Head last to head first and left peripheries:

evidence from Khanty and Udmurt relatives

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1. Introduction

1.1 OV/VO and RelN/NRel

The OV/VO parameter is a predictor of other word order correlations (table from Croft 2003: 72; see also Greeberg 1963, Lehman 1973, Vennemann 1974, Hawkins 1983, Dryer 1992):

	OV	VO			OV	VO
Clausal orders	SV	VS	Phrasal orders		Post	Prep
	Vaux	AuxV			GN	NG
	VAdv	AdvV			**RelN**	**NRel**
	VSubr	SubrV			AN	NA
	PurpV	Vpurp			DemN	NDem
	OcompV	VOcomp			NumN	NNum
	SentQ	Qsent			AdvA	AAdv

Khanty and Udmurt: SOV languages currently undergoing a shift to SVO. In the wake of the OV to VO shift, other word order parameters are also undergoing a change. Of these, we focus on the RelN/NRel parameter.

RCs before the change:	prenominal	gap strategy	non-finite
	↓	↓	↓
RCs after the change:	postnominal	overt relativizer	finite

The changes in the 3 parameters take place in a specific order → it is true for both languages that some logically possible combinations are not attested.
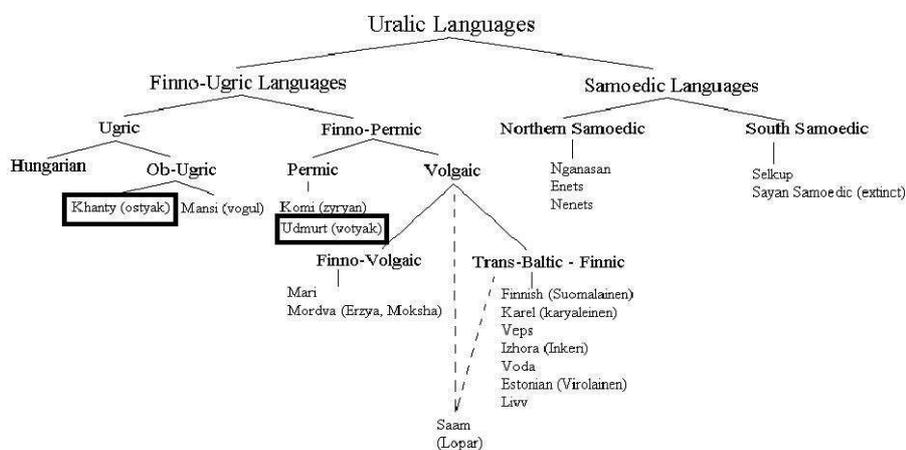
Aim: syntactic analysis of the change at each step, explanation of the missing patterns

Claim: changes are driven by the formation of a left periphery in the RC

1.2 About Khanty and Udmurt

Similarities:

- Uralic, Finno-Ugric languages[2]

- agglutinative SOV

- one finite verb per sentence, widespread use of non-finite subordination

- RCs are non-finite, prenominal, and use the gap-strategy

- minority languages in the Russian Federation → intensive influence of Russian

Differences:

- in different branches of the Uralic Family: Udmurt is Permic, Khanty is Ob-Ugric

- areal differences: Khanty is spoken in Western Syberia, along the river Ob and its tributaries, Udmurt is spoken in the Volga-Kama Region, just south of the Ural mountains

- different contact languages in addition to Russian: Tatar (SOV) for Udmurt, Nenets and Komi-Zyrian (both SOV) for Khanty

- Udmurt is vulnerable, Khanty is severely endangered (based on the Russian census in 2010, 30 943 total Khanty ethnic population, of which 9600 native speakers; 552 299 total Udmurt ethnic population, of which 339 800 native speakers)[3]

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2   language tree from
http://www.policy.hu/filtchenko/Documenting%20Eastern%20Khanty/Eastern%20Khanty%20Map.htm

- Khanty has morphologically unmarked objects, Udmurt has differential object marking (only definite direct objects bear Acc, other objects are unmarked)
- Khanty is a dialect continuum with 3 main dialects: western (a.k.a northern), eastern, and the extinct southern

Current situation:
- diglossia, unidirectional bilingualism (cca. 100%)
- Khanty: most living speakers went to boarding school, which helped assimilation; young people speak primarily Russian, children learn Khanty only if their parents have very traditional jobs (Sipos 2014)
- Udmurt: many children learn the language but only those living in remote rural areas continue to use it actively (Ethnologue)
- strong influence of the inflectional SVO Russian on both the lexicon and the syntax
- spread of OV and finite subordination, but the two languages are at different stages of the OV – VO change

2. Original RCs in Khanty and Udmurt

Prenominal, non-finite RCs employing the gap strategy (Khanty: Nikolaeva 1999, Filchenko 2007, 2012, Potanina 2008 2013, Csepregi 1996, 2012; Udmurt: GSUJa 1962, Alatyrev 1974, Winkler 2001). Prenominal RCs cannot be finite and cannot have a relative operator.

(1) **[katüʌ-m-am]**   kuʌ   put-nü   kit'
     catch-PTC.PST-1SG   fish   pot-LOC   stay-[PST.3SG]
     'The fish that I have caught stayed in the pot.' (Csepregi 2012, ex. 9b)   Khanty

(2) Sasha   **[pes'atajen   puktem]**   korkan   kyk   ar   ule   in'i
     Sasha.NOM grandfather.INSTR built.PRT   house.INESS   two   year live.PRS.3SG already
     'Sasha has been living in the house that was built by his grandfather for two years.'   Udmurt

Claim: these RCs are no bigger than TP → relative operators sit in spec, CP; that position is not projected in these RCs.

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3 http://www.gks.ru/free_doc/new_site/perepis2010/croc/perepis_itogi1612.htm

3. RCs in Russian

Russian has 3 types of RCs.

A) prenominal non-finites (Hendery 2012: 202)

(3) Saša   otpravil   [napisannoe   včera]   pis'mo.
     Sasha .NOM PRT.send.PST.3SG PRT.write.PASS.PST.PTC.NEU   yesterday   letter.ACC

     'Sasha sent the letter written yesterday.'

B) more commonly postnominal non-finites (Hendery 2012: 202)

(4) Saša   otpravil   pis'mo   [napisannoe   včera].
     Sasha .NOM PRT.send.PST.3SG letter.ACC   PRT.write.PASS.PST.PTC.NEU   yesterday

     'Sasha sent the letter written yesterday.'

C) most typically postnominal, finite RCs with a *wh*-based relative operator in spec, CP.
The relativizer agrees with the antecedent in gender and number but takes case from the relative clause
(Bailyn 2012). No P-stranding (Miller and Weinert 1998: 351).

(5) to,   [**čego**   ja bojus']   (6) **Čego**   vy   boites'?
     that.NEUT.SG which-GEN I fear   what-GEN   you.NOM   fear
     'that which I fear' (Bailyn 2012:116)   'what are you afraid of?'

(7) pričiny,   [**po kotorym**   žeščiny   brosajut mužčiny]
     reasons   by   which-DAT.PL   women   throw   men
     'reasons for which women leave men' (Bailyn 2012:116)

4. Change in position only

If the change affects the position of RCs (RelN → NRel), but not the finiteness of the relativizing
strategy:
-- rejected by Udmurt speakers
-- „highly infrequent" and is „eventually self-repaired into" a prenominal non-finite RC in Khanty
(Filchenko 2007: 468)

(8) kuʌ, [ma-nü   katʌ-üm]   put-nü kiˇt'

     fish 1SG-LOC   catch-PTC.PST pot-LOC stay-[PST.3SG]

     'The fish that I have caught stayed in the pot.' (Csepregi 2012, ex. 9c)   Khanty

Proposal: post-nominal RCs in these languages have a left periphery, which needs overt marking.

5. Change in position as well as relativizing strategy

Post-nominal non-finite RCs are possible if they feature a relativizer.

5.1 The relative cycle

Relativizers often grammaticalize from *wh*-pronouns or demonstrative pronouns (Van Gelderen 2004, 2009, Hopper and Traugott 1993, Heine and Kuteva 2002), and the relative operator may later grammaticalize into a C head (and further grammaticalize into a higher C head), a process known as the Relative Cycle (Van Gelderen 2004, 2009).

(9)   interrogative pronoun

$$\text{relative pronoun} \longrightarrow \text{relative complementizer} \longrightarrow \text{higher C head}$$

    demonstrative pronoun

5.2 The *wh*-based relativizer

In post-nominal RCs both Khanty and Udmurt may feature a wh-based relative operator.[4]

(10) ju   wül-wül   qa-nü   [**qo**   mä   wül-m-äm]

      3SG live-PRES.3SG house-LOC where 1SG live-PST.PRT-1SG

      'He lives in the house where I lived.' (Potanina 2013: 79)   Khanty

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4   The *wh*-based relative operator can also be found in the Northern Khanty dialect:

    (i)   nin, løp-əʌ,   **xøʌta**   man-ʌ-ətən?
            DU2 say-PRES.SG3 where.to go-PRES-DU2
            'He says, where are you going?' (Homljak 2002)

    (ii)   min man-ʌ-amən, løp-əʌ,   [**xøʌta**   pa   jøxt-ʌ-amn],   s'iw
            DU1 go-PRES-DU1 say- PRES.SG3 where.to PTCL arrive-PRES-DU1 there
            man-ʌ-amən.
            go-PRES-DU1
            'We are walking, he says, where we arrive, there we go!' (Homljak 2002)

(11) **qol-pa**   mən-l-ən?

       where-ILL   go-PRS-2SG

       'Where are you going?' (Filchenko 2010: 385)   Khanty

(12) So   korkan   ik   ul-i,   [**kytyn** lu-ono   mynym]

       3SG   house.INESS   same live-PST.3SG   where   be-PRT   1SG.DAT

       'He lived in the same house, where I have to live.'   Udmurt

(13) **Kytyn**   so   ul-i?

       where   3SG   live-PST.3SG

       'Where did (s)he live?'   Udmurt

Evidence that these are operators, not relative C heads at this stage: may be modified by prepositions, can take plural and case marking (see section 7 for Khanty examples).

(14) So   korkan   ul-i,   [**mar shöryn** kvala   pukt-ono   tynyd]

       3SG   house.INESS   live-PST.3SG   what behind   holy.house   build-PRT   you.DAT

       'He lived in the house behind which you have to build the holy house.'   Udmurt

Proposal:

- the *wh*-based relative operator appears here because post-nominal RCs have a left periphery, i.e they project a CP layer
- when the CP layer is present, there is a need to overtly mark clause-typing
- Khanty and Udmurt have no relative complementizers
- → clause-typing is taken care of by a relative operator in spec, CP

(15)   CP

         ╱   ╲
    mar šöryn   C'
    what behind   ╱   ╲
               C   TP
                      ╱   ╲
              kvala pukt-ono tynyd
              holy.house build-PRT you.DAT
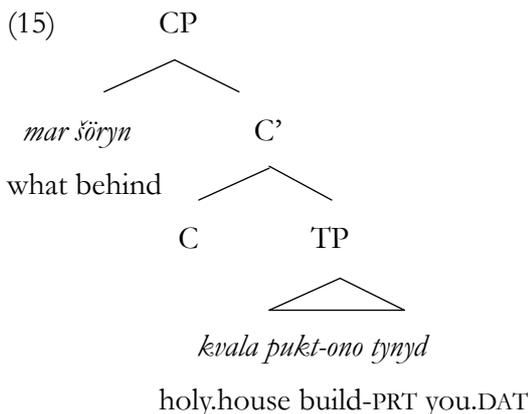
6. Excursus on the possibility of mirror-translation

Our approach: change internal to Udmurt and Khanty grammar

Possible position: no real change in the Udmurt/Khanty clause structure, these are Russian structures with Udmurt/Khanty words (i.e. reverse of the typical relexification scenario, see Bakker 2000 on Sri Lanka Malay).

However,

1) Russian has no postnominal non-finites with relative operators; Udmurt and Khanty do

(16) *Saša   otpravil   pis'mo,   [**kotoroe**   včera   **napisannoe**].
       Sasha.NOM   PRT.send.PST.3SG   letter.ACC   which.ACC   yesterday   PRT.write.PASS.PST.PTC.NEU
       'Sasha sent the letter written yesterday.'

→ can't be translations

2) Russian has postnominal non-finite RCs without a relativizer; Udmurt and Khanty don't

(17) Saša   polučil   posylku,   [otpravlennuju   včera].
      Sasha.nom   get.pst.3sg   package.acc.fem   prt.send.pass.pst.ptc.**acc.**fem   yesterday
      'Sasha got the package that was sent yesterday.'

→ why are these structures not mirror-translated?

3) Russian non-finite RCs have number and case agreement; the Khanty and Udmurt RCs of this type don't (Csepregi 2012: 86)

(18) Vybraem   [samuju   čitaemuju]   knigu   goda
      choose.pst.1pl   most.acc.fem   read.pass.pst.ptc.**acc.**fem   book.acc.fem   year.gen
      'We chose the most read book of the year.'

→ why are these structures not mirror-translated?

4) Khanty develops relative operators from demonstratives, too, which cannot be explained this way

→ can't be translations

7. The Dem-based relativizer in Khanty

7.1 The system of demonstratives

demonstratives in Khanty:

- proximal vs distal, adnominal vs pronominal, definite/visible vs indefinite/invisible
- adnominally uninflected, inflected in the anaphoric and deictic use

The system of Khanty demonstratives (Surgut dialect, Márta Csepregi, pc.):

	specific		abstract	
	pronominal	adnominal	pronominal	adnominal
proximal	*tēmi*	*tēm*	*t'it*	*t'i*
distal	*tomi*	*tom*	**t'ūt**	**t'ū**

Normally, *t'ū* appears adnominally and *t'ūt* pronominally (23),

(19) a. mā **t'ū** rȳt-nat mən-ʌ-əm

I that boat-COM go-PRS-2SG

'I take that boat.' (Márta Csepregi, pc.)

b. mā **t'ūt-nat** mən-ʌ-əm

I that-COM go-PRS-2SG

'I take that.' (Márta Csepregi, pc.)

However, *t'ū* also occurs pronominally as a complement to Ps (24a) and in object position (24b), but not in oblique case positions → it is uninflected in all its pronominal uses, too

(20)

a. **t'ū** **pyrnə** tam miša-nə wās-kən noq ńäť-ʌ-i-ɣən.
that after there Misa-LOC duck-DU PRT pluck-PRS-PASS-DU3
'After that the two ducks are plucked by Misa.' (Csepregi 1998: 60)

b. nüng tom torəm tom iʌəm pälək-nə käw,
you DET world DET front half-LOC stone

c. **t'ū** **küč pow-ʌ-e,** muɣti wīčəpə əntə pitə-ʌ.
DEM while blow-PRS-SG2.OBJSG through forever not get-PRS(SG3)
'At the front part of the world [there is] a stone, even though you blow it, you never get through it.'(Csepregi 1998: 64)

7.2 The demonstrative-based relativizer

The distal demonstrative *ʧu/tu/t'u* grammaticalized into an element introducing the RC

(21) pirəš iki, [**t'u** ʌŭw ăwi-ʌ-at   ma   nămʌaɣt-əɣəʌ-t-am]

     old   man that 3SG daughter-3SG-INSF 1SG think-FREQ-PRT.PRS-1SG

     'the old man whose daughter I am thinking about' (Csepregi 2012: 87)

Relative operator or relative C?

- inflection doesn't help, *ʧu/tu/t'u* is uninflected as a pronoun as well as a relative element (see Potanina 2013: 79 for the latter claim)

→ compatible with both operator and head status

- no reported co-occurrence of wh-based relativizer and dem-based relativizer

→ could be due to the Doubly Filled Comp filter

- we take the dem-based relativizer to be an operator because it is a recent addition to the language

→ the first step of the relative cycle involves an operator, the cycle probably has not had time to proceed to the operator to C head reanalysis step

Proposal:

- the *ʧu/tu/t'u* at the beginning of the RC is a relative operator
- the *wh*-based relativizer and the dem-based relativizer are two competing strategies to mark clause-typing in the relative clause

(22)
```
              CP
            /    \
        t'u        C'
        that      /  \
                 C    TP
                     /  \
```
ʌŭw ăwi-ʌ-at ma nămʌaɣt-əɣəʌ-t-am
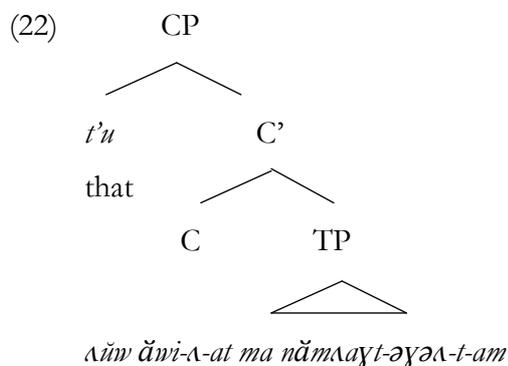
3SG daughter-3SG-INSF 1SG think-FREQ-PRT.PRS-1SG

Hypothesis based on what happened in Old English and Old Hungarian: reanalysis started in contexts where the pronominal use of that *ʧu/tu/t'ū* was immediately followed by the RC.

The following factors could play a role in the reanalysis:

> 1) always uninflected
>
> 2) object drop

8. Change in finiteness in post-nominal RCs

Khanty: the relativizer in finite clauses is near-obligatory (Csepregi 2012: 87).

(23) merəm-qən [**muɣulə-ɣən** jateswe-**wəl**   aŋk-im]
     tale-DU   which-DU   tell-PRES.3SG   mother-POSS.1SG
     'the tales that are told by my mother.' (Filchenko 2010: 302)   present, *wh*-rel

(24) puɣəʌ, [**mətapi-nə**   ma   săm-a   pit-**əm**]
     village   which-LOC   1SG   eye-LAT   fall-[PST]1SG
     'the village where I was born' (Csepregi 2012: 88)   past, *wh*-rel

(25) mä   amə-ɣal-əm   qat   [**tʃu**   qaŋən-nə   aməs-wəl]
     1sg   sit-PST-1SG   house   dem   bank-LOC   sit-PRS.3SG
     'I built the house which is on the riverbank.' (Potanina 2013: 79)   present, dem-rel

Udmurt: relativizer is obligatory

(26) veras'ki   todmo-nenym   [**kudiz**   jarat-**e/**jarat-**i**   kochysh-jos-ty]
     talk-PST.1SG   friend-POSS.1SG.INS   REL.NOM   like-PRS.3SG/ like-PST.3SG   cat-PL-ACC
     'I talked to my friend who likes/liked cats.'

Proposal:

- finite clauses always have a left periphery, they can't be as truncated as non-finites
- Khanty strongly prefers, while Udmurt requires marking of clause typing
- an overt element on the left periphery is strongly preferred in Khanty and obligatory in Udmurt
  → in absence of a relative complementizer, the relative operator must be used

Khanty RCs without a relativizer (note that the DEM element is not the *ʧu/tu* DEM):

(27) män-nə onəl-l-əm,   tom   qu   jo-**wəl**
      1SG-LOC know-PRS-1SG   det   man   walk-PRS.3SG
      'I know the man, who is walking there.' (Filchenko 2010: 500)[5]

Why is there no operator here?
Possibility No1: finite inflection may be enough to mark clause size in Khanty
Possibility No2: Filchenko (2010) claims that these are internally headed relative clauses, but provides no evidence

9. The left periphery of Udmurt RCs with a relativizer

Rizzi's (1997, 1999) split CP:

(28) FORCE (TOP*) INT (TOP*) FOC (TOP*) FIN IP

- Co-occurrence with complementizers
  -- clause-final Fin complementizer *shuisa* 'that':

(29) Mon todisko   co   pinalez,   [**kudze** Sasha   uramish   adziz **(*shuisa)**].
      1SG know.PRS that child.ACC which.ACC Sasha.NOM street.ABL   see.PST.3SG that
      'I know that child which Sasha saw on the street.'   Udmurt

  -- clause-initial Force complementizer *sto* 'that':

(30) Mon todisko   co   pinalez,   [**(*sto) kudze (*sto)**   Sasha   uramish   adziz].
      1SG know.PRS that child.ACC that   which.ACC that   Sasha.NOM street.ABL   see.PST.3SG
      'I know that child which Sasha saw on the street.'   Udmurt

→ no conclusion can be drawn

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5   The subject of (31) is „that man who" (Márta Csepregi, pc).

- Topicalization above the operator:[6]

-- subject topic

(31) Mon todisko   so   pinalez,   [(***Sasha) kudze**   Sasha   uramish   adziz].

1SG know.PRS   that child.ACC Sasha.NOM which.ACC Sasha.NOM street.ABL see.PST.3SG

'I know the child that Sasha saw on the street.'   Udmurt

-- object topic

(32) *Mon todisko   so   pinalez,   [**Sashajez kudiz**   uramish   adziz.]

1SG know.PRS   that child.ACC Sasha.ACC which.NOM street.ABL see.PST.3SG

'I know the child that Sasha saw on the street.'   Udmurt

-- adjunct topic

(33) *Mon todisko   so   pinalez,   [**Izhkaryn   kudiz**   Sashajez   uramish

1SG know.PRS   that child.ACC Izhevsk.INESS   which.NOM Sasha.ACC street.ABL

adziz.]

see.PST.3SG

'I know the child that Sasha saw on the street in Izhevsk.'   Udmurt

→ no conclusion can be drawn

- FOC: not applicable due to the characteristics of Focus in Udmurt

- INT: not applicable

Proposal: the relativizer in the spec of the lower CP (FinP); for speakers who don't accept topicalization the higher phrases in the left periphery are possibly not projected or CP is not split

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6 Compare Russian: topicalization is not possible, the general complementizer cannot appear in RCs. Oleg Belyaev (p.c.) informs us that topicalization is possible in colloquial Russian, however.

(i) a. *Eto   tot   dom,   [Saša   kotoryj   v   prošlom   godu   postroil].
         this   that house.NOM   Sasha.NOM which.ACC in last.PREP   year.PREP build.PST.3SG

   b. * Eto   tot   dom,   [što   kotoryj Saša   v   prošlom   godu
         this   that house.NOM   that   which.ACC Sasha.NOM   in last.PREP   year.PREP

   postroil].
   build.PST.3SG

   'This is the house that Sasha built last year.'

10. Conclusions

Original structures: prenominal, non-finite, gap strategy

Steps of the change:

1. prenominal to postnominal
2. gap to relativizer strategy
3. non-finite to finite

Unattested combinations:

A. prenominal and finite and/or has relativizer
B. postnominal finite without relativizer in Udmurt
C. postnominal nonfinite without a relativizer in Udmurt

Main claims:

I. postnominal RCs is Khanty and Udmurt developed a left periphery
II. Khanty strongly prefers to overtly mark the left periphery for clause typing
III. Udmurt makes this marking obligatory
IV. marking of clause typing is done via relative operators in spec, CP
V. these operators are grammaticalizing from *wh*-elements (in both languages) and a demonstrative (in Khanty)

Appendix. Diachronic depth of the new RCs and intra-speaker variation

A1. Diachronic depth: When did these structures emerge?

Khanty: reported from the 1950's-1960's by Gulya in headless relative clauses:

(33) [**möɣöli** mänä   mas-wəl]   t'u   məji-ɣilə-ɣas
      what   1SG-LOC   need-3SG   that   give-TR-PST3.3SG
      'What I need, that he gave me.' (Gulya 1966: 86)

(34) töɣ-l-a,   [**qo**   wəl-ət   tʃu   jaɣ]
      DET-3SG-ILLAT   where   live-PST.3PL   det   people
      'there, where those people lived (Filchenko 2007, citing Kalinina 1970)

As reported by Csepregi (1983), Karjalainen (1964) contains one sentence with a *wh*-based relativizer; Kalinina (1966, 1970) also contain a few examples. However, all but one of Kalinina's examples are translations from Russian, where the original Russian sentence also contains such a relativizer.

Csepregi (1983): the Kalinina texts have 8 RCs introduced by *when*, 7 of which are non-finite and 1
              is finite
Filchenko (2010: 508): 80% participial predicates in RCs, 20% finite predicates
Filchenko (2010: 499): 15% of RCs is introduced by *wh*-based relativizers

Udmurt: relativizers reported by Winkler (2001). *Kud* 'which' was the first wh-word to grammaticalize: today it's restictred as a *wh*-word; more characterisitcally used as relative pronoun,[7]
but still an operator (takes number and case marking and can be modified by Ps).

(35) [**Kud-jos-ez-lə̂**   pin'al'-l'os-lə̂   mon vož-me   pot-i],   soos pegʒ'-izə̂.
      which-PL-DET-DAT   child-PL-DAT   1SG anger-1SG.ACC come.out-PST.3SG 3PL   run-PST.3.PL
      'The boys, which I got angry at, have run away.'   (Belyaev 2012, ex. 14)

(36) Mon so   korkain   uly,   [**kudiz**   söryn   tyala aryn   kvala
      1SG that house.INESS live.PST.1SG   which   behind   next   year.INESS   holy.house
      puktozy].
      build.FUT.3SG
      'I lived in the house behind which they will build a holy house.'

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7   In this function *kud* is compounded with a demonstrative suffix –*iʐ* (see also Suihkonen 2005).

A.2 Intra-speaker variation

3 steps of the change: 1) change in position, 2) change in relativizing strategy (introduction of an operator), 3) change in finiteness.

The original structures are still highly preferred by self-conscious language users and 'purists'. The three varieties live side by side, the same speaker may produce all three variants

→ no separation of the varieties in time or by dialect/idiolect

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