Case and connectivity in Moksha Mordvin relative clauses

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1 Introduction

- Inverse case attraction (ICA) is a phenomenon under which the head of a postnominal relative clause (RC) bears case assigned to a relativized element inside the relative clause.
- In this talk, I will present novel data on ICA in Moksha Mordvin (Finno-Ugric).

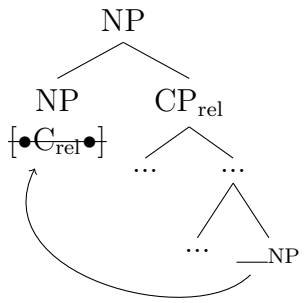
(1) [head-α [$_{\text{CP}}$ relative.pronoun-α ... predicate$_{\text{[case: }\alpha\text{]}}$...] ... predicate$_{\text{[case: }\beta\text{]}}$ ...]

(2) $\text{GEN}_{\text{ext}} \leftarrow \text{DAT}_{\text{int}}$

Jalga-z'ə-**n'd'i** [kona-**n'd'i** t'aš-n'ə-n'] mon n'ɛj-sa kurək.
friend-1SG.POSS.SG-DAT which-DAT write-FREQ-PST.1SG I[NOM] see-NPST.3SG.O.1SG.S soon
'I will soon see my friend to whom I have been writing.'

- I will argue that
  - ICA relatives are externally-headed: [$_{\text{DP}}$ D [$_{\text{NP}}$ NP [$_{\text{CPrel}}$ ...]]]
  - ICA is derived by raising structure: [$_{\text{DP}}$ head [$_{\text{CP}}$ C_{rel} ... $\_\__{\text{head}}$]]
- This implies that raising derivation must be part of natural language syntax (Vergnaud 1974, Kayne 1994, i.a.) and I further suggest that it co-exists with the head-external generation (Sauerland 1998, Bhatt 2002 for co-existence of several derivations for relative clauses).
- After this, I will review existing approaches to the syntax of raising and suggest that it is best derived by **projecting movement of the head noun**, which in turn follows from *projection by selection* approach to labeling (Chomsky 1995, Adger 2003) combined with the possibility of *upward search* (Baker 2008, Bjorkman & Zeijlstra 2019, i.a.).

(3) Projecting movement in RCs



- This talk presents an in-depth research of one empirical phenomenon from an under-studied Finno-Ugric language and shows that the data can be accounted for under the generative approach to syntax, where **Merge is feature-driven** and labeling is derived via **projection by selection**.

2 ICA and typology of relative clauses

- In existing literature, relatives with ICA were argued to be
  - **correlatives** (Pittner 1995, Georgi & Salzmann 2017 and also Bianchi 1999, 2000);
  - **internally-headed** relatives (Abramovitz 2021);
  - **externally-headed** relatives (Deal 2016).

2.1 Interpretation

- Correlatives are only maximalizing (Grosu 2002, Lipták 2009, Brasoveanu 2012, Lin 2020).
- Internally-headed relative clauses can be maximalizing or restrictive (Grosu 2002, 2012, Watanabe 2004 as well as Hanink 2021, Hucklebridge 2022), but not appositive (Lehmann 1984, 278, De Vries 2002, Grosu 2012).

⇝ *If relatives with ICA have an appositive interpretation, they must be externally-headed.*

- RCs with ICA can have **appositive interpretation**. This can be ensured by a parenthetical:

(4) $\text{NOM}_{\text{ext}} \leftarrow \text{GEN}_{\text{int}}$
Rovnaj kaftə **pr'istupn'ik-n'ə-n'** [kona-t'n'ə-n' meždu pročim kunda-z'ən']
straight two criminal-DEF.PL-GEN which-DEF.PL-GEN between others catch-PST.3PL.O.3SG.S
Pet'ɛ vor'gəd'-kšn'ə-s'-t'.
Petja[NOM] run.away-AVR-PST.3-PL
'Exactly two criminals, who Petja, by the way, caught, were running away.'

- Relatives with ICA can be **restrictive** as well: Example (5) denotes an intersection of a set of criminals arrested by Petja and a set of criminals that were running away.

(5) $\text{NOM}_{\text{ext}} \leftarrow \text{GEN}_{\text{int}}$
Koj kona **pr'istupn'ik-n'ə-n'** [kona-t'n'ə-n' kunda-z'ən'] Pet'ɛ
INDEF which criminal-DEF.PL-GEN which-DEF.PL-GEN catch-PST.3PL.O.3SG.S Petja[NOM]
vor'gəd'-kšn'ə-s'-t'.
run.away-AVR-PST.3-PL
'Some criminals that Petja caught were running away.'

- Relatives with ICA also show other properties typical for externally-headed relatives. For instance, they allow for **stacking**.

(6) $\text{NOM}_{\text{ext}} \leftarrow \text{GEN}_{\text{int}}$
Pɛr'ɛkɛ-t' [**kona-n'** pid'-əz'ə sas'ədə-z'ə] [**kona-n'**
pie-DEF.SG.GEN which-GEN cook-PST.3SG.O.3SG.S neighbor-1SG.POSS.SG[NOM] which-GEN
min' srazu seva-s'k] ul'-s' kapsta-n'.
we[NOM] immediately eat-PST.3.O.1PL.S be-PST.3[SG] cabbage-GEN
'The pie that my neighbor cooked that we immediately ate was with cabbage.'

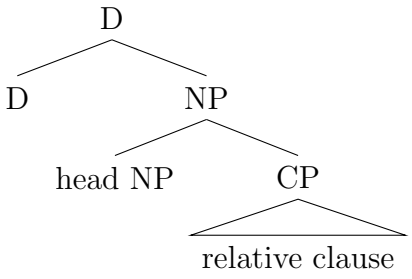
ICA patterns with externally-headed relatives.

- Existing literature uses other properties of RC with ICA such as **extraposition**, **coordination**, **extraction**, and **obligatory left-peripheral position** to diagnose the type of the relative clause.
- I will not discuss them here, but see Appendix where I show that are compatible with current analysis and in fact shed no light on the position of the head inside or outside of the relative CP.

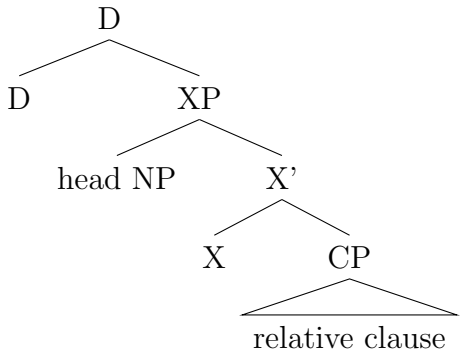
2.2 Structures for externally-headed relatives

- At least two different structures were proposed for externally-headed RCs:

(7) Head has a regular DP structure



(8) Head is in Spec,XP



- The structure in (8) emerged due to the raising derivation, where the head NP moves out of the relative clause: Since movement typically targets specifier positions, the head occurs in the specifier position.
- Analyses differ with respect to the identity of the X head. It can be
  - an extended C projection (Bianchi 1999, 2000);
  - some nominal head, e.g., *n* (Bhatt 2002, Deal 2016).
- In (8), XP breaks down the spine of nominal projections, so that the **NP is not D's complement, but a specifier of D's complement**. This makes incorrect predictions for nominal inflection.
- Nouns in Moksha are morphologically marked for definiteness:

(9) kodamə bd'ə pin'ə-**n'd'i**
how INDEF dog-DAT
'to some dog'

(10) t'ɛ pin'ə-**t'i**
this dog-DEF.SG.DAT
'to this dog'

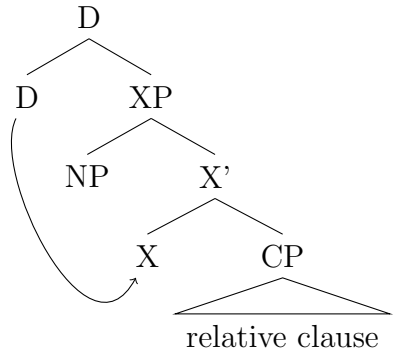
- The data show that heads of the relative clause bear a regular definiteness inflection.

(11) a. $\text{NOM}_{\text{ext}} \leftarrow \text{DAT}_{\text{int}}$
T'ɛ pin'ə-**t'i** [kona-n'd'i maks-ən' jaṛca-ma] aššč-i dvor-sə.
this dog-DEF.SG.DAT which-DAT give-PST.1SG eat-NZR be-NPST.3[SG] yard-IN
'This dog that I gave food is in the yard.'

b. $\text{NOM}_{\text{ext}} \leftarrow \text{DAT}_{\text{int}}$
Kodamə bd'ə pin'ə-**n'd'i** [kona-n'd'i maks-ən' jaṛca-ma] aššč-i dvor-sə.
how INDEF dog-DAT which-DAT give-PST.1SG eat-NZR be-NPST.3[SG] yard-IN
'Some dog that I gave food is in the yard.'

- Definiteness is often associated with the D head and can appear on the noun via Lowering or head movement.
- Both these operations target heads of one projection line (Travis 1984, Baker 1988, Embick & Noyer 2001).
- This means that under Lowering definiteness is predicted to appear on the X head, not on the noun (cf. (12) with Lowering).

(12) Lowering to head of Compl



- The argument can be further generalized:
  - Definiteness in Moksha is not realized in the structural position occupied by the noun in (12); i.e., on (NP) specifiers of the main projection line.

(13) Son n'ɛj-əz'ə [**s'en'əm sel'mə**] s't'ər'-n'ɛ-**t'**.
she see-PST.3SG.O.3SG.S blue eye girl-DIM-DEF.SG.GEN
'She saw the girl with these blue eyes.'

a. *[**t'ɛ** s'en'əm sel'mə] s't'ər'-n'ɛ-t'
this blue eye girl-DIM-DEF.SG.GEN

b. [s'en'əm sel'mə**(-*s'/*t'n'ə)**] s't'ər'-n'ɛ-t'
blue eye-DEF.SG/DEF.PL girl-DIM-DEF.SG.GEN

- The position of the head in Spec,XP is problematic for other languages (Heck 2005, Pankau 2018).

Relatives with ICA have the following structure: $[_{DP}$ D $[_{NP}$ NP $[_{CPrel}$ ...]]]

3 Connectivity effects

- On the basis of **connectivity effects** and a comparison to regular externally-headed relatives as in (14), I will argue that relative clauses with ICA must be analyzed by raising.

(14) Jalga-z'ə-**n'** [kona-**n'd'i** t'aš-n'ə-n'] mon n'ɛj-sa kurək.
friend-1SG.POSS.SG-GEN which-DAT write-FREQ-PST.1SG I[NOM] see-NPST.3SG.O.1SG.S soon
'I will soon see my friend to whom I have been writing.'

(15) $\text{GEN}_{\text{ext}} \leftarrow \text{DAT}_{\text{int}}$
Jalga-z'ə-**n'd'i** [kona-**n'd'i** t'aš-n'ə-n'] mon n'ɛj-sa kurək.
friend-1SG.POSS.SG-DAT which-DAT write-FREQ-PST.1SG I[NOM] see-NPST.3SG.O.1SG.S soon
'I will soon see my friend to whom I have been writing.'

3.1 Data

Idioms

- The first diagnostic is based on the assumption that parts of an idiom must be base generated as a constituent (Bach 1974, Chomsky 1980, 149-153, and McCawley 1998, 57).
- Idiom *pan'žəms potmə* 'to open up / to tell everything'; lit. 'to open guts/insides'.
- Idiom in the relative clause requires internal case.

(16) $\text{NOM}_{\text{ext}} \leftarrow \text{GEN}_{\text{int}}$
Potmə-nc/*c [kona-n' Vas'ɛ **pan'ž-əz'ə**
gut-3SG.POSS.SG.GEN/*NOM which-GEN Vasja[NOM] open-PST.3SG.O.3SG.S
ava-ncti ___] kunarə af maks-i pokoj.
wife-3SG.POSS.SG.DAT long.ago NEG give-PST.3[SG] rest
'Everything that Vasja revealed to his wife was worrying him for a long time.'

- Idiom in the main clause requires external case.

(17) **Potmə-nc/*c** [kona kunarə af maks-i pokoj] Vas'ɛ
gut-3SG.POSS.SG.GEN/*NOM which[NOM] long.ago NEG give-PST.3[SG] rest Vasja[NOM]
pan'ž'-əz'ə ava-ncti
open-PST.3SG.O.3SG.S wife-DEF.SG.DAT
'Vasja revealed to his wife everything that was worrying him for a long time.'

Anaphor binding

- Condition A: Anaphors must be bound by a local c-commanding object (Chomsky 1981, 1986).
- Anaphor in the head noun can be bound inside the relative CP only if the head has internal case.
- The use of inanimate antecedent excludes logophoric binding (Charnavel & Sportiche 2016, Charnavel 2019, and Charnavel & Bryant 2022).

(18) $\text{NOM}_{\text{ext}} \leftarrow \text{DAT}_{\text{int}}$
Es'$_i$ luv-ij-ənzə-**n'd'i/*ø** [kona-t'n'ə-n'd'i t'ɛ **kn'iga-s'$_i$**
self read-PTCP.ACT-3SG.POSS.PL-DAT/*NOM which-DEF.PL-DAT this book-DEF.SG[NOM]
maks-i nad'əja-ma ___] uč-i̯j̊-t' pe.
give-NPST.3[SG] hope-NZR wait-NPST.3-PL end
'Its$_i$ readers whom this book$_i$ gave hope are waiting for the continuation.'

- Anaphor binding does not show a further dependency between case and binding in the main clause.

(19) $\text{GEN}_{\text{ext}} \leftarrow \text{DAT}_{\text{int}}$
Es'$_i$ mašina-**ncti/**$^{\text{OK}}$**nc** [kona-n'd'i put-f lama jarmak] **Vas'ɛ$_i$**
self car-3SG.POSS.SG.DAT/$^{\text{OK}}$GEN which-DAT put-PTCP.RES many money[NOM] Vasja[NOM]
dagə pet'-əz'ə.
again repair-PST.3SG.O.3SG.S
'Vasja$_i$ again repaired his$_i$ car that a lot of money was invested into.'

Condition C

- Condition C: R-expressions must be free throughout the derivation (Chomsky 1981).
- Relatives with the external case show no connectivity with respect to Condition C.

(20) **Puškin-ən'$_j$** kn'iga-**c** [kona-n' **son$_{i/j}$** t'ɛšt'-əz'ə ___
Pushkin-GEN book-3SG.POSS.SG[NOM] which-GEN PRON.3SG[NOM] write-PST.3SG.O.3SG.S
Pavləfskɛj dača-sə] ašč-i bibl'iat'eka-sə-nək.
pavlosk's country.house-IN be-NPST.3[SG] library-IN-1PL.POSS
'Pushkin's book that he wrote in Pavlovsk's country house is in our library.'

- Coreference to the pronoun in the relative CP is not allowed if the head is marked for internal case.

(21) $\text{NOM}_{\text{ext}} \leftarrow \text{GEN}_{\text{int}}$
Puškin-ən'$_j$ kn'iga-**nc** [kona-n' **son$_{i/*j}$** t'ɛšt'-əz'ə ___
Pushkin-GEN book-3SG.POSS.SG.GEN which-GEN PRON.3SG[NOM] write-PST.3SG.O.3SG.S
Pavləfskɛj dača-sə] ašč-i bibl'iat'eka-sə-nək.
pavlosk's country.house-IN be-NPST.3[SG] library-IN-1PL.POSS
'Pushkin's book that he wrote in Pavlovsk's country house is in our library.'

Summary

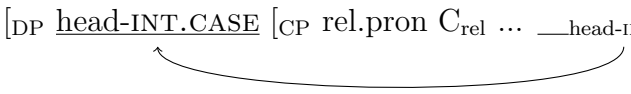
(22) Connectivity in Moksha relative clauses

Diagnostics	RC with internal case	RC with external case
1. Idioms in the relative clause	OK	*
2. Idioms in the main clause	*	OK
3. Anaphor binding in the relative clause	OK	*
4. Anaphor binding in the main clause	OK	OK
5. Condition C in the relative clause	*	OK

3.2 Analysis

- **Relative clauses with ICA are derived by raising.**
  - The head noun is base generated in the argument position in the relative CP. It obligatorily gets its case there and moves to the main clause after.

(23) Raising derivation for relatives with internal case



- The derivational path of the head noun accounts for the connectivity profile:
  1. **Idioms**
     Assumption: Parts of an idiom must be base generated together (Bach 1974, Chomsky 1980, 149-153, and McCawley 1998, 57).
     - Base merge position in the relative CP enables idioms there.
     - A position in the main clause is derived, so the requirement for parts of an idiom to be base generated together is not met.
  2. **Anaphors**
     Assumption: Anaphor must be bound. Binding applies in syntax (Reuland 2001, 2011, Hicks 2008, Murugesan 2022) and throughout the derivation (Barss 1986, 2001).
     - Base position in the relative CP allows for binding there.
     - After movement, the head noun occupies the position in the main clause and can therefore be bound there as well.
  3. **Condition C**
     Assumption: DPs cannot be c-commanded by a co-referent pronoun in syntax.
     (Obviation of condition C is derived by late merge; see Takahashi & Hulsey 2009.)
     - Heads with internal case must be in the relative CP to get case, so condition C applies.
- **Relatives with external case are derived by the head-external generation.**
  - As the head never was part of the relative CP, it cannot show case assigned there.

(24) Head-external derivation for relatives with external case

[DP head-EXT.CASE [CP rel.pron Crel ...]]

  1. **Idioms**
     - The first merge position in the main clause enables idioms there.
     - Since the head is not present in the relative CP, idioms in the RC are ruled out.
  2. **Anaphors**
     - As the head is only merged in the main clause, it cannot be bound in the relative CP.
  3. **Condition C**
     - Since the head is not present in the relative CP, it is not evaluated for condition C there.
- This analysis supports **the co-existence of two structures for relative clauses** in one language (Sauerland 1998; Bhatt 2002; Harris 2008).

3.3 Alternatives

Other derivations alone or in combinations fail to derive the data.

1. The **head-external only approach** can derive internal case via agreement (Harbert 1983, Gračanin-Yuksek 2013, also Bader & Meng 1999, Bader & Bayer 2006, Czypionka et al. 2018).

(25) ICA by agreement
[$_{DP}$ head-INT.CASE [$_{CP}$ rel.pron-INT.CASE C_{rel} ... __$_{rel.pron}$ ...]]
case

- *Problem:* Agreement does not derive the correspondence between connectivity and case.

2. **Raising** could account for both type of RCs if **case assignment can be postponed until after movement**; see (26b).

(26) Raising only

a. [$_{DP}$ ___ [$_{CP}$ rel.pron C_{rel} ... head-INT.CASE ...]]

b. [$_{DP}$ head-EXT.CASE [$_{CP}$ rel.pron C_{rel} ... ___ ...]]

- *Problem:* This does not account for the connectivity data.

3. **Matching** generation can derive ICA if external head is deleted (Cinque 2015, 2020, Wood et al. 2017, and to some extent Abramovitz 2021).

(27) ICA by matching
[[$_{DP}$ ~~head-EXT.CASE~~ [$_{CP}$ head-INT.CASE relative.pronoun ...]] ...]

- *Problem:* The internal head must move to the main clause across the relative pronoun, so that matching includes raising as its proper subpart.

(28) [head-EXT.CASE head-INT.CASE [$_{CP}$ [$_{DPrel}$ rel.pron-INT.CASE __$_{head}$] C_{rel} ... __$_{DPrel}$ ...]]

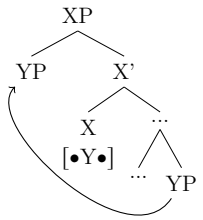
- **The matching only view** further requires that the same head (internal or external) is deleted or interpreted at both PF and LF, contrary to known applications (Salzmann 2018).

4 The syntax of raising

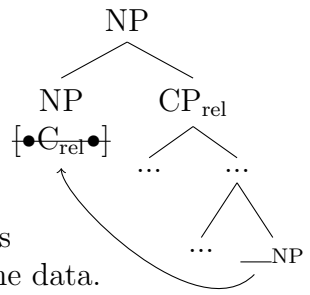
- The data so far have shown that
  1. The final structure of relative with ICA is [$_{DP}$ D [$_{NP}$ NP [$_{CPrel}$ ...]]]
  2. The head moves from the CP-internal position:
     [$_{DP}$ head [$_{CP}$ C_{rel} ... __$_{head}$]]

- Since movement typically proceeds to a specifier position (cf. (29)), analysis that meets both empirical conclusions is surprisingly not trivial.
- What seems to be required instead is **projecting movement of the head**; see (30).
- One such approach was developed by Donati & Cecchetto (2011), Cecchetto & Donati (2016)).
  - It relies on labeling algorithm by Chomsky (2013), according to which heads always project. In result, a moved object must be a terminal, contrary to the data.

(29) Movement



(30) Projecting



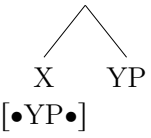
(31) $\text{NOM}_{\text{ext}} \leftarrow \text{DAT}_{\text{int}}$
Es'$_i$ luv-ij-ənzə-**n'd'i** [kona-t'n'ə-n'd'i t'ɛ **kn'iga-s'$_i$**
self read-PTCP.ACT-3SG.POSS.PL-DAT which-DEF.PL-DAT this book-DEF.SG[NOM]
maks-i nad'əja-ma] uč-i̊j-t' pe.
give-NPST.3[SG] hope-NZR wait-NPST.3-PL end
'Its$_i$ readers whom this book$_i$ gave hope are waiting for the continuation.'

4.1 Projecting movement

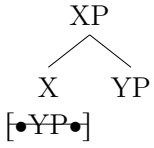
- Projection in the landing site is derived under **projection by selection model** if movement is triggered by a feature on a displaced syntactic object and a merge feature **searches upwards** (Baker 2008, Wurmbrand 2012, Zeijlstra 2012, Himmelreich 2017, Bjorkman & Zeijlstra 2019).
- Following Heck & Müller (2007), Merge features are indicated as [•F•] and Agree features as [∗F∗].

(32) Projection by selection (Chomsky 1995, Adger 2003 as well as Stabler 1997):
The item that selects is the item that projects.

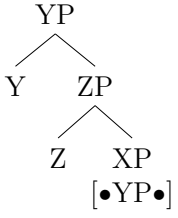
(33) Merge



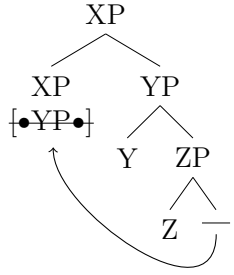
(34) Labeling



(35) Base position



(36) Movement and projection

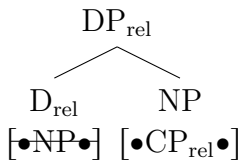


- Raising relative clauses are then derived as follows.

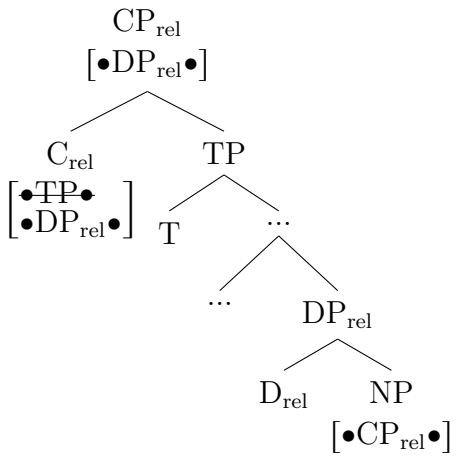
(37) Numeration for raising relative clauses:

$$\{ \begin{bmatrix} C_{rel} \\ \bullet TP \bullet \\ \bullet DP_{rel} \bullet \end{bmatrix}, \dots, \begin{bmatrix} V \\ \bullet DP \bullet \\ \dots \end{bmatrix}, \begin{bmatrix} D_{rel} \\ \bullet NP \bullet \\ \dots \end{bmatrix}, \begin{bmatrix} N \\ \dots \\ \bullet CP_{rel} \bullet \\ \dots \end{bmatrix}, \dots \}$$

(38) Step 1: Relative DP

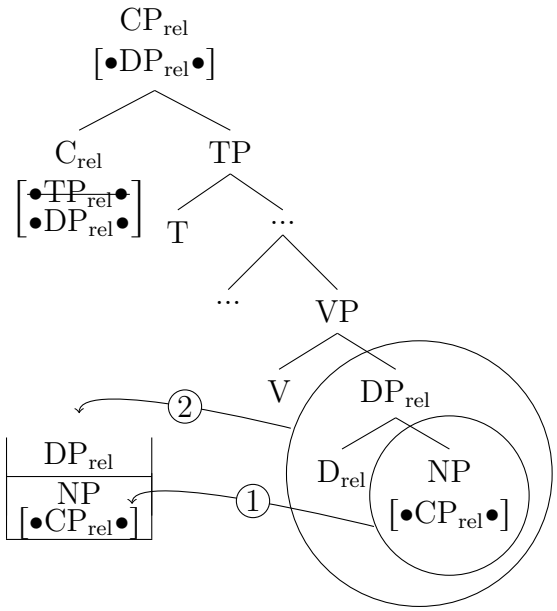


(39) Step 2: Relative CP

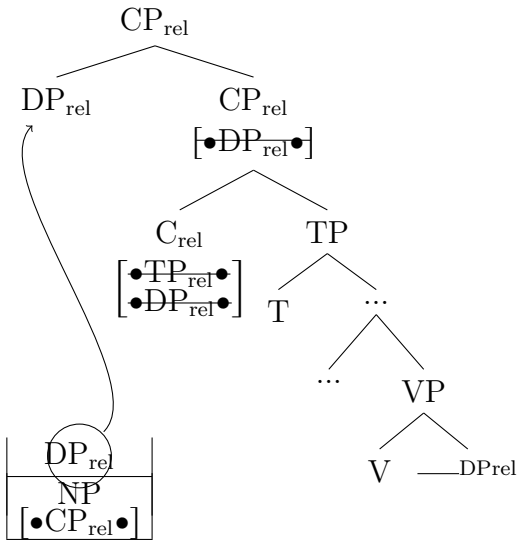


- After Merge of C_{rel}, [•DP_{rel}•] and [•CP_{rel}•] have both located their goals.
- I suggest that copies of the two syntactic objects that are to be displaced are then subsequently merged to the workspace and organized there in a stack (Heck 2016, Heck & Himmelreich 2017), similarly to features on the heads.
- I assume that the upward search is given precedence over the downward search (Assmann et al. 2015, Bjorkman & Zeijlstra 2019), so that the head NP is copied first.

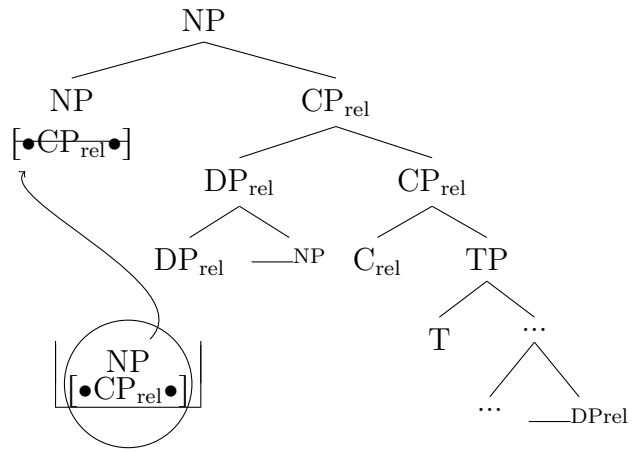
(40) Step 3: Search and copying



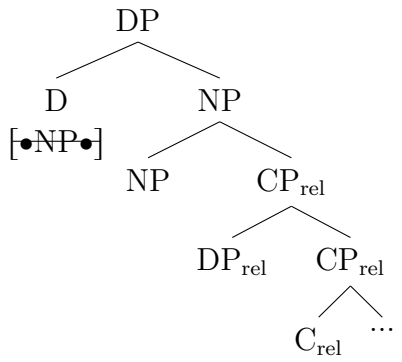
(41) Step 4: Merge of DP_{rel}



(42) Step 5: Merge of the head NP



(43) Step 6: Merge of the external D head



4.2 Internal vs. external case

- Raising derivation yields internal case in Moksha. ICA is attested in other languages:
  - Ancient Greek (Grimm 2005, 78-92), Latin (Touratier 1980, 147-211), Vedic and Sanskrit (Gonda 1975, 195), Middle High German (Pittner 1995), non-standard Icelandic (Wood et al. 2017), Besermyan Udmurt (Belyaev 2012, Kholodilova & Privizentseva 2015), Ingrian Finnish (Kholodilova 2013), Nez Perce (Deal 2016), and Koryak (Abramovitz 2021) among others.
- However, raising with external case is also attested in other languages; cf. (44) from German with anaphor binding into the head.

(44) Der Wesenszug von **sich$_i$**, [den **Peter$_i$** noch nicht __ kannte], störte niemanden.
the.NOM trait of self which.ACC Peter still not knew annoyed no.one
'No one was annoyed by the side of himself$_i$ that Peter$_i$ did not know yet.' (Salzmann, 2006, 99)

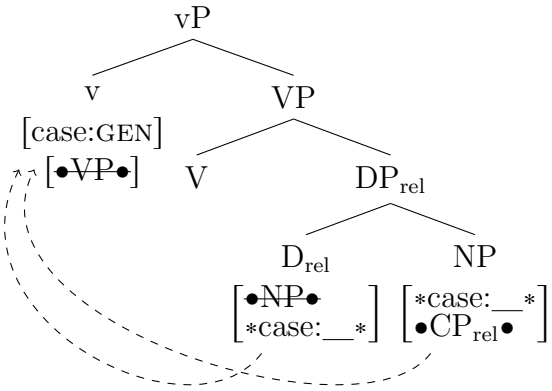
- **Different orderings of [•CP$_{rel}$•] and a case probe** underlie the difference in case marking.

(45) Case marking on the head under raising

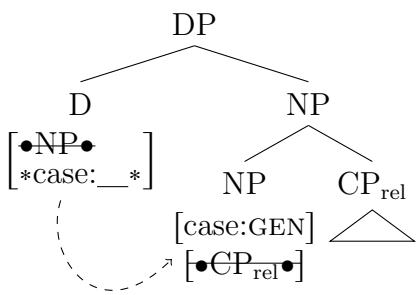
Pattern	Ordered features on the N head
1. Internal case (ICA) *Latin, Moksha, Nez Perce etc.*	[∗case:__∗] ≺ [•CP$_{rel}$•]
2. External case *German, Russian, Italian etc.*	[•CP$_{rel}$•] ≺ [∗case:__∗]

- If the **case probe precedes the merge feature**, case is assigned in the RC, i.e., case is internal.

(46) Internal case: In the relative CP

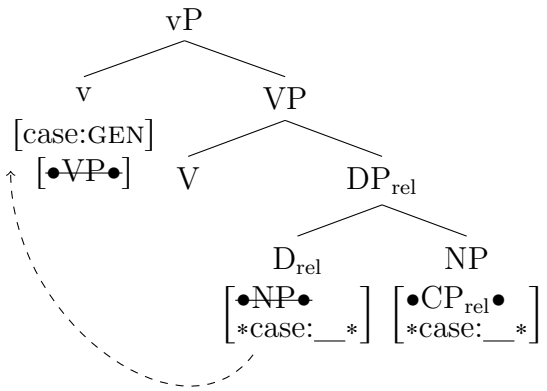


(47) Internal case: In the main clause

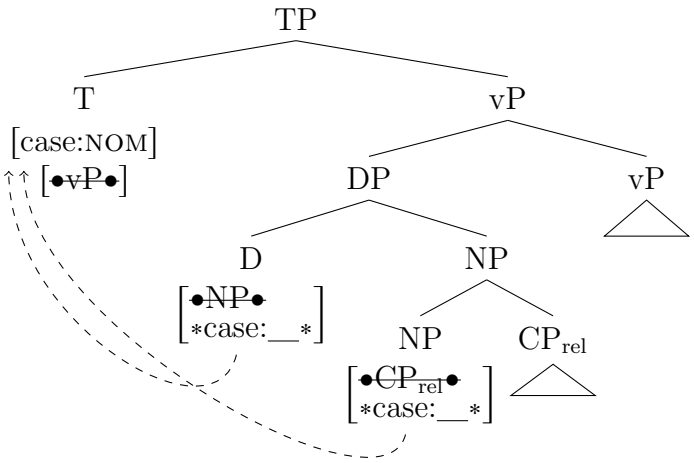


- If the **case probe follows the merge feature**, case is assigned after movement, i.e., case is external.

(48) External case: In the relative CP



(49) External case: In the main clause



- The approach thus derives delayed valuation of case and seems to be also applicable to other so-called case overwriting phenomena (Bejar & Massam 1999, Merchant 2006, Potsdam 2006, Boeckx et al. 2010, Fong 2019, i.a), but this remains subject to further research.

5 Conclusion

ICA in Moksha

1. Relatives clauses with ICA are externally-headed.
2. They are derived by raising.
3. Position of the relative clause on the left results from movement.

Theoretical implications

1. Raising derivation is part of natural language syntax. It co-exists with the head-external structure.
2. Raising derivation involves projecting movement of the head noun.
3. Projection follows from selection.
4. Search applies upwards as well.

References

Abramovitz, R. 2021. Deconstructing Inverse Case Attraction. Ms., Massachusetts Institute of Technology.

Adger, D. 2003. *Core Syntax: A Minimalist Approach*. Oxford: Oxford University Press.

Aoun, J. & Y.-h. A. Li. 2003. *Essays on the representational and derivational nature of grammar: The diversity of wh-constructions*. Cambridge, MA: MIT Press.

Assmann, A., D. Georgi, F. Heck, G. Müller & P. Weisser. 2015. Ergatives move too early: On an instance of opacity in syntax. *Syntax* 18:343–387.

Bach, E. 1974. *Syntactic Theory*. New York: Holt, Rinehart, and Winston.

Bader, M. & J. Bayer. 2006. *Case and linking in language comprehension evidence from German*. Dordrecht: Springer.

Bader, M. & M. Meng. 1999. Case Attraction Phenomena in German. Ms., University of Jena.

Bailyn, J. F. 2004. Generalized inversion. *Natural Language & Linguistic Theory* 9.

Baker, M. 1988. *Incorporation: A Theory of Grammatical Function Changing*. Chicago, London: The University of Chicago Press.

Baker, M. 2008. *The Syntax of Agreement and Concord*. New York: Cambrige University Press.

Barss, A. 1986. Chains and anaphoric dependence. Doctoral thesis, Massachusetts Institute of Technology, Cambridge, MA.

Barss, A. 2001. Syntactic reconstruction effects. In *The Handbook of Contemporary Syntactic Theory*, eds. M. Baltin & C. Collins, chapter 21, 670–696. John Wiley & Sons, Ltd.

Bejar, S. & D. Massam. 1999. Multiple case checking. *Syntax* 2:65–79.

Belyaev, O. I. 2012. Korreljativnaja konstrukcija i otnositel'nye predloženija s vnutrennej veršinoj v besermjanskom dialekte udmurtskogo jazyka. In *Finno-ugorskie jazyki: Fragmenty grammatičeskogo opisanija*, ed. A. I. Kuzniciva, 647–679. Moskva: Jazyki slavjanskoj kul'tury.

Bhatt, R. 2002. The Raising Analysis of Relative Clauses: Evidence from Adjectival Modification. *Natural Language Semantics* 10:43–90.

Bianchi, V. 1999. *Consequences of Antisymmetry. Headed Relative Clauses*, volume 46 of *Studies in generative grammar*. Berlin: Mouton de Gruyter.
Bianchi, V. 2000. Some Issues in the Syntax or Relative Determiners. In *The syntax of relative clauses*, volume 32 of *Linguistik aktuell / Linguistics today*, eds. A. Alexiadou, P. Law, A. Meinunger & C. Wilder, 53–83. Amsterdam, Philadelphia: John Benjamins.
Bjorkman, B. M. & H. Zeijlstra. 2019. Checking Up on (ϕ-)Agree. *Linguistic Inquiry* 50:527–569.
Boeckx, C. 2003. *Islands and Chains: Resumption as stranding*. Amsterdam: John Benjamins.
Boeckx, C., N. Hornstein & J. Nunes. 2010. Icelandic control really is A-movement: Reply to Bobaljik and Landau. *Linguistic Inquiry* 41.
Bošković, Ž. 2014. Now I'm a Phase, Now I'm Not a Phase: On the Variability of Phases with Extraction and Ellipsis. *Linguistic Inquiry* 45:27–89.
Brasoveanu, A. 2012. Correlatives. *Language and Linguistics Compass* 6:1–20.
Cecchetto, C. & C. Donati. 2016. *(Re)labeling*. Cambridge, MA: MIT Press.
Charnavel, I. 2019. *Locality and logophoricity: A theory of exempt anaphora*. Oxford: Oxford University Press.
Charnavel, I. & S. Bryant. 2022. Disentangling locality, logophoricity and subjecthood in english picture noun anaphora. Ms., Université de Genève and Harvard University. To appear in NLLT.
Charnavel, I. & D. Sportiche. 2016. Anaphor binding: What French inanimate anaphors show. *Linguistic Inquiry* 47:35–87.
Chomsky, N. 1980. *Rules and Representations*. Columbia classics in philosophy, New York: Columbia University Press.
Chomsky, N. 1981. *Lectures on Government and Binding*. Dordrecht: Foris.
Chomsky, N. 1986. *Knowledge of Language*. Dordrecht: Foris.
Chomsky, N. 1995. *The Minimalist Program*. Cambridge: MIT Press.
Chomsky, N. 2013. Problems of projection. *Lingua* 130:33–49.
Chomsky, N. 2015. Problems of projection: Extensions. In *Structures, strategies, and beyond: Studies in honour of Adriana Belletti*, eds. E. Domenico, C. Hamann & S. Matteini, 3–16. Amsterdam: John Benjamins.
Cinque, G. 2010. On a selective 'violation' of the Complex NP Constraint. In *Structure preserved: Studies in syntax for Jan Koster*, eds. C. J.-W. Zwart & M. de Vries, 81–90. Amsterdam: John Benjamins.
Cinque, G. 2015. Three phenomena discriminating between "raising" and "matching" relative clauses. *Semantics-Syntax Interface* 2:1–27.
Cinque, G. 2020. *The Syntax of Relative Clauses: A Unified Analysis*. Cambridge Studies in Linguistics, Cambridge: Cambridge University Press.
Czypionka, A., L. Dörre & J. Bayer. 2018. Inverse Case attraction: experimental evidence for a syntactically guided process. *The Journal of Comparative Germanic Linguistics* 21:135–188.
Deal, A. R. 2016. Cyclicity and Connectivity in Nez Perce Relative Clauses. *Linguistic Inquiry* 47:427–470.
Donati, C. & C. Cecchetto. 2011. Relabeling Heads: A Unified Account for Relativization Structures. *Linguistic Inquiry* 42:519–560.
Embick, D. & R. Noyer. 2001. Movement Operations after Syntax. *Linguistic Inquiry* 32:555–595.
Engdahl, E. 1997. Relative clause extractions in context. *Working Papers in Scandinavian Syntax* 51–79.
Erteschik-Shir, N. 1973. On the nature of island constraints. Doctoral thesis, Massachusetts Institute of Technology, Cambridge, MA.
Fong, S. 2019. Proper movement through Spec-CP: an argument from hyperraising in Mongolian. *Glossa: a journal of general linguistics* 4:30.
Fox, D. & J. Nissenbaum. 1999. Extraposition and scope: A case for overt QR. In *Proceedings of the 18th West Coast Conference on Formal Linguistics (WCCFL18)*, eds. S. Bird, A. Carnie, J. D. Haugen & P. Norquest, 132–144. Somerville, MA: Cascadilla Press.
Georgi, D. & M. Salzmann. 2017. The matching effect in resumption: a local analysis based on Case attraction and top-down derivation. *Natural Language & Linguistic Theory* 35:61–98.
Gonda, J. 1975. *Selected Studies: Indo-European linguistics*. Leiden: Brill.
Gračanin-Yuksek, M. 2013. The syntax of relative clauses in Croatian. *The Linguistic Review* 30:25–49.
Grimm, S. M. 2005. Lattice of case and agentivity. Master's thesis, Universiteit van Amsterdam, Amsterdam.
Grosu, A. 2002. Strange relatives at the interface of two millennia. *GLOT International* 6:145–167.
Grosu, A. 2012. Towards a more articulated typology of internally headed relative constructions: The semantics connection. *Language and Linguistics Compass* 6:447–476.
Hanink, E. A. 2021. DP structure and internally headed relatives in Washo. *Natural Language & Linguistic Theory* 39:505–554.
Harbert, W. 1983. A note on old english free relatives. *Linguistic Inquiry* 14:549–553.
Harris, J. A. 2008. On the syntax and semantics of Heim's ambiguity. In *Proceedings of the 27th West Coast Conference on Formal Linguistics*, eds. N. Abner & J. Bishop, 194–202. Somerville, MA: Cascadilla.
Heck, F. 2005. Gegen Kopfanhebung in deutschen Relativsätzen. Talk presented at Tagung zur Generativen Grammatik des Südens (GGS), Universität Tübingen.
Heck, F. 2016. Non-monotonic derivations. Habilitation, Universität Leipzig, Leipzig.
Heck, F. & A. Himmelreich. 2017. Opaque intervention. *Linguistic Inquiry* 48:47–97.
Heck, F. & G. Müller. 2007. Extremely local optimization. In *WECOL 34: Proceedings of the 34th Western Conference on Linguistics*, eds. E. Brainbridge & B. Agbayani, 170–183. California State University: Fresno.
Hicks, G. 2008. Why the binding theory doesn't apply at LF. *Syntax* 11:255–280.
Himmelreich, A. 2017. Case matching effects in free relatives and parasitic gaps: A study on the properties of agree. Ph.D. thesis, Universität Leipzig.
Hucklebridge, S. 2022. Implementing head-internal relativization in a bare noun language. Ms., University of Massachusetts at Amherst.
Hulsey, S. & U. Sauerland. 2006. Sorting out relative clauses. *Natural Language Semantics* 14:111–137.
Kayne, R. S. 1984. *Connectedness and binary branching*. Linguistic Inquiry Monographs, Dordrecht: Foris.
Kayne, R. S. 1994. *The Antisymmetry of Syntax*. Linguistic Inquiry Monographs, Cambridge, MA: MIT Press.
Kholodilova, M. 2013. Inverse attraction in Ingrian Finnish. *Linguistica Uralica* XLIX:96–116.
Kholodilova, M. & M. Privizentseva. 2015. Inverse attraction in finno-ugric languages. Talk at 'Insufficient strength to defend its case': Case attraction and related phenomena. Wroclaw, Poland, September 18–19.
Kush, D., A. Omaki & N. Hornstein. 2013. Microvariation in islands? In *Experimental syntax and island effect*, eds. J. Sprouse & N. Hornstein, 239–264. Cambridge: Cambridge University Press.
Lehmann, C. 1984. *Der Relativsatz*. Tübinden: Gunter Narr Verlag.
Lin, J.-W. 2020. Correlatives. In *The Wiley Blackwell Companion to Semantics*, eds. D. Gutzmann, L. Matthewson, C. Maeier, H. Rullmann & a. E. Z. Tho. John Wiley & Sons, Ltd.
Lipták, A. 2009. The landscape of correlatives: An empirical and analytical survey. In *Correlatives cross-linguistically*, ed. A. Lipták, 1–49. Amsterdam: John Benjamins.
Matushansky, O. 2004. Going through a phase. In *Perspectives on phases*, eds. M. McGinnis & N. Richards, 157–181. MIT Working Papers in Linguistics 49, Cambridge: MIT, MIT Working Papers in Linguistics.
McCawley, J. D. 1981. The syntax and semantics of English relative clauses. *Lingua* 53:99–149.
McCawley, J. D. 1998. *The Syntactic Phenomena of English*. Chicago, London: The University of Chicago Press.
Merchant, J. 2006. Polyvalent case, geometric hierarchies, and split ergativity. In *Proceedings of the 42nd annual meeting of the Chicago Linguistics*

Society, volume 2, eds. J. Bunting, S. Desai, R. Peachey, C. Straughn & Z. Tomkova, 57–76. Chicago: Chicago Linguistic Society.
Miyagawa, S. 2001. The EPP, Scrambling, and Wh-in-Situ. In *Ken Hale: A Life in Language*, ed. M. Kenstowicz, 293–338. Cambridge, MA: MIT Press.
Murugesan, G. 2022. Deriving the anaphor-agreement effects and the violations of it. *Syntax* 25:39–83.
Ott, D. 2012. *Split Topicalization and Quantifier Float in German.* Amsterdam: John Benjamins.
Ott, D. 2015. Symmetric merge and local instability: Evidence from split topics. *Syntax* 18:157–200.
Pankau, A. 2018. The Matching Analysis of relative clauses: an argument from antipronominal contexts. *The Journal of Comparative Germanic Linguistics* 21:189–245.
Pittner, K. 1995. The case of German relatives. *The Linguistic Review* 12:197–232.
Postal, P. M. 1974. *On Raising: One Rule of English Grammar and Its Theoretical Implications.* Cambridge: MIT Press.
Potsdam, E. 2006. Backward object control in Malagasy: Against an empty category analysis. In *The Proceedings of the 25th West Coast Conference on Formal Linguistics*, eds. D. Baumer, D. Montero & M. Scanlon, 328–336. Somerville: Cascadilla Press.
Reuland, E. 2001. Primitives of binding. *Linguistic Inquiry* 32:439–492.
Reuland, E. 2011. *Anaphora and Language Design.* Cambridge, MA: MIT Press.
Ross, J. R. 1967. Constraints on variables in syntax. Doctoral thesis, Massachusetts Institute of Technology, Cambridge, MA.
Salzmann, M. 2006. Resumptive Prolepsis: A Study in indirect A'-dependencies. Doctoral thesis, Universiteit Leiden.
Salzmann, M. 2014. Analyses of relative clauses. Handout for the class "The syntax of relative clauses" at EGG Summer School, Debrecen.
Salzmann, M. 2018. A new version of the Matching Analysis. Combining deletion under recoverability with vehicle change. In *Reconstruction effects in relative clauses*, volume 75 of *Studia grammatica*, eds. M. Krifka & M. Schenner, 187–223. Berlin: Mouton De Gruyter.
Sauerland, U. 1998. On the Making and Meaning of Chains. Doctoral thesis, Massachusetts Institute of Technology, Cambridge, MA.
Sichel, I. 2018. Anatomy of a Counterexample: Extraction from Relative Clauses. *Linguistic Inquiry* 49:335–378.
Stabler, E. P. 1997. Derivational minimalism. In *Logical aspects of computational linguistics*, ed. C. Retoré, 68–95. Berlin: Springer.
Svenonius, P. 2004. On the edge. In *Peripheries: Syntactic edges and their effects*, eds. D. Adger, C. de Cat & G. Tsoulas, 261–287. Dordrecht: Kluwer.
Takahashi, S. & S. Hulsey. 2009. Wholesale Late Merger: Beyond the A/$\bar{\text{A}}$ distinction. *Linguistic Inquiry* 40:387–426.
Touratier, C. 1980. *La relative. Essai de théorie syntaxique (à partir de faits latins, français, allemands, anglais, grecs, hébreux, etc.).* Paris: Klincksieck.
Travis, L. 1984. Parameters and effects of word order variation. Doctoral thesis, Massachusetts Institute of Technology, Cambridge, MA.
Uriagereka, J. 1995. Aspects of the syntax of clitic placement in western romance. *Linguistic Inquiry* 26:79–123.
Vergnaud, J.-R. 1974. French relative clauses. Doctoral thesis, Massachusetts Institute of Technology, Cambridge, MA.
Vincent, J. W. 2021. Extraction from relative clauses: An experimental investigation into variable island effects in English—-or-—this is a dissertation that we really needed to find someone who'd write. Doctoral thesis, University of California Santa Cruz, Santa Cruz.
de Vries, M. 2002. The Syntax of Relativization. Doctoral thesis, University of Amsterdam.
Watanabe, A. 2004. Parametrization of quantificational determiners and head-internal relatives. *Language and Linguistics* 5:59–97.
Wood, J., E. F. Sigurðsson & I. E. Nowenstein. 2017. Inverse attraction in Icelandic relative clauses. In *Syntactic Variation in Insular Scandinavian*, volume 1 of *Studies in Germanic Linguistics*, eds. H. Thráinsson, C. Heycock, H. P. Petersen & Z. S. Hansen, 200–232. Amsterdam, Philadelphia: John Benjamins.
Wurmbrand, S. 2012. The syntax of valuation in auxiliary–participle constructions. In *Proceedings of the 29th West Coast Conference on Formal Linguistics (WCCFL 29)*, eds. J. Choi, E. A. Hogue, J. Punske, D. Tat, J. Schertz & A. Trueman, 154–162. Somerville: Cascadilla Press.
Zeijlstra, H. 2012. There is only one way to agree. *The Linguistic Review* 29:491–539.

Appendix A: Further properties

A1: Extraposition

- Extraposition of the relative CP is ungrammatical if the head is marked for the internal case.

(50) $\text{NOM}_{\text{ext}} \leftarrow \text{DAT}_{\text{int}}$
*__S't'ər'-n'ɛ-t'i__ tu-s' kaftə n'ed'ɛl'a-t [**kona-n'd'i** maks-in'ə kel'gəma kn'iga-z'ə-n'].
girl-DEF.SG.DAT go-PST.3[SG] two week-PL which-DAT give-PST.3.O.1SG.S favorite book-1SG.POSS.SG-GEN
'The girl left for two weeks, whom I gave my favorite book.'

- Abramovitz (2021) takes analogous data in Koryak as an indication that relative clauses with ICA are internally-headed.
- In fact, ban on extraction is typical for raising relatives (Hulsey & Sauerland 2006, Takahashi & Hulsey 2009) and follows from the analysis of extraposition by Fox & Nissenbaum (1999):
  - Having final landing site outside of the relative CP, the head that originates in the relative CP still cannot be merged with the main clause first.

(51) a. Movement of the head NP
$[_{\text{MC}} [\ldots \text{DP} \ldots] \text{DP}]$

b. Late adjunction of the relative CP and realization of the lower copy
$[_{\text{MC}} [\ldots \text{DP} \ldots] [\sout{\text{DP}} [_{\text{CP}} \text{rel.pron} \ldots]]]$

5.1 A2: Extraction out of the relative clause

- Relatives with internal case allow extraction out of the relative CP, but this is ungrammatical for relatives with external case.

(52) $\text{NOM}_{\text{ext}} \leftarrow \text{DAT}_{\text{int}}$
Bibl'iat'eka-stə [**jalga-z'ə-n'd'i/*ø** [kona-n'd'i mon sɛv-in'ə kn'iga-t' ___]]
library-EL friend-1SG.POSS.SG-DAT/*NOM which-DAT I[NOM] take-PST.3.O.1SG.S book-DEF.SG.GEN
kelk-si luv-əm-s.
love-NPST.3SG.O.3SG.S read-INF-ILL
'My friend for whom I took the book from the library loves to read.'

- For Koryak, Abramovitz (2021) assumes that adjuncts are inside the relative CP, in one of the split-CP projections. The data then strongly argue that relatives with ICA are internally-headed.
- Data in (53) show that displaced phrase can be interleaved with the main clause material and is thus outside of the relative CP.

(53) $\text{NOM}_{\text{ext}} \leftarrow \text{GEN}_{\text{int}}$
Bibl'iat'eka-stə mon ar's'-an [čtə [**kn'iga-t'** kona-n' sɛv-əz'ə ___ Kat'ɛ]
library-EL I[NOM] think-NPST.3[SG] that book-DEF.SG.GEN which-GEN take-PST.3SG.O.3SG.S Katja
aščˇ-i stol-sə].
be-NPST.3[SG] table-IN
'I think that the book that Katja took from the library is on the table.'

- While relative clauses are a textbook example of island structures (Ross 1967), there are numerous examples in the literature showing that extraction out of a relative clause is possible under certain conditions (Erteschik-Shir 1973, McCawley 1981, Engdahl 1997, Cinque 2010, Kush et al. 2013, Sichel 2018, Vincent (2021).
- Most recently, investigating extraction out of relative clauses in Hebrew, Sichel (2018) suggested that extraction is enabled by the raising derivation.
- I would like to suggest that extraction out the relative clause in Moksha is related to the raising derivation, to the internal case marking on the head in particular. I assume that
  - CPs as well as DPs (Svenonius 2004, Matushansky 2004, Bošković 2014) are phases and syntactic objects must move to their edge to escape.
  - In Moksha edge features that allow syntactic objects to move to the DP edge are ordered after the case probe, so that movement to the DP edge is possible only after the DP got its case.
- As heads of relative clauses with ICA have case from inside the relative clause, their edge features are readily available when the DP is first build.
- Heads of regular externally-headed relative clauses, on the contrary, receive case from higher projections in the main clause, when the material in the complement is already rendered inaccessible for movement.

Appendix B: Forced ex-situ effects

B1: Left periphery restriction

- Relative clauses with case attraction must be on the left periphery as in (54).

(54) $\text{GEN}_{\text{ext}} \leftarrow \text{DAT}_{\text{int}}$
Škaf-t'i, **kona-n'd'i** mon put-in'ə fətəgrafijə-t'n'ə-n', min' jorda-s'k.
closet-DEF.SG.DAT which-DAT I[NOM] put-PST.3.O.1SG.S photo-DEF.PL-GEN we[NOM] throw.away-PST.3.O.1PL.S
'We threw away the closet in which I put the photos.'

- They cannot be embedded in the main clause; see (55).

(55) $\text{GEN}_{\text{ext}} \leftarrow \text{DAT}_{\text{int}}$
*Min' jorda-s'k **škaf-t'i**, **kona-n'd'i** mon put-in'ə fətəgrafijə-t'n'ə-n'.
we[NOM] throw.away-PST.3.O.1PL.S closet-DEF.SG.DAT which-DAT I[NOM] put-PST.3.O.1SG.S photo-DEF.PL-GEN
'We threw away the closet in which I put the photos.'

ICA relatives are not base-generated on the left, but moved there (*pace* Deal 2016 on Nez Perce)..

- Four arguments provide evidence for this conclusion.

1. Relatives with ICA cannot refer to a position **inside an island**.

(56) $\text{NOM}_{\text{ext}} \leftarrow \text{GEN}_{\text{int}}$
*__Katə-t'__ [kona-n' t'ejə-n kaz'-əz'] mon ul'-an kən'ɛr'd'-f [kədə
cat-DEF.SG.GEN which-GEN PRON.DAT-1SG.POSS gift-PST.3.O.3PL.S I[NOM] be-NPST.1SG happy-PTCP.RES if
___ karma-j kunc'-əmə šejə̯r'-t'].
become-NPST.3[SG] catch-FREQ.INF mouse-PL
'I will be happy if the cat that they gifted to me starts catching mice.'

- Correlatives do not have this restriction.

(57) [Kona katə-t' t'ejə-n kaz'-əz'] mon ul'-an kən'ɛr'd'-f [kədə
which cat-DEF.SG.GEN PRON.DAT-1SG.POSS gift-PST.3.O.3PL.S I[NOM] be-NPST.1SG happy-PTCP.RES if
___ karma-j kunc'-əmə šejə̯r'-t'].
become-NPST.3[SG] catch-FREQ.INF mouse-PL
'I will be happy if the cat that was gifted to me starts catching mice.'

2. A **variable** inside the RC with ICA can be bound by a quantified noun phrase in the main clause.

(58) $\text{GEN}_{\text{ext}} \leftarrow \text{DAT}_{\text{int}}$
Pin'ə-t'i [kona-n'd'i **son$_i$** maks-əz'ə jaɻ̥cambɛl'-t'] **ɛr'** **s'ora-n'ɛ-s'$_i$**
dog-DEF.SG.DAT which-DAT PRON.3SG[NOM] give-PST.3SG.O.3SG.S food-DEF.SG.GEN every boy-DIM-DEF.SG[NOM]
mɛl'aft-əz'ə.
remember-PST.3SG.O.3SG.S
'Every boy$_i$ remembered the dog that he$_i$ gave food.'

3. ICA can be **coordinated** with noun phrases that show case assigned in the main clause.

(59) $\text{GEN}_{\text{ext}} \leftarrow \text{DAT}_{\text{int}}$
Ečkə **katə-t'** i osal **pin'ə-t'i** [kona-n'd'i ton maks-at jaɻ̥ca-ma] mon
thick cat-DEF.SG.GEN and skinny dog-DEF.SG.DAT which-DAT you give-NPST.2SG eat-NZR I
soda-sajn'ə.
know-NPST.3PL.O.1SG.S
'I know the skinny dog that you give food and the fat cat.'

4. **Anaphors** in heads of relatives with ICA can be bound in the main clause.

(60) $\text{GEN}_{\text{ext}} \leftarrow \text{DAT}_{\text{int}}$
Es'$_i$ mašina-**ncti** [kona-n'd'i put-f lama jarmak] **Vas'ɛ$_i$** dagə pet'-əz'ə.
self car-3SG.POSS.SG.DAT which-DAT put-PTCP.RES many money[NOM] Vasja[NOM] again repair-PST.3SG.O.3SG.S
'Vasja$_i$ again repaired his$_i$ car that a lot of money was invested into.'

- RCs with inverse case attraction have a derivation illustrated in (61a-b).

(61) Relative clauses with inverse case attraction
a. [$_{\text{MC}}$ ... predicate ... [head [$_{\text{CP}}$ ...]] ...]
b. [[head [$_{\text{CP}}$ ...]] [$_{\text{MC}}$ ... predicate ... ___ ...]

B2: Second order selection features

- This is an instance of **forced ex-situ effect**: Two syntactic objects can form a constituent at some stage of the derivation but not in the resulting structure.

(62) a. Intermediate: [X Y] – OK
b. Final: Y [X __] – OK
c. Final: [X Y] – *

- To account for this pattern, I assume that merge features select not only for a category, but also for active agree or merge features: $\overset{\text{Y}}{[\bullet_{\text{X}}[*\text{F}*]^{\bullet}]}$

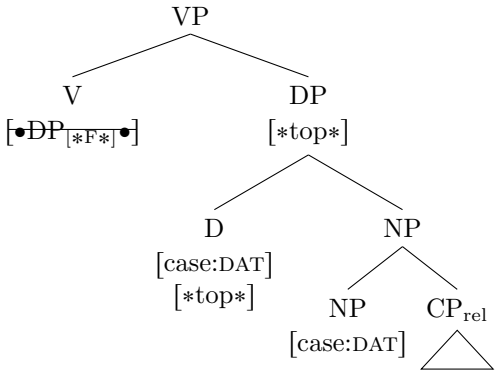
- Movement of a case marked noun to yet another case position seems to be rare cross-linguistically because **verbal heads select for nouns with an unchecked case feature**; see (63).
- The requirement is loosened in languages with ICA, so that the nature of **the unchecked agreement feature is underspecified** as in (64).

(63) No ICA: V $[\bullet D_{[*case*]} \bullet]$

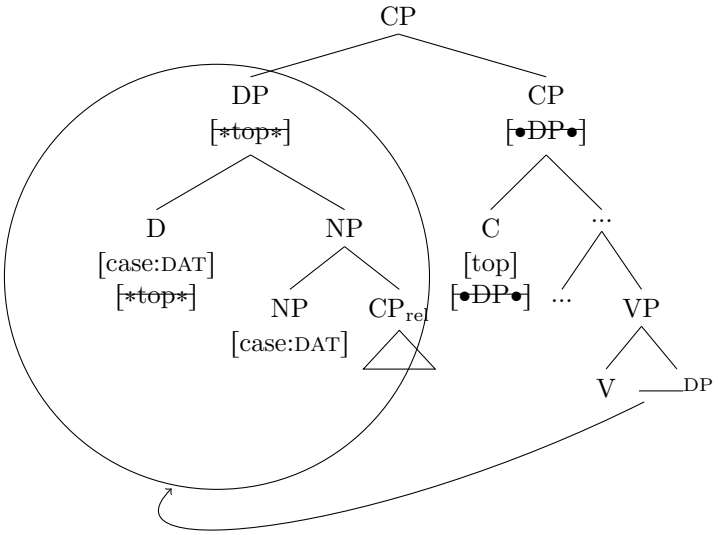
(64) With ICA: V $[\bullet D_{[*F*]} \bullet]$

- Since heads of RCs with ICA receive case inside the RC, the DP must bear yet another active probe to satisfy selection. It then inevitably leads to movement of the whole DP to the left.

(65) Selection in the main clause

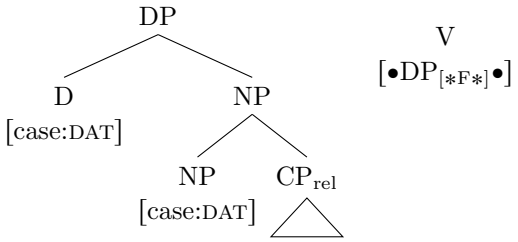


(66) Movement to the left



- Notably, if a DP with ICA does not have an active probe, it cannot be selected in the main clause and the derivation crashes.

(67) *Relatives with ICA: No additional probe



V $[\bullet DP_{[*F*]} \bullet]$

- Additional probe must result in movement to the left: Other local clause-internal reoderings do not require an active feature on the target, but only an EPP feature (or [•DP•] in the current notation) on a clausal head (cf. Miyagawa 2001, Bailyn 2004).
- Forced ex-situ effect are attested for a number of further phenomena:
  - German split topicalization (see Ott 2012, 2015), relative pronouns (Aoun & Li 2003, Heck 2005, Salzmann 2014), resumptive pronouns and doubled clitics under the Big-DP approach (Uriagereka 1995, Boeckx 2003), wager-class verbs (Postal 1974, Kayne 1984).
- Some of them were accounted for under **Chomsky's labeling algorithm** (Chomsky 2013, 2015).
- Second order selection features open up the possibility to derive the pattern under the standard projection by selection approach, thereby taking away some empirical ground from Chomsky's labeling algorithm.