Free relative clauses and timing of case assignment in Moksha

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Claim. Free relatives (FR) in Moksha don't follow matching requirements strictly. Mismatches are allowed, if a FR corresponds to the subject or to the direct object position in the main clause, or if the FR is in the indirect object position and the case of a *wh*-phrase is structural. I claim that this pattern can be derived if lexical cases are assigned earlier than structural cases and provide further evidence for this split by showing that other operations can apply between the assignment of different cases.

Background. The formation of FRs in some languages is restricted by matching requirements (Grimshaw 1977), according to which case and category of the relative pronoun have to be the same as those of the head noun. I present a study of FRs in Moksha Mordvin, Finno-Ugric language spoken in Russia. The data were collected during fieldwork with native speakers.

Moksha has definite and indefinite declension types, where affixes cumulatively express specificity and case. The number of cases depends on the declension type. The indefinite declension distinguishes 16 cases, while the definite declension only distinguishes nominative, accusative, and dative. I consider these three cases to be structural in Moksha. The case of direct objects (accusative) formally coincides with the case of possessors (genitive). In addition to the rich case system, Moksha uses postpositions. The verb agrees with the subject or with the subject and the direct object.

Data. FRs in Moksha violate the matching requirements in some cases. In (1) nominative is assigned in the main clause and dative in the relative clause, but the sentence is grammatical. The reverse mismatch is allowed as well (2). In contrast, the combination of dative in the main clause and ablative in the relative clause is ruled out in (3). Table (4) summarizes the (mis-)matches in Moksha FRs.

(1) *sas'edn'ɛj kut'-t' esə er'ɛ-j,* $\text{MainCl}_{\text{NOM}} - \text{RelCl}_{\text{DAT}}$
neighboring house-DEF.SG.GEN in live-NPST.3
ki-n'd'i Kat'ɛ maks-əz'ə kn'iga-nzə-n
who-DAT Katja give-PST.3SG.S.3SG.O book-3SG.POSS.PL-ACC
'Next door lives the person, whom Katja gave her books.'

(2) *Kat'ɛ maks-əz'ə kn'iga-nc,* $\text{MainCl}_{\text{DAT}} - \text{RelCl}_{\text{NOM}}$
Katja give-PST.3SG.S.3SG.O book-3SG.POSS.ACC
kijə er'ɛ-j sas'ədn'ɛj kut'-t' esə
who.NOM live-NPST.3 neighboring house-DEF.GEN in
'Katja gave her book to the person, who lives next door.'

(3) **mon' ava-z'ə maksi jalʲrcəmbɛl'-t',* $\text{MainCl}_{\text{DAT}} - \text{RelCl}_{\text{ABL}}$
I.GEN wife-3SG.POSS.SG give.NPST.3SG.S.3SG.O food-DEF.ACC
ki-də mon pel'-an
who-ABL I fear-NPST.1SG
'His wife gives food to the one, whom I am afraid of.'

(4)

Case assigned in relative clause	Case assigned in the main clause				
	NOM	ACC	DAT	ABL	Locative cases, PostP
NOM	OK	OK	OK	*	*
ACC	OK	OK	OK	*	*
DAT	OK	OK	OK	*	*
ABL	OK	OK	*	OK	*
Loc. cases, PostP	OK	OK	*	*	OK – same, * – different

There are no restrictions on the case or the category of the *wh* for the subject and the direct object FRs. Indirect object FRs are allowed if *wh* is in a structural case, while they are disallowed, if *wh* has locative case or if the categorial matching fails. Matching is obligatory for locative cases and PostPs.

Key ingredients for the analysis. First, Moksha has *pro*-drop in the subject (5) and the direct object positions. An evidence for the availability of *pro* in the direct object position comes from correlative clauses, where contrary to the demonstrative requirement (Srivastav 1991) an overt pronoun is not obligatory (6). Importantly, its absence is grammatical, only if the verb agrees with the direct object. Second, based on the fact that in Moksha only structural cases have forms in the definite declension and following (Pleshak et al.2017), I assume that noun phrases in structural cases are DPs, while noun phrases in locative cases are of a different category, e.g. K_{loc}Ps. Third, the structure of a FR involves a null functional nominal head that bears a CP as its complement (cf. Groos & van Riemsdijk 1981). In Moksha it is D^0 in structural cases and K^0_{loc} in locative cases. Matching results from Agree between

the *wh*-phrase and the null head and ensures that the features from the main clause and the relative clause don't contradict (Himmelreich 2017). Otherwise, a sentence becomes ungrammatical. Fourth, I adopt Dependent Case Theory (Marantz 1991), according to which case assignment proceeds in steps: lexically governed cases are assigned before "dependent", default and unmarked cases.

(5) *soda-sa* *s'ɛ* *loman'-t'*
know-NPST.3SG.O.1SG.S that person-DEF.ACC
'[I] know that person.'

(6) *kona ki-t'* *ezga pačkəd'-at* *oš-u,* *min' mu-s'k* */ *mu-mə*
which road-DEF.GEN on reach-NPST.2SG town-LAT we find-PST.3.O.1PL.S find-PST.1PL
'The road, by means of which one reaches town quickly, we found it.'

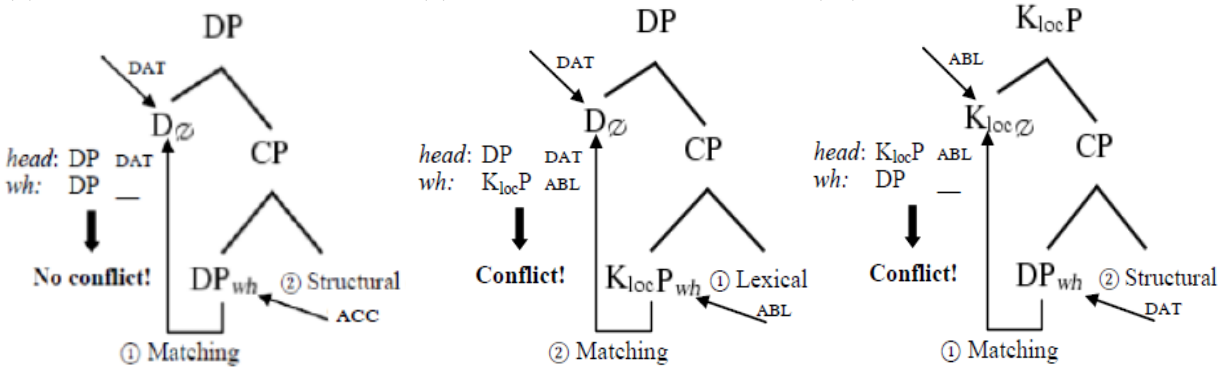
Analysis. Non-matching relatives in subject and direct object positions superficially look like FRs, but in fact are headed relatives with *pro* occupying the head position. Similarly to correlatives, non-matching in the object FRs is allowed only with object agreement on the predicate (7). Thus, the corresponding structure is [$_{NP}$ *pro* [$_{CP}$ wh ...]]. *Pro* fulfills the requirements of the predicate in the main clause and the matching effects don't arise as in regular headed relative clauses.

(7) *ton kal'gn'šn'ə-sak,* */ *kal'gn'šn'-an* *kijə er'ɛ-j* *sas'ədn'ɛj kucə*
you deceive-NPST.3SG.O.2SG.S deceive-NPST.2SG who live-NPST.3 neighboring house.IN
'You are deceiving the person, who lives next door.'

The cases of non-matching in dative FRs is due to the ordering of case assignment and matching operation in Moksha: Matching takes place after lexical cases are assigned, but before the structural ones. (8) shows the derivation of a grammatical sentence with a mismatch. Being a structural case, accusative is assigned after Agree with the D^0, so that its value doesn't participate in matching. Ablative, on the other hand, appears in the derivation before matching and leads to ungrammaticality in (9) (together with the categorial mismatch). Configurations, in which a structural case is assigned in the relative clause and a lexical case in the main clause, are ruled out because of the categorial mismatch between DP in the relative clause and K_{loc}P in the main clause (10).

Order of operations: ① Assignment of lexical cases; ② Matching; ③Assignment of structural cases

(8) $MC_{DAT} - RC_{ACC}$: mismatch OK (9) $MC_{DAT} - RC_{ABL}$: no mismatch (10) $MC_{ABL} - RC_{DAT}$: no mismatch



Discussion. ***Case assignment.*** The order of the case assignment operations in Dependent Case Theory is traditionally justified by the Elsewhere Principle: The more marked (or specific) a case value is, the earlier it is assigned. Non-matching FRs in Moksha provide an additional empirical evidence for this order of the operations. ***K_{loc}P vs. DP***. Categorial labels are presumably determined early in the syntax, but noun phrases in Moksha may be K_{loc}Ps or DPs, depending on the case used. So, how can their category be specified before the case assignment? The exact labeling mechanism is not important for the proposed analysis, because locative cases are assigned before matching and it explains the presence of K_{loc}Ps. Other nouns are DPs, which is the default labeling for nouns. One possible solution, however, is that the label is due to the selectional restrictions of verbs. ***Typology of (non-)matching.*** Languages differ with respect to the availability of the non-matching in FRs. Unlike Moksha, it is obligatory in English, which suggests that there the matching follows assignment of all cases. Variation in the order of case assignment and matching predicts the existence of at least one more language type: languages, where matching precedes case assignment. An instance of this type is Islandic (Vogel 2001). The case from within the relative clause is always neglected there.

Selected references. Groos&van Riemsdijk 1981. Matching effects with free relatives: a parameter of core grammar. **Himmelreich 2017**. Case matching effects in free relatives and parasitic gaps: a study on the properties of Agree. (Diss.) **Pleshak,, Toldova, Volkova 2017.** The NP/DP-structure in Moksha language. Poster at SOUL 2017. **Vogel 2001**. Towards an optimal typology of the free relative construction.