 43)

Data from Xranje Albanian shows the same thing. The two sentences in (59) show that ICA is permitted in the language, as the head of the relative clause, ‘boy’, can be marked with either external nominative case or internal accusative case. However, when the relative clause ‘that I saw’ is extraposed from the head, only the external nominative case is allowed.

- (59) a. Djali që e pashë unë iku  
 the.boy.NOM that him saw I left  
 ‘The boy that I saw left.’ (Bevington 1979, 273-274)
- b. Djalen që e pashë unë iku  
 the.boy.ACC that him saw I left  
 ‘The boy that I saw left.’ (ibid.)
- (60) a. Djali iku që e pashë unë  
 the.boy.NOM left that him saw I  
 ‘The boy that I saw left.’ (ibid.)
- b. \*Djalen iku që e pashë unë  
 the.boy.ACC left that him saw I  
 intended: ‘The boy that I saw left.’ (ibid.)

The final modern Indo-European language that I have found with inverse case attraction is (nonstandard) Icelandic, as described in Wood et al. (2017), which reports on the results of a large-scale survey of native Icelandic speakers. The data are quite complicated and the contrasts reported are gradient rather than categorical (no doubt in part because ICA is proscribed in formal Icelandic), but Wood et al.’s relevant finding is that extraposition of a relative clause from a head bearing ICA is judged to be markedly worse than non-extraposition, even though extraposition is usually allowed in the language.



In sum, a survey of the properties of ICA in both ancient and modern members of the Indo-European family finds only properties that are compatible with the analysis of ICA advanced here. Further, evidence from Ancient Greek supports the idea that the left-edge requirement on Koryak ICA is not an inherent part of the phenomenon itself, and should therefore be explained on a language-particular basis.

### 7.3 Uralic

The Uralic family is another place where inverse case attraction is widely attested. Consider first Ingrian Finnish (Kholodilova 2013), which shows similar behavior to Koryak in many respects. First, like in Koryak, the NPRC with ICA must be at the left edge of the sentence, which is not the case for an NPRC whose head has external case. This is demonstrated by the contrast in (61). When the NPRC, a subject, is sentence initial, the head can be marked with either the external nominative case, or the internal genitive case. However, when it occurs sentence-finally, only the external nominative case is permitted.

- (61) a. {lammas / lampà-n} minkä miä eilen ost-i-n loikò  
 {sheep.NOM / sheep-GEN} what.GEN 1SG.NOM yesterday buy-PST-1SG lie.PRS.3SG  
 koi-n luon  
 home-GEN near  
 ‘The sheep I bought yesterday is lying in front of the house.’ Kholodilova (2013, ex. 1,5)
- b. talo-n luon loikò {lammas / \*lampà-n} minkä miä  
 house-GEN near lie.PRS.3SG {sheep.NOM / \*sheep-GEN} what.GEN 1SG.NOM  
 eilen ost-i-n  
 yesterday buy-PST-1SG  
 ‘In front of the house, there is a sheep I bought yesterday.’ (ibid. ex. 6)

Additionally, both extraposition and scrambling in Ingrian Finnish behave as in Koryak: the sentence in (62) shows that the RC can only be extraposed from the head if it is marked with the external nominative case, and the sentence in (63) shows that RC-internal material can scramble across the relative clause’s head only if it has internal genitive case.

- (62) {lammas / \*lampà-n} loikò koi-n luon minkä miä eilen  
 {sheep.NOM / \*sheep-GEN} lie.PRS.3SG home-GEN near what.GEN 1SG.NOM yesterday  
 ost-i-n  
 buy-PST-1SG  
 ‘The sheep I bought yesterday is lying in front of the house.’ (Kholodilova 2013, ex. 9)
- (63) miä {lampàn / \*lammas} minkä ostin, lojkò talon  
 1SG.NOM {sheep.GEN / \*sheep.NOM} what.GEN buy.PST.1SG lie.NPST.3SG house.GEN  
 luon  
 near

‘The sheep I bought yesterday is lying near the house.’ Kholodilova and Privizentseva (2015, ex. 21)

Finally, a variety of morphosyntactic tests show that relative clauses with inverse case attraction are nominal rather than clausal, showing that they cannot be correlatives. For example, the head of a relative clause with inverse case attraction can be modified by a quantifier, whereas the head of a correlative cannot be.

- (64) *kaik-i-l’ ihmis-i-l’ ke-l’ miä kiruta-n kirjo-i-∅ ellä-t*  
 all-PL-ALL man-PL-ALL who-ALL I.NOM write.PRS-1SG letter-PL-PART live.PRS-3PL  
 Suomè-s  
 Finland-IN

‘All the people to whom I write letters live in Finland.’ (Kholodilova 2013, ex. 23a)

Kholodilova and Privizentseva (2015) also discusses Besermyan Udmurt which, despite being only distantly related to Ingrian Finnish, shows the same behavior as it regarding scrambling of RC-internal material and extraposition. ICA constructions in Besermyan Udmurt also have an additional property not discussed for Ingrian Finnish supporting their analysis as nominals rather than clauses: an NPRC with ICA can be coordinated with another noun phrase. An example of this is given in (65), where the head of the noun phrase ‘the man to whom I gave potatoes’ can be marked either with external nominative case or internal dative case when it is coordinated with the nominative-marked noun phrase ‘my brother.’ On the (uncontroversial) assumption that only elements of the same category can be conjoined, this shows that ICA in Besermyan Udmurt does not involve a correlative structure. Note also that while there is a left-edge restriction on ICA in this language, the sentence in (65), where the NPRC with ICA is coordinated with a noun with external case and follows it, shows that it’s the constituent containing the NPRC with ICA that must be at the left edge of the sentence, not the NPRC itself.

- (65) *mên-a-m brat-e i {ad’ami / ad’ami-lê} kud-iz-lê mon*  
 1SG-GEN1-POSS.1 brother-POSS.1SG and {person / person-DAT} which-POSS.3-DAT 1SG  
*š’ot-i kartoška d’eš’-eš’ drog’jos*  
 give-PRT potato good-PL friend.PL

‘My brother and the man to whom I gave potatoes are good friends.’ Kholodilova and Privizentseva (2015, ex. 30)

Other Uralic language with the same extraposition and scrambling facts as Ingrian Finnish and Besermyan Udmurt include Moksha (Privizenceva 2016) and Hill Mari (Dëmina 2019). The latter of these provides another example of the crosslinguistic diversity of word-order requirements on the NPRC with ICA, which merely needs to be preverbal, not clause initial. An example of this is provided in (66), where the NPRC ‘mountain that their house is on’, whose head is marked with internal inessive case, follows the subject pronoun *män* ‘I.’

- (66) mən'      kârêk-âštê      kâ-štê      nən'-ən      pört      šənž-ä      už-em  
 1.SG.NOM mountain-IN which-IN 3PL-GEN house.NOM sit-NPST.3SG see-NPST.1SG  
 'I see the mountain that their house is on.' Dëmina (2019, ex. 5a)

A survey of four Uralic languages with ICA finds that all of them behave like Koryak with respect to extraposition and scrambling, and that there is some diversity among them with respect to where in the sentence the NPRC with ICA can occur. All of these are predicted by my account. One thing that is not obviously predicted by my account, however, is the fact that some Uralic languages allow case mismatches between the head and the relative pronoun in ICA.<sup>41</sup> Such a situation arises when the pivot of a relative clause is in a syntactic position where there is more than one case that it can be assigned, as shown in (67). This example shows that the postposition *martə* 'with' can take either a nominative or a genitive complement. When that complement is the pivot of a relative clause, the head can be marked genitive even though the relative pronoun is nominative.<sup>42</sup> This does not follow from anything in my account, which holds that the head and the relative pronoun initially form a constituent, are assigned case in their base position, and are only subsequently separated once they have moved into the relative clause's left periphery.

- (67) a. mon l'ad'-ən'      fke {s'ora-n'ε / s'ora-n'ε-n'}      martə  
 I      befriend-PST.1SG one {boy-DIM / boy-DIM-GEN} with  
 'I made friends with one boy.' Privizenceva (2016, 22)
- b. s'ora-n'ε-n',      kona      martə l'ad'-ən'      ingəl'-t'i,      tu-s'  
 boy-DIM-GEN which with      befriend-PST.1SG before-DEF.SG.DAT leave-PST.3SG  
 'The boy that I had earlier made friends with left.' Privizenceva (2016, 23)

My suspicion is that the correct analysis of this case mismatch reduces to what exactly it means for *martə* to be able to assign more than one case. One way to understand this is to say that what *martə* assigns is not *either* nominative *or* genitive, but is instead an underspecified structure that can be realized as either of those cases. This is in line with approaches to case-marking in both DM and Nanosyntax that, on the basis of patterns of syncretism in case paradigms, take case categories to not be morphosyntactic primitives, but rather to be the result of combinations of case features in a containment relationship with each other (Caha 2009; Zompì 2017; Smith et al. 2019, a.o.) On this view, then, what the head + RP complex is assigned in the complement of the adposition underdetermines what case it can be spelled out as, which is only determined after excorporation of the head from the head + RP phrase. As a result of this, the two elements can realize their case features independently of each other, leading to a mismatch. Assuming that verbs can assign underspecified case features therefore provides a way out of the problem of case mismatches for the theory of ICA advanced here.<sup>43</sup>

<sup>41</sup>Thanks to Maria Kholodilova for bringing this fact to my attention, and to Mariia Privizentseva for discussing it with me.

<sup>42</sup>This behavior is not restricted to the complements of adpositions: Kholodilova (2013, ex. 18a) shows an example of this with a direct object, which can be marked with either partitive or genitive case in Ingrian Finnish.

<sup>43</sup>Note that, as long as the process of attraction posited in certain EHRC analyses of ICA takes place before the case

## 7.4 Nez Perce

Inverse case attraction is perhaps best known in the syntactic literature from Nez Perce, a critically endangered Sahaptian language of the northwestern United States. As described and analyzed in Deal (2016), Nez Perce has one of the stricter left-edge conditions on inverse case attraction, as the NPRC with ICA not only needs to occur sentence initially, but must also be separated from the rest of the sentence by a ‘clear prosodic break’ (Deal 2016, 457). This fact, among others, motivates Deal’s conclusion that inverse case attraction in Nez Perce requires the entire noun phrase to be a topic left-dislocate, as indicated by the translation of the sentence in (68). This is a notable difference from Koryak: as discussed in §3.3.3, the NPRC does not have to be a topic in Koryak (it can, for example, serve as the answer to a *wh*-question (31)), and, even for speakers who allow left-dislocated NPs, NPRCs with ICA don’t show the same obligatory resumption found in NP left-dislocation.

- (68) Ko-nya samaŋ-na ko-nya<sub>i</sub> kex *pro* ‘a-sayq-caqa t<sub>i</sub> mine *pro* hii-we-s?  
 that-ACC shirt-ACC RP-ACC C PRO.1SG AGR-like-TAM where PRO.3SG AGR-be-TAM  
 ‘That shirt that I like, where is it?’ (Deal 2016, 96a)

It is not known whether scrambling of RC-internal material across the head is allowed in Nez Perce, nor is it known whether extraposition of a relative clause is banned when the head is marked with internal case.<sup>44</sup> Consequently, the known facts of Nez Perce neither confirm nor disconfirm the analysis of ICA as involving IHRCs with heads in the left periphery of the relative clause. However, they do provide further evidence that the left-edge restriction is not identical across languages, which helps validate the fact that this analysis does not take the requirement that Koryak relative clauses occur at or near the left edge of the sentence to be a crucial component of ICA.

## 7.5 Chukotkan

Given that Koryak has inverse case attraction, we might wonder whether any of the other Chukotkan languages (Chukchi, Alutor, and Kerek) has it. Unfortunately, it’s not clear. The syntax of Chukotkan languages has received very little attention, and to my knowledge there has only been one published paper, Polinsky (1994) on Chukchi, devoted to relativization in a Chukotkan language, which does not describe anything that looks like inverse case attraction. The two grammars of Alutor, Nagayama (2003); Kibrik et al. (2004), do not mention inverse case attraction, and Kerek became extinct before extensive work on it could be undertaken. However, Kozlov (2020) contains a description of a type of relative clause in the Amguema dialect of Chukchi that

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affix is inserted, this solution would also be applicable to the EHRC analysis. That is, the attraction would have to be of (underspecified) case features, not of anything derivationally later than them.

<sup>44</sup>In fact, as Amy Rose Deal (p.c.) has pointed out to me, independent facts about Nez Perce make it difficult to say whether the language allows RC extraposition at all.

might be considered a participial relative clause with inverse case attraction, though it could equally well be thought of as an internally-headed participial relative clause. An example of this is given in (69), where the subject of the intransitive verb ‘fall’ is the NPRC ‘the person who digs a hole.’ The head of the NPRC is marked with instrumental case (which is what Kozlov calls the case that I call ‘ergative’ in Koryak), as befits the subject of a transitive verb (the RC-internal ‘dig.’) Since this relative structure does not (obviously) contain a full clause, and the fact that enough is not known about Chukchi syntax for us to be able to identify the position that the head is in, it is not obvious whether to take (69) to represent an internally-headed relative clause with an in-situ head or a left-peripheral one. Consequently, Chukchi has a structure that might involve inverse case attraction, but more work on the language would be necessary to take a definite position on it either way.

- (69) [<sub>RC</sub> orawetla-ta rəʏətko-jo təroosy-ən ] sinit ən-kə ra-peqetat-yʔa  
 person-INST dig-PTCP.TR hole-NOM.SG self there-DAT FUT-fall-TH-2/3SG.S  
 ‘The person who digs a hole will fall into it himself.’ Kozlov (2020, ex. 45)<sup>45</sup>

## 8 Conclusion

In this paper, I’ve argued for a syntax for relative clauses with inverse case attraction in Koryak whereby their heads are pronounced in a left-peripheral position inside the relative clause. This permits a unification of ICA constructions and the left-headed internally-headed relative of Gur languages, which have no overt case marking. This is a welcome unification as it obviates the need to posit any special mechanisms to account for ICA. Additionally, based on a survey of inverse case attraction in the languages where it has been subject to detailed study, it seems possible that this paper’s proposal provides a general solution to ICA crosslinguistically. Looking beyond ICA specifically, this paper has argued that relative clauses whose heads do not have RC-internal case cannot be pronounced in an RC-internal position, as has been advanced by proposals couched in the antisymmetry framework. A reexamination of how to account for the facts of externally-headed relative clauses in this framework is therefore in order.

As its title suggests, the goal of this paper has been to deconstruct inverse case attraction into its more basic morphosyntactic components, thereby moving away from constructional analyses that have previously been given for the phenomenon. One obvious loose end stands in the way of such a deconstruction: the left-edge requirement. Further work on the mapping between syntax and information structure in languages with inverse case attraction (including in Koryak) will shed light on the syntactic and discourse properties of NPRCs with ICA that cause them to appear at or near the left edge of the sentence. In addition to clarifying the analysis of ICA in particular languages, such work would provide greater clarity regarding the extent to which the left-edge

<sup>45</sup>I have left the glosses and morpheme breakdown as they are in the original work.

requirement can be given a unified crosslinguistic analysis. Future research will hopefully tie up this loose end.

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