On the syntax of postpositional phrases in Mari: Choosing between two structures

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Abstract. The paper discusses the syntax of postpositional constructions in Meadow Mari (Uralic, Morkinsko-Sernur dialect; head-final, SOV). Building upon existing approaches to postpositions in the world's languages, I propose that PPs in Mari may have one of the two underlying structures depending on the nature of the dependent but not on the nature of the adposition. PPs with a pronominal dependent involve possession between the Ground and a LOCATION nominal. In PPs with a non-pronominal dependent the Ground is merged directly into the complement position of a P head. I further expand the dataset and show that the two configurations capture successfully the distribution of reflexive pronouns in PPs. The proposed analysis accounts for all the relevant data: examples with independent and affixal postpositions and referential and pronominal dependents.

Key words: postposition, spatial case, locative, dative, possession, agreement, Mari, Uralic
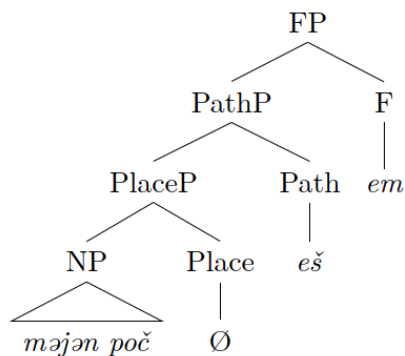
1   Introduction

1.1   Overview

Refinement of the internal structure of postpositions has recently become one of the central topics in theoretical syntax, with seminal work published in volumes such as Asbury et al. (2008), Cinque & Rizzi (2010), and É. Kiss & Hegedűs (2021). Most researchers agree to distinguish between state (place) and direction (path) projections within a PP, with Place being dominated by Path; see Cinque (2010), Den Dikken (2010), Koopman (2010), Svenonius (2010) for in-depth discussions, to name a few.

However, there is no agreement regarding the composition of the lower part of PPs. Thus, Asbury (2008) assumes that the so-called Ground, i.e. the nominal dependent that refers to the relevant space (location), is base-generated directly as a complement of the Place head. In turn, Terzi (2005 and elsewhere), Botwinik-Rotem (2008), Noonan (2010), i.a., argue that the complement position of PlaceP is occupied by an overt or silent PLACE/LOCATION nominal and that Ground is merged as its dependent (typically a possessor). When it comes to analyzing

postpositional phrases in Uralic, both approaches have found some support; cf. for instance Dékány & Hegedűs (2015) vs Dékány (2018) on Hungarian.
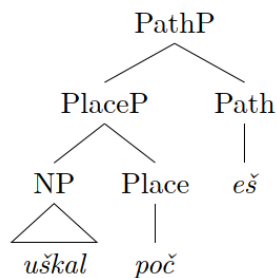
The present paper contributes to this discussion by examining PPs in Meadow Mari, which so far have received little attention from a formal syntactic perspective; to the best of my knowledge, the structure of dependents marked with a spatial case has been touched upon by Simonenko & Leontjev (2012) and Pleshak (2019). I begin by presenting the morphosyntactic patterns available for PPs with various kinds of dependents (pronominal vs referential). Following Riemsdijk & Huybregts (2002) and Asbury et al. (2007), i.a., I include in the group of postpositions not only independent adpositions that stem from relational nouns, such as *počeš* 'after' (← *poč* 'back'), but also spatial case suffixes (inessive, illative, lative) and dative. After that I work up a formal analysis. I aim to demonstrate that Mari uses two different configurations depending on the type of Ground. Specifically, in PPs with a Ground-personal pronoun, the latter is merged as a possessor of a LOCATION nominal (1) that projects a larger possessive structure, while in PPs with a non-pronominal Ground the latter is a reduced NP/PossP put directly in the complement position of the Place (i.e. P_{State}) head (2).

(1) a. *PPs with a pronominal Ground:*

```
                    FP
                   /  \
               PathP    F
              /    \     |
          PlaceP    Path em
          /   \      |
        NP    Place  eš
       /\       |
  məjən poč     Ø
```

b. məjən   počeš(-em)

    I-GEN   after-POSS.1SG

    'after me'

(2) a. *PPs with a non-pronominal Ground:*

```
             PathP
            /    \
        PlaceP   Path
        /   \      |
      NP    Place  eš
     /\       |
  uškal      poč
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b. uškal   počeš

cow   after

'after a cow'

The dataset is expanded by showing that reflexive pronouns as Grounds make use of either of the two structures, depending on whether they are used anaphorically or as intensifiers. I further suggest that the two configurations presented above are likely to be historically related: the second one (2a) was derived from the first one (1a) after overt place nominals, i.e. relational nouns with location semantics, were reanalyzed as Place (i.e. P$_{State}$) heads and the silent LOCATION nominal was reduced; cf. Serebrennikov (1967) on development of postpositions from nominals in Moksha and, most recently, Arkhangelskiy & Usacheva (2022) on the Permic languages.

The paper thus draws attention to Mari, an endangered and understudied Uralic language (Moseley 2010). It fills in a gap in the description of Mari from a formal perspective and shows that the Mari data help bring together two lines of the research concerned with the internal structure of PPs. It further outlines several directions for future research, drawing a parallel between the structure of DPs, PPs, and clauses.

1.2   The data and the methodology

Before I proceed, a few words should be said about the data presented in the paper and the methodology. Unless specified otherwise, the data are from the Morkinsko-Sernur dialect of Mari. They were collected in 2020–2022 from two native speakers in individual elicitations conducted online. The consultants are from the same age group (37–42 y.o.) and both have a higher education degree; they are bilingual in Mari and Russian and use Mari on an everyday basis in communication with their friends and relatives. All the judgments on the data considered in the paper were robust and confirmed multiple times; they also do not contradict the information provided in the most recent descriptive grammar of literary Meadow Mari by Riese et al. (2022).

It is further important to admit that the degree of variation is high when it comes to the ordering of plural, possessive, and case marking, which is crucial for the topic of the present discussion. In this paper I focus on the patterns of POSS and case being used together that were regularly produced in the translation tasks and accepted in the judgment tasks by the consultants. All of these patterns are also found with high frequency in corpora, such as Korp (Borin et al. 2012), and are described in existing grammars (Riese et al. 2022).

1.3   The structure of the paper

The paper continues as follows. Section 2 presents the data and describes PPs in Mari. Section 3 demonstrates that PPs with a pronominal Ground must involve possession and outlines an analysis for them. Section 4 further shows that a different structure is necessary to accommodate PPs with a non-pronominal Ground. Section 5 touches upon the optionality of person-number markers attested in PPs, while Section 6 expands the dataset by introducing reflexive pronouns used as Ground. Section 7 concludes.

2   Postpositional constructions in Mari

2.1   Basics of Mari morphosyntax

Meadow Mari, also known as Eastern Mari, is one of two closely related Mari languages, spoken in the Mari El Republic, Russian Federation, by approximately 470,000 speakers (mostly bilingual in Mari and Russian; Eberhard et al. 2021); its status is described as 'definitely endangered', with Western Mari being 'severely endangered' (Moseley 2010). Meadow Mari is often considered to be the standard variant of Mari and, for the sake of simplicity, throughout the paper I use the name 'Mari' to refer to it.

Similarly to many other Uralic languages, Mari is head-final with the SOV word order[1] and frequent pro-drop of pronominal subjects and possessors; see, for instance, Bradley & Hirvonen (2022) on null subjects in Mari. Finite verbs inflect for tense and agreement with the subject, while nouns are typically marked for case and plurality. Mari has three structural cases: nominative for subjects (which is morphologically unmarked), genitive for possessors, and accusative for direct objects, and a rich system of semantic cases, which include dative, inessive, illative, lative, etc. A sample paradigm of a noun is given in Table 1. For a detailed description of case morphology in Mari see Luutonen (1997), McFadden (2004), Guseva & Weisser (2018), i.a.

NOM	GEN	ACC	DAT	INE	ILL	LAT
pört	*pört-ən*	*pört-əm*	*pört-lan*	*pört-əštö*	*pört-əš(kö)*	*pört-eš*

Table 1. Examples of case-marking

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[1] While SOV is the basic word order strongly preferred by the speakers that I worked with, some variation has been reported; see Bradley et al. (2018).

In a possessive phrase the possessive relation is marked twice: the possessor that is marked in the genitive case is cross-referenced on the possessum by a POSS suffix.[2]

(3) a. (məj-ən) pört-em   b. Marij El-ən   rüdola-že

         I-GEN   house-POSS.1SG   Mari El-GEN   capital-POSS.3SG

         'my house'   'capital of Mari El'

The possessive suffix on the head noun precedes a structural case morpheme (4a) but can either precede or follow a lexical case morpheme. In dative both forms (POSS-DAT/DAT-POSS) are acceptable, as shown in (4b); in locative cases LOC-POSS is usually preferred (4c), although the order POSS-LOC becomes acceptable if a plural suffix is added, indicating plurality of the possessum (4d).[3]

(4) a. (məj-ən) pört-em-əm

         I-GEN   house-POSS.1SG-ACC

     b. (məj-ən) pört-em-lan /   pört-lan-em

         I-GEN   house-POSS.1SG-DAT   house-DAT-POSS.1SG

     c. (məj-ən) pört-əšt-em

         I-GEN   house-INE-POSS.1SG

     d. (məj-ən) pört-em-vlak-əšte /   pört-vlak-əšt-em

         I-GEN   house-POSS.1SG-PL-INE   house-PL-INE-POSS.1SG

Aside from being used in possessive constructions, POSS markers can also appear with postpositions. I discuss the various PP patterns attested in the language in the remaining part of this section. At this point it suffices to give a couple of basic examples. In short, when a postposition combines with a first or second person personal pronoun, it becomes marked with POSS and the pronoun is assigned genitive (5a). If instead a postposition embeds a non-pronominal expression, POSS is always absent and the NP dependent is unmarked (5b).

(5) a. (məj-ən) ončeln-em   b. pört   ončelno

         I-GEN   in.front.of-POSS.1SG   house   in.front.of

         'in front of me'   'in front of the house'

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[2] As mentioned in Riese et al. (2022), when the possessor is an overt first or second person personal pronoun, the possessive suffix can be dropped: *məjən joča* 'me.GEN son' instead of *məjən joča-m* 'me.GEN son-POSS.1SG'. However, the authors note that this strategy is "comparatively rare", and the speakers that I consulted did not accept such examples.

[3] In the present paper I do not consider plural NPs beyond providing a couple of examples in this overview section, since the status of the plural suffixes and their position in the structure remain unclear and deserve a separate in-depth discussion; for an attempt to address this problem see Simonenko & Leontjev (2012).

2.2   Independent and affixal postpositions in Mari

The postpositions divide into two groups: independent versus affixal. Independent postpositions are those derived from relational nouns, for instance, *ončəlno* 'in front of' or *počeš* 'after'. I use the term "independent" here to emphasize the relative morphological complexity of such items and the fact that they may bear independent stress, and to contrast them with the second sub-group. Note, however, that they are not fully syntactically autonomous: they cannot appear without a dependent NP and be stranded. Some examples of independent postpositions are given in Table 2, together with a note on their composition; number 2 in the glosses marks old allomorphs of the case suffixes, which are not used productively in Modern Mari (see Section 4).

Postposition	Morphological decomposition
ončəlno 'in front of'	*ončəl-no* 'front-INE2'
vokten 'next to'	*vokte-n* 'place-INE2'
olmeš 'instead of'	*olm(o)-eš* 'place-LAT'
počeš 'after'	*poč-eš* 'back-LAT'
lümeš 'because of, for'	*lüm-eš* 'name-LAT'
verč 'for, because'	*ver-č* 'place-EL'
vokteč 'through'	*vokte-č* 'place-EL'
körgəšto 'within'	*körg(ö)-əšto* 'interior-INE'
körgəš(kö) 'into'	*körg(ö)-əš(kö)* 'interior-ILL'
vašeš 'on/from the opposite side'	cf. *vaš* 'mutual' and *-eš* LAT

Table 2. Examples of independent postpositions

Affixal postpositions are represented by spatial cases, such as inessive, illative, and lative; see Riemsdijk & Huybregts (2002), Asbury et al. (2007), i.a., on spatial cases forming a sub-class of the P category. As I further show in Section 3, affixal postpositions must be analyzed as exponents of the Place/Path head, while independent postpositions were originally used as LOCATION nouns from which the PP structure was projected.

Following the literature on Uralic languages, I argue that dative is an affixal postposition, similarly to the spatial cases; see Maitinskaya (1982) on Uralic in general and Serebrennikov (1967) on dative stemming back to a postposition in Moksha (Mordvin). Historically, the dative suffix is a combination of the locative *-l-* and the lative *-an* (Ylikoski 2011). From the morphosyntactic point of view the dative case patterns with the spatial cases

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with respect to its flexible position relative to the possessive suffix in possessed nominals, as shown in Section 2.1. From the semantic point of view grouping dative with spatial cases is also plausible since in Mari, similarly to other Uralic language, dative is a directional case that is used to introduce a Recipient, a Goal (an object or a point in time), or a Vicinal Goal (Ylikoski 2011; the example in (6a) was elicited with a native speaker, the examples (6b) and (6c) are taken from Riese et al. 2022).

(6)   a.   %Petja   škol-əš   Maša-lan   kaj-en. – *an animate goal*
            Petja   school-ILL   Maša-DAT   go-PST
            'Petja went to school to pick up Maša.'

      b.   Kas-lan   mo-m   kočk-aš   əštet? – *a temporal goal*
            evening-DAT what-ACC   eat-INF   make.NPST.2SG
            'What will you make for dinner?'

      c.   Ivuk   kevət-əške   kində-lan   kaj-en. – *an object goal*
            Ivuk   store-ILL   bread-DAT   go-PST
            'Ivuk went to the store for bread.'

The next section considers the morphosyntactic patterns with postpositional constructions.

2.3   The morphosyntax of PPs with various types of dependents

I begin by providing examples of PPs with a dependent personal pronoun (2.3.1) and then discuss PPs embedding a non-possessed (2.3.2) and possessed (2.3.3) noun. The discussion of personal pronouns is limited to first and second person items; third person pronouns in Mari are derived from demonstratives (*tudo* 'he/she' or 'that', *nuno* 'they' or 'those') and do not conform to the described pattern, exhibiting instead mixed behavior,[4] which I leave aside to be closely examined in the future.

2.3.1   Postpositions with personal pronouns

First and second person personal pronouns combine freely with **independent** postpositions. In such contexts, the pronoun is either overt and has to be marked genitive or remains covert. The

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[4] Such as the absence of a third person POSS suffix in dative, compatibility with affixal locative P-s, and fusion with some of the independent postpositions (e.g. *tud-ən deke* 'that-GEN to' → *tuddeke* 'to him/her').

pronoun is cross-referenced by a possessive suffix that attaches to the postposition (7). POSS becomes optional when the pronoun is overt; this optionality is addressed in Section 5.

(7) a. Memnan / *me   ončəln(-na)   maskam   užəda.
       we.GEN   we   in.front.of-POSS.1PL   bear.ACC   see.2SG
       'You see a bear in front of us.'

    b. Rəvəž   məjən /   *məj   počeš(-em)   kudaleš.
       fox   I.GEN   I   after-POSS.1SG   runs
       'The fox runs after me.'

    c. Kniga-m   memnan /   *me   vokten(-na)   užənat.
       book-ACC   we.GEN   we   next.to-POSS.1PL   saw.2SG
       'You saw a book next to us.'

    d. Maša   məjən /   *məj   verč(-em)   əš   ojgəro.
       Maša   I.GEN   I   for-POSS.1SG   NEG.PST   worry
       'Maša didn't worry about me.'

Let us now a look at **affixal** postpositions. Among these, personal pronouns allow only dative marking (Riese et al. 2022). In all other cases a periphrastic construction should be used to express the desired meaning, as in 'in my body' instead of 'in me', etc. As shown in (8), in dative forms the dative suffix *lan* is added to the pronominal stem; the combination is followed by a possessive suffix matching the person and number features of the pronoun. The order DAT-POSS is fixed and cannot be changed (8b). The stem must be bare, that is, not marked with any structural/lexical case; compare for instance the ungrammatical attempts to combine a dative pronoun with a genitive suffix in (8c) to dative personal pronouns in Moksha derived from a genitive stem, as in *ton'-d'ejə-t'* 'you.SG.GEN-DAT-POSS.2SG' [Toldova et al. 2018: 98].

(8) a. tə-lan-et   b. *tə-lan /   *t(ə)-(e)t-lan
       you-DAT-POSS.2SG   you-DAT   you-POSS.2SG-DAT
       'to/for you'   Intended: 'to/for you'

    c. *təj-ən-lan-et / *təj-ən-et-lan
        you-GEN-DAT-POSS.2SG / you-GEN-POSS.2SG-DAT

2.3.2 *Postpositions with non-possessed referential expressions*

When a referential NP combines with an **independent** postposition the embedded noun must remain unmarked, in the sense that it can never appear with a genitive or other case suffix (9a). No POSS cross-referencing the noun appears on the postposition, unlike in the case of personal pronouns. If a third person possessive suffix is added to the noun, the construction is either

interpreted as a PossP with possessor pro-drop or the marker is used in its non-possessive function as a discourse particle, to mark the topic or a pragmatically prominent element; see Riese et al. (2022) on discourse uses of *že* in Mari (9b).

(9) a. Kniga-m   rveze-vlak(-*ən)   vokten(-#əšt)   užǝnat.

book-ACC   boy-PL-GEN   next.to-POSS.3PL   saw.2SG

'You saw a book next to the boys.'

#: 'You saw a book next to their boys.'

b. Maša   uškal(-*ən)   verč(-#še)   əš   ojgəro.

Maša   cow.GEN   for-POSS.3SG   NEG.PST   worry

'Maša didn't worry about the cow.'

#: 'Maša didn't worry about his/her cow.'

In general, referential NPs have complete paradigms of spatial cases, including dative. When an **affixal** postposition combines with an NP, the latter, again, must be an unmarked stem (i.e., not genitive). As shown in (10), no possessive morphology is required.

(10) a. pört-lan /   erge-lan /   kniga-ške /   sumka-š

house-DAT   boy-DAT   book-ILL   bag-LAT

'to a/the house', 'to a/the boy', 'into a/the book', 'in a/the bag'

b. pört-lan-že /   erge-lan-že /   kniga-škə-že /   sumka-šə-že

house-DAT-POSS.3SG boy-DAT-POSS.3SG book-ILL-POSS.3SG bag-LAT-POSS.3SG

(i) 'to his/her house', 'to his/her boy', 'into his/her book', 'in his/her bag'

(ii) 'to that particular house', 'to that particular boy', 'into that particular book', 'in that particular bag' (information-structure marked)

Not available: (iii) 'to a house', 'to a boy', 'into a book', 'in a book' (unmarked)

2.3.3 *Postpositions with possessed referential expressions*

A postposition can also co-occur with a possessed nominal expression. Recall that Mari exploits double-marking: the possessor is assigned genitive and there is an obligatory matching POSS suffix on the possessum. Both with independent postpositions and the dative marker, the POSS and the postposition can be ordered in two different ways, with the former either preceding or following the latter (11-12); as indicated in (12c), POSS cannot be repeated twice.

(11) (memnan)   pört-lan-na /   pört-na-lan

we.GEN   house-DAT-POSS.1PL   house-POSS.1PL-DAT

'to/for our house'

(12) a.   (memnan) pört   ončəln-na   maskam   užəda.

we.GEN house in.front.of-POSS.1PL bear.ACC see.2SG

'You see a bear in front of our house.' (= b)

b. (memnan) pört-na ončəlno maskam užəda.

we.GEN house-POSS.1PL in.front.of bear.ACC see.2SG

'You see a bear in front of our house.' (= a)

c. *pört-na ončəln-na maskam užəda.

house-POSS.1PL in.front.of-POSS.1PL bear.ACC see.2SG

Intended: 'You see a bear in front of our house.'

As mentioned in section 2.1, with the spatial cases other than dative the order POSS-LOC is restricted and attested only in the presence of a plural marker; see examples in (2) reproduced in (13). In Section 4.2 I adopt Guseva & Weisser's (2018) analysis in terms of post-syntactic reordering to account for this.

(13) a. (məj-ən) pört-əšt-em

I-GEN house-INE-POSS.1SG

b. (məj-ən) pört-em-vlak-əšte / pört-vlak-əšt-em

I-GEN house-POSS.1SG-PL-INE house-PL-INE-POSS.1SG

2.3.4 Interim summary

The patterns of PPs with various types of dependents are listed in Table 3. I use DAT and *ončəlno* to stand for the affixal and independent postpositions, respectively; the indices indicate which item is cross-referenced by POSS.

Affixal postpositions	Independent postpositions
pronoun$_i$-DAT-POSS$_i$	pronoun$_i$-GEN *ončəlno*(-POSS$_i$)
noun-DAT	noun *ončəlno*
possessor$_i$ noun-DAT-POSS$_i$	possessor$_i$ noun *ončəlno*-POSS$_i$
possessor$_i$ noun-POSS$_i$-DAT	possessor$_i$ noun-POSS$_i$ *ončəlno*

Table 3. Morphology of PPs with pronominal and referential dependents

In the remaining part of the paper I work up the analysis to account for this behavior of adpositions.

3 PPs as possessive constructions

This section provides support for the idea that at least some PPs share structural properties with possessive constructions. Section 3.1 opens with a discussion of the necessary components of

a PP that the literature agrees on and points to the central part of the structure for which alternative analyses co-exist. After that, in section 3.2, I propose what the structure for PPs with personal pronouns look like by tracing them back to possessive constructions.

3.1   Components of the PP structure

The internal structure of PPs has recently received much attention in the literature; see, for instance, various thematic volumes including Asbury et al. (2008), Cinque & Rizzi (2010), and É. Kiss & Hegedűs (2021). When it comes to analyzing adpositional phrases, most researchers agree that in PPs a relation is established between a noun expressing the Ground and a so-called Figure, i.e. the subject that a PP is predicated of: [*the ball*]$_{Figure}$ *is* [$_{PP}$ *on* [*the table*]$_{Ground}$]. It is generally assumed that a PP comprises several layers. While more intermediate projections may be added (for instance, a DegP or a CP), the main distinction is made between stative PPs (typically called PlacePs) and directional PPs (typically called PathPs), with the former being dominated by the latter, as in [$_{PathP}$ Path^0 [$_{PlaceP}$ Place^0 […]]]; see Jackendoff (1983), Zwarts & Winter (2000), Cinque (2010), Den Dikken (2010), Koopman (2010), Svenonius (2010), Pantcheva (2011).

There is still, however, no single opinion when it comes to the base-position of Ground. One line of research assumes that PPs include a relational noun with a place/location interpretation (LOCATION) and that Ground is a possessor of LOCATION, as shown by a simplified structure in (14a); see Terzi (2005) and elsewhere, Botwinik-Rotem (2008), Noonan (2010), and Dékány (2018) on Uralic (Hungarian).[5] An alternative approach is to put Ground directly in the complement position of Place^0 for it to be immediately dominated by projections of the category P (14b); see for instance, Asbury (2008), Den Dikken (2010), and Dékány & Hegedűs (2015).

(14) a.   *Ground as a possessor*   b.   *Ground as a complement of Place^0*
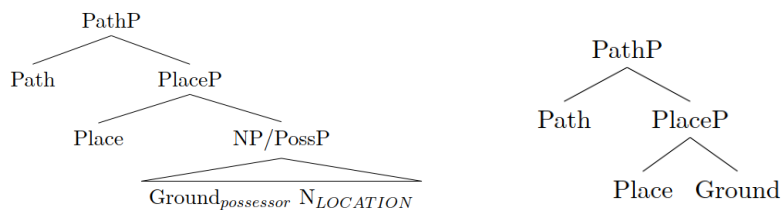
The data from Mari suggest that both strategies are used in the language. Specifically, PPs with a pronominal Ground must involve possession (Section 3.2), while PPs with a non-

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[5] While in the cited literature the silent noun is usually referred to as PLACE, in this paper I call it LOCATION, to avoid confusion with the stative head Place^0 projecting the PlaceP.

pronominal Ground appear to have a simplified structure, with the nominal phrase merged as the complement of the Place head (Section 4).

### 3.2   PPs with personal pronouns as possessive constructions

3.2.1   *Possession in Mari*

In Mari, PPs with a pronominal Ground are similar in their morphosyntactic properties to possessive phrases with a pronominal possessor, which suggests that they too involve some kind of possession. Recall from Section 2 that in such PPs a personal pronoun is marked genitive and that it is cross-referenced by a possessive suffix that attaches to the postposition. This parallels the morphosyntax of possessed nominals, where the possessor is always genitive and the possessum hosts a POSS marker. The one significant difference – namely, the optionality of POSS in (15a) but not in (15b) will be addressed in Section 5.

(15) a.   məj-**ən**   počeš(-**em)**   b.   məj-**ən**   pört-**em**

        I-GEN   after-POSS.1SG   I-GEN   house-POSS.1SG

        'after me'   'my house'

The structure of possessive constructions is sketched in (16). Although a detailed examination of possessive constructions lies beyond the scope of the present paper, below I briefly explain the motivation behind choosing this particular configuration and refer the reader to the relevant literature.[6]

(16) *Possessive constructions*
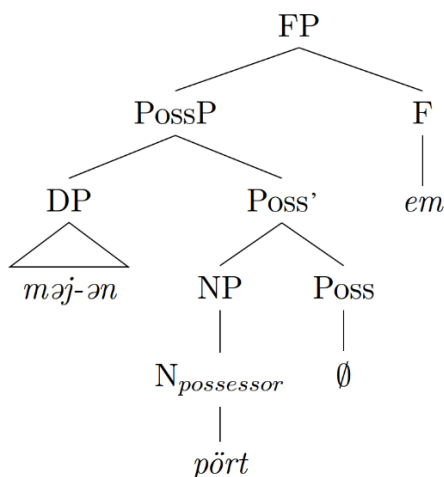
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[6] Burukina (2022) adopts a slightly different analysis for possessive constructions in Mari, merging all possessors within the NP and allowing FP to optionally dominate PossP. I believe that the present version of the analysis is superior, as it accommodates the data in (17), provides a motivation for the presence of PossP, and makes the presence of FP regular.

The possessor and the possessum form a constituent together, which I take to be a PossP. The role of the Poss head is similar to that of v^0 or Voice$_{Cause}$ in the clausal domain: it introduces what is essentially an external argument (possessor) to the lower NP (possessum). A question arises of whether Poss^0 is the source of genitive case on the possessor and/or agreement on the possessum. (Compare, for instance, Kornfilt (1984), who argued that in Turkish a single Poss/Agr^0 projects a possessor and assigns genitive to it, and Öztürk and Taylan (2016), who proposed that a possessor is base-generated in Spec,PossP but then moves to a higher position to be licensed.)

The Mari data suggest that, although genitive case and possessive agreement often appear together, they are not inextricably linked. On the one hand, in some constructions genitive dependents appear without a POSS. Consider, for instance, gerunds with overt genitive subjects in Mari, which are incompatible with POSS (17a); it is also worth mentioning so-called attributive genitive modifiers in Hill Mari, which are non-specific NPs marked genitive that are never cross-referenced by a POSS on the head noun (17b).[7] On the other hand, person-number marking morphologically identical to POSS appear on some infinitives that are incompatible with genitive subjects (18); see Tóth (2000) and Burukina (2022) for detailed discussions of inflected infinitives in Hungarian and Mari, respectively.

(17) *Genitive modifiers without POSS*

　　　a.　Memnan　tol-de(-*na)　　　　　te　　paša-m　　ida　　　　tüngal!
　　　　　we.GEN　　come-GER.NEG-POSS.1PL　you.PL　work-ACC　IMP.NEG.2PL　begin
　　　　　'Don't start work before we come!'　[Riese et al. 2022: 271]

　　　b.　Vas'a-n　izi　　šə̂žar-žə̂　　　　　　　mə̈n'-ə̈n　　markə̂-vlä-n
　　　　　Vasja-GEN little　younger.sister-POSS.3SG　　I.GEN　　　stamp-PL-GEN
　　　　　kol'ekci-em-ə̂m　　　　kə̂šked-ə̈n.
　　　　　collection-POSS.1SG-ACC　rip-PST
　　　　　'Vasja's younger sister ripped my collection of stamps.'　　[Pleshak 2019: 53]

(18) *POSS without a genitive dependent*

　　　a.　Kudəvečə-š　　　pur-aš-na　　　　nele /　saj.
　　　　　yard-ILL　　　　go-INF-POSS.1PL　　hard　good
　　　　　'For us it is difficult/good to get into the yard.'

　　　b.　*Memnan kudəvečə-š　pur-aš(-na)　　nele /　saj.

---

[7] Similar attributive genitive modifiers are attested in Mari in colloquial speach, with some intra-speaker variation: %*pərəs-ən örəš* cat-GEN whisker 'cat's whiskers' (about a non-specific cat).

we.GEN   yard-ILL   go-INF-POSS.1PL   hard   good

Intended: 'For us it is difficult/good to get into the yard.'

This points to two conclusions: (1) genitive case assignment should be separated from agreement, and (2) genitive case assignment and agreement should be separated from (semantic) possessiveness. A reasonable way to ensure (2) is to postulate the presence of two separate functional projections, which I will call PossP and FP. The lower Poss head brings the possessor and the possessum together. The higher F head is responsible for agreement and is spelled out as a POSS marker. Analyses along these lines were proposed for Hill Mari by Pleshak (2019), following the extensive literature on Hungarian that advocated splitting the nominal spine into PossP and FP/AgrP, spelled out separately; see Bartos (1999, 2000), Dékány (2011, 2018). An advantage of such an approach is that, in principle, one may expect to find FP outside of the possessive context, which gives a way to account for such examples as (18), where the same set of inflections is used to cross-reference not the possessor on a possessum but rather the subject on an infinitive.

What about the examples in (17)? It might be proposed that $Poss^0$ projects a possessor in its specifier and, at the same time, assigns it genitive. However, (17) show that genitive and possessiveness do not always coincide: for instance, the genitive modifier *markə̂-vlä-n* in (17b) can only be interpreted as relational and not as a genuine possessor (i.e. an owner or a producer). To capture this, I propose to abandon the idea of genitive being a structural case assigned by a specific functional head and consider it instead within the Dependent Case Theory framework (Marantz 1991). Following Baker (2015), I consider genitive an unmarked case within a nominal domain, similarly to the treatment of nominative in the clausal domain; see also Pleshak (2022) treating genitive as unmarked based on the distribution of overt subjects in nominalized clauses in Hill Mari. The following rule then regulates genitive case assignment:

(19)   *Genitive as an unmarked case*:

If NP is not otherwise case-marked when DP/NP is spelled out, assign it genitive.

Under such an approach, it is plausible to assume that, although both 'true' possessors, as in (15), and attributive nominals, as in (17b), end up being marked genitive, they are base-generated in different positions: the former are projected by $Poss^0$ and the latter are merged within the NP, which explains the difference in the interpretation.

3.2.2   The Ground-LOCATION possessive relation in PPs with an independent adposition

In an adpositional phrase a relation is established between the LOCATION and the Ground (20). Recall from Section 2 that independent adpositions in Mari go back to place-denoting nouns,

for example, *počeš* 'after' ← *poč-eš* 'back-LAT'. I consider these nouns to be overt manifestations of LOCATION. The resulting combination is dominated by PlaceP and, for directional postpositions, PathP. This yields a more complex literal interpretation for such examples: for instance, *məjən počešem* from (15a) is typically translated by native speakers as 'after me' but literally means 'towards my back'.

I further argue that the relation between the LOCATION and the Ground should be analyzed as inalienable possession; notice that the majority of the nouns in the base of adpositions are body/object-parts, such as 'back', 'front', etc. As argued by Vergnaud and Zubizarreta (1992), Alexiadou (2003), i.a., inalienable possessors are merged lower in the structure, in Spec,NP.[8] Therefore, the complement of a postpositional Place^0 head is a reduced nominal projection, without a PossP or an FP. Yet, the Ground is still assigned genitive – the unmarked case of the nominal domain.

The presence of POSS on the postposition hints that an additional projection is added on top of the PlaceP/PathP. At this point, I also mark it as FP because its main function and the set of possible exponents are the same as those of the FP in the possessive construction (16). Recall however that agreement in PPs appears to be optional, while agreement in possessive constructions is required; I will discuss the properties of FP in more detail in Section 5.

(20) *PPs with a dependent personal pronoun*

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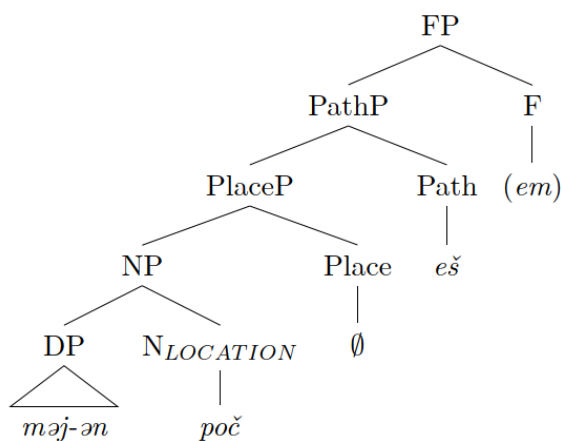
[8] Alternatively, the absence of PossP and FP may be attributed to the impoverished nature of the location nouns; see Collins (2007) for a discussion of differences between the so-called light noun LOCATION and 'proper' lexical nouns.

3.2.3 The Ground-LOCATION possessive relation in dative PPs

Turning the attention to dative personal pronouns,[9] the standard pattern is pronoun$_i$-DAT-POSS$_i$. On the one hand, pronouns pattern with the PPs discussed above in that DAT is followed by POSS matching the features of the pronoun. On the other hand, there is no genitive case marker: such forms as *məj-ən-lan-em 'I-GEN-DAT-POSS.1SG' are strictly ungrammatical, as was previously shown in Section 2.
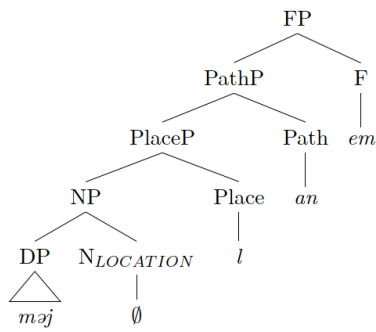
Unlike *ončəlno, počeš*, etc., which are based on a relational noun, dative and other spatial case markers have always been exponents of Place^0 and Path^0. As mentioned in Section 2, the dative *lan* is a combination of locative *l* (Place^0) and lative *an* (Path^0) and there is no reason to believe that it goes back to a nominal that could have been used as LOCATION. A reasonable assumption thus is to add a silent LOCATION noun to the set of overt LOCATION items; see also Dékány (2018) and reference therein. Just like the overt location-denoting nouns discussed in the previous subsection, the silent LOCATION projects a reduced nominal structure without a PossP. The proposed structure for dative personal pronouns is given in (21).

---

[9] The 1st and 2nd person personal pronouns in Mari are incompatible with locative cases (inessive, lative, and illative); however, the analysis in (21) does not necessarily rule out such forms as, for instance, *məjənšte 'I.GEN.INE' or *məjənštem 'I.GEN.INE.POSS.1SG'. I propose that the restriction is rather of semantic nature: locative P heads select for a nominal complement that can be interpreted as a location. This can be modeled as P$_{IN/LAT/ILL}$ having a semantic [loc] feature to check. The LOCATION nominal could, in principle, check this feature, however, as a silent element it itself needs to be licensed by a modifier/dependent with a [loc] feature (cf. in English *John bought a green (COLOR) car,* where the silent element COLOR is licensed by *green*; see also Kayne (2012) on silent nominals). In turn, 1st and 2nd person personal pronouns are notoriously interpreted as non-locational participants.

The following two observations suggest that such a semantic approach is on the right track. First, unlike referential nominal expressions, dative personal pronouns cannot be used in core spatial contexts (i). This does not come as unexpected under the assumption that, although morphologically dative still largely patterns with the other spatial cases and is an exponent of P, semantically it no longer has to have the [loc] feature. Second, notice that when an NP with a human referent is used in a locative context, native speakers also prefer a construction with an independent postposition and mark the one with a spatial case suffix as marginal.

(i)   a.   Petja   škol-əš   *məlanna /   %Maša-lan   kaj-en.

             Petja   school-ILL   we.DAT   Maša-DAT   go-PST

             'Petja went to school to pick up Maša.'

     b.   Petja   məlanna kaj-en.

             Petja   we.DAT go-PST

             Only: 'Petja went (somewhere) for us.' Not available: 'Petja went towards us.'

(21) *Dative personal pronouns*

```
                    FP
                   /  \
                PathP   F
                /  \    |
           PlaceP   Path  em
           /  \      |
         NP   Place  an
        /  \    |
      DP  N_LOCATION  l
      △      |
     məj     ∅
```

A question remains concerning the case-marking of the Ground DP in (21). I propose that the dative postposition *lan* has a case feature and that it assigns dative to a dependent DP, thus preventing the assignment of the unmarked genitive; the result form in (21) is thus *mə-lan-lan-em,* with the second *lan* being silenced post-syntactically as an example of haplology.[10]

That the dative postposition is capable of licensing a dative DP within its complement is supported by the distribution of overt subjects in infinitival clauses. As discussed by Burukina (2022), in Mari overt referentially independent dative subjects are allowed in infinitival purpose/rationale clauses introduced by a dative adposition, as indicated by the presence of a dative suffix on the infinitive (22). This allows to derive the desired Goal/Purpose interpretation.[11]

(22) [Məlanna kudəvecəš pur-aš-lan(-na)],   təj   pečəm   sümərenat.
     we.DAT   yard.ILL   go-INF-DAT-POSS.1PL you fence.ACC broke.2SG
     'You broke the fence for us to get into the yard.'

Burukina (2022) shows that overt dative subjects are not allowed in other kinds of infinitival clauses and draws the conclusion that their presence depends on the presence of P$_{DAT}$. She proposes that it is P$_{DAT}$ that exceptionally assigns dative case to the embedded subject,[12]
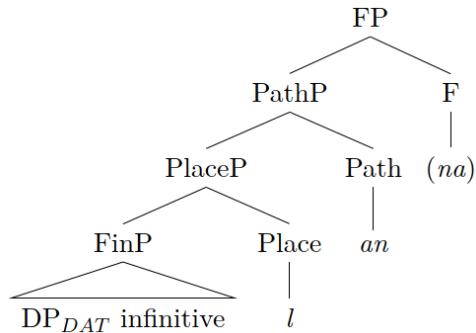
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[10] The exceptional case-assigning properties of P$_{DAT}$ correlates with dative phrases being the only ones among NPs with a spatial case that are allowed to appear in the subject position (22). It may be suggested that in some dative PostPs the combination of Place^0 and Path^0 has been reanalyzed as a case projection (K). I leave this issue to be investigated by future research.

[11] In more recent work Burukina (2023) proposes that the original P$_{DAT}$ in the infinitival purpose/rationale dependents was grammaticalized into a Mood head; however, it has preserved some of the lexical properties including the ability to assign dative case. Thus, the general observation that a nominal constituent embedded into a dependent of the dative adposition is exceptionally marked dative holds true, crucially for the present discussion.

[12] This implies that, at least in some cases, dative may be analyzed as an exponent of K (case) on the nominal spine and not necessarily as P^0 (see also Footnote 10). For now, I leave this idea to be explored by future research. A

after the latter undergoes movement to the edge of the embedded FinP, similarly to how prepositions or complementizers derived from prepositions assign case to embedded subjects in many Indo-European languages (see, for instance, *for* in English).

(23) *Dative-marked infinitival clauses*

```
                        FP
                       /  \
                   PathP    F
                  /    \     |
              PlaceP   Path  (na)
             /    \     |
          FinP    Place an
         /   \      |
    DP_DAT infinitive l
```

Note also that the subject is cross-referenced by a person-number marker that attaches to *lan*, similarly to dative personal pronouns, which suggests that the two phenomena are likely of the same origin and should be considered together.

4 PPs with P⁰ taking Ground as a complement

4.1 PPs with a referential dependent: No LOCATION

In the previous section I put forward an analysis for PPs with a personal pronoun as Ground, whereby the pronoun is merged as a possessor to a silent or overt LOCATION nominal. In this section I propose that PPs with a non-pronominal dependent utilize a simpler structure where P^0 takes Ground as a complement.

As discussed in Section 2, when a postposition or a spatial case combines with a nominal Ground, the latter is unmarked and there can be no possessive suffix matching its φ-features.

(24) a. pört   körgəškö / pört-əš

      house   into   house-ILL

      'into the house'

   b. uškal   počeš /   uškal-lan

      cow   after   cow-DAT

   'after a cow', 'to a cow'

---

similar suggestion regarding the dual nature of dative in Mari was made by Den Dikken (2018); for a cross-linguistic perspecitve see, for instance, Sadakane & Koizumi (1995) on the dative particle *ni* in Japanese.

Unlike PPs with a pronominal Ground, PPs such as those in (24) have little in common with possessed nominals. An attempt to approach them using the analyses in (20) and (21) runs into a problem, as we would expect the possessor Ground to be genitive, at least with independent postpositions. The absence of POSS also needs to be explained, because generally third person possessors in Mari are cross-referenced on the possessum.

(25) a.　poškud-ən　　uškal*(-že)　　b.　rveze-vlak-ən　　pört*(-əšt)
　　　neighbor-GEN　cow-POSS.3SG　　　boy-PL-GEN　　house-POSS.3PL
　　　'neighbor's cow'　　　　　　　　　'boys' house'

I propose that PPs with a non-pronominal Ground involve no possession and that the Ground is an NP merged directly to the complement position of the Place head as specified in (26). Since Ground is not inside the nominal domain it is not assigned the unmarked genitive case. Although in order for the proposed analysis to work, Place^0 has to be selectionally flexible and combine with either a PossP or an NP (or occasionally a FinP, see (22/23)) there is something in common between all the contexts: Place^0 never takes as its complement a full DP. Analyses whereby P^0 selects a smaller nominal projection were also suggested by Simonenko & Leontjev (2012), Volkova (2014), and Pleshak (2020) for Moksha; see also Lyskawa & Ranero (2021) showing that, in general, arguments generated in the complement position may be reduced in size.[13]

(26) *PPs with a non-pronominal dependent*
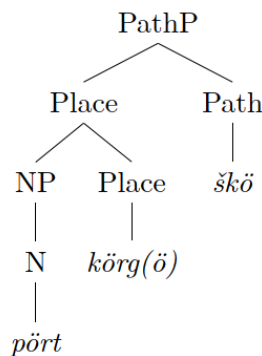
A possible reason for why this derivation is not used in the case of personal pronouns is that these cannot be reduced to an NP. Approaches to personal pronouns vary; for instance, Postal (1969) and Ritter (1995) suggested that personal pronouns are complement-less D heads, while Déchaine & Wiltschko (2002), among many others, argue that pronouns have an N head

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[13] The question of whether nominal phrases in Mari (a determiner-less language) are DPs or NPs is still open. In this paper I take them to be NPs; however, the proposed analysis for PPs does not hinge on this assumption and can easily be adapted to the DP approach (with slight modification, but not discarding the core ideas).

and a DP layer. Yet the majority of the researchers agree that (at least first and second person) pronouns are always DPs (Pereltsvaig 2006, Lyutikova 2019, i.a.).
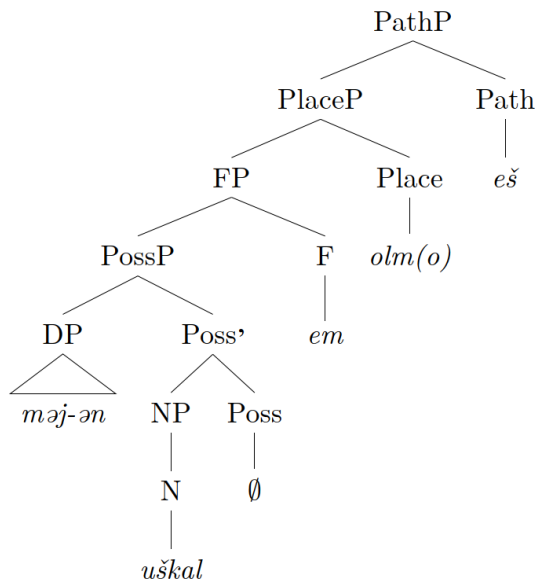
4.2   PPs with a possessed nominal

In case of a PP with a possessed nominal dependent, the embedded possessor is marked genitive, as usual, but the corresponding possessive marker attaches either to the possessum or to the postposition.

(27) a.   məj-ən   uškal-em   olmeš
            I-GEN   cow-POSS.1SG   instead.of
            'instead of my cow'

     b.   məj-ən   uškal   olmeš-em
            I-GEN   cow   instead.of-POSS.1SG
            'instead of my cow'

The structure in (26) anticipates both of these patterns, under the assumption that Place^0 can select any nominal projection smaller than a DP. As shown in (28), Place^0 takes a PossP topped by an FP as its complement, which straightforwardly derives the order '(possessor) N-POSS Post', illustrated in (27a).

(28) *PPs with a possessed nominal*

```
                        PathP
                       /     \
                   PlaceP     Path
                   /    \       |
                 FP     Place    eš
                /  \      |
             PossP  F   olm(o)
             /   \   |
           DP   Poss' em
           /\    /  \
       məj-ən  NP   Poss
                |    |
                N    ∅
                |
              uškal
```

Following Guseva & Weisser (2018) (G&W), I take the alternative order '(possessor) N Post-POSS' to be derived at Spell-Out, as a result of a postsyntactic operation that is part of the PF branch and thus has no effect on the interpretation (indeed, the native speaker consultants reported no semantics difference between, for instance, (27a) and (27b)). Building upon Harris

& Halle (2005), G&W propose that spatial case suffixes swap places with the possessive agreement (on D^0 in their analysis, on F^0 in the present paper) via an operation of metathesis (METATH), available after linearization but before vocabulary insertion. The operation is detailed in (29), adapted from G&W. In essence, METATH reduplicates the string F ($\succ$ X) $\succ$ P and after that deletes parts of both copies.

(29)   1.   Structural description: [PP Possessor NP F X P_{loc}

        2.   Structural change:

             i. Insert ⟦ to the immediate left of F and ⟧ to the immediate right of P_{loc}.

             ii. Insert ⟩⟨ to the immediate right of F.

Importantly, METATH allows for some phonological material X to intervene between the two relevant heads, which makes it possible to capture the behavior of locative suffixes both in the absence and presence of a lower non-affixal Place. This is schematized in (30), where the non-affixal Place (a former LOCATION nominal) is marked as Place; the parts that are deleted after the reduplication are shaded.

(30)   NP F (Place) $P_{loc} \Rightarrow$ NP ⟦ F ⟩⟨ (Place) P_{loc} ⟧ $\Rightarrow$

        NP - F (Place) P_{loc} - F (Place) $P_{loc} \Rightarrow$ NP (Place) P_{loc} F

In G&W's opinion applying the metathesis operation is obligatory. While that appears to be true for the inessive, lative, and illative suffixes when those are used on their own,[14] rearranging F and P in case of an independent postposition is optional. The same is true for dative (Section 2). In a footnote, G&W suggest a possible explanation, which I find reasonable and would like to keep to in this paper: in case of an independent adposition or dative, the [loc] feature that distinguishes P heads affected by the metathesis operation is optionally present. As was mentioned in Footnote 9 of the present paper, postulating a special [loc] feature on some but not all postpositions would also help to account for the incompatibility of personal pronouns with inessive/lative/illative and to explain why in Modern Mari many dative DPs cannot be used in the core locative contexts.

To summarize, in Mari PPs have one of the following two configurations, depending on the structural size of Ground but regardless of the type of the postposition. When Ground is a personal pronoun, i.e. a full DP, it is merged as a possessor of a LOCATION nominal. In other

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[14] To account for the possibility of the NP-POSS-NUM-LOC order G&W introduce another post-syntactic operation – Lowering, which can be applied to the head associated with POSS; see also McFadden (2004) for a similar proposal and Embick & Noyer (2001) introducing the notion of Lowering. Since the present paper only considers singular forms, I will not discuss this part of G&W's analysis in more detail.

cases Ground is a DP-less nominal/possessive phrase that is base-generated in the complement position of Place^0.

I further hypothesize that the two configurations are diachronically related: the Ground-as-Comp configuration has been derived from the Ground-as-Possessor configuration as a result of LOCATION nominals undergoing transformation; see Serebrennikov (1967) and Majtinskaja (1982) on postpositions in Uralic stemming back to position-denoting nouns.[15] Overt LOCATION nominals were reanalyzed as exponents of the Place head, fused where necessary with an affixal stative P^0 and shifting the lexical locus of the meaning of the adposition, while the silent LOCATION was reduced. The idea that independent postpositions were decomposed in an earlier stage of the language is corroborated by the observation that in many independent postpositions of the shape [relational noun + a locative suffix] an old form of the case marker is used that is no longer productive in modern Mari (Section 2); compare for instance, the old inessive *ne/no* in *ončəlno* 'in front of' and *vokten* 'next to' to the productive inessive *štə*. As discussed in Galkin (1985), many of the old markers *-ne* (INE2), *-ke* (ILL2), *-an* (LAT2) can be traced back to Proto-Uralic items; they were displaced by the modern markers by the mid-19th century the latest, and the elative (*-č(ən)*) is not used in Modern Mari at all (Riese et al. 2022). While more research into the history of Mari is needed, I believe that the suggested link between the two forms is worth examining in the future.

Section 6 provides additional support for multiple structural positions available for Ground by discussing the morphosyntactic properties of PPs with reflexive pronouns. Before I proceed, however, in Section 5 I would like to briefly address the optionality of POSS in some of the constructions considered above.

5   On the optionality of POSS

As discussed in this paper, possessive morphemes in Mari appear with possessed nominals, in postpositional constructions (including dative personal pronouns), and some infinitival clauses (Section 3). The paradigm of possessive suffixes is given in Table 4; it is compared to the agreement morphology used with finite verbs to show that the two groups of markers are not the same.

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[15] Some other examples of words moving to the category of adpositions include the verb 'use' reanalyzed as the preposition 'with' in Kambera (Austronesian; Klamer 1998) and various participles being reanalyzed as prepositions in German (Diewald 1997, i.a.).

	1SG	**2SG**	**3SG**	**1PL**	**2PL**	**3PL**
el 'country'	el-em	el-**et**	el-**že**	el-na	el-da	el-**əšt**
lud.PFV 'read'	ludən-am	ludən-**at**	ludən-**Ø**	ludən-na	ludən-da	ludən-**ət**
kočk.AOR 'ate'	kočk-əm	kočk-**əč**	kočk-**o**	koč-na	koč-da	kočk-**əč**

Table 4. Possessive markers vs finite agreement

Throughout the paper I argued that POSS is an exponent of the F head that dominates PossP and also PathP and PlaceP (in the absence of PathP, that is, with non-directional postpositions). However, a question remains as for why POSS becomes optional in some cases. As discussed in Section 2, POSS is **obligatory** with possessed nominals. It also must be present in PPs with a pro-dropped Ground (30) and in infinitival purpose/rationale clauses whose subject is silent and non-coreferential with the main one (30c).

(30) a. Petjan   kniga*(-že)   b.   nergen*(-na)

Petja.GEN   book-POSS.3SG   about-POSS.1PL

'Petja's book'   'about us'

c. [Kudəvecəš pur-aš-lan*(-na)],   təj   pečəm   sümərenat.

yard.ILL   go-INF-DAT-POSS.1PL you fence.ACC   broke.2SG

'You broke the fence for us to get into the yard.'

However, POSS is **optional** in PPs with an overt pronominal Ground and in infinitival clauses with an overt subject. The optionality is conditioned by the information structure. The speakers of Mari that I consulted noted that the presence of both an overt lexical item and the corresponding POSS marker in such examples is associated with an emphatic interpretation; compare (31a) and (31b), where the emphasized constituent is highlighted. This is summarized in Table 4.

(31) a. Knigam   memnan   vokten   užənat.

book.ACC we.GEN   next.to   saw.2SG

'You saw a book next to us.'

b. Knigam   memnan   vokten-na   užənat.

book.ACC we.GEN   next.to-POSS.1PL saw.2SG

'Next to **us** you saw a book (not to someone else)   .'

Possessed nominals	PPs with pro-drop	Infinitives with pro-drop	PPs with overt Ground	Infinitives with overt Subj
obligatory	obligatory	obligatory	**optional**	**optional**

Table 5. Optionality of POSS

While at this point I cannot fully explain the optionality described above, I would like to put forward a possible approach to the problem. It appears that F^0 in possessed nominals searches for any nominal phrase with φ-features as an agreement goal. When it finds one, it interacts with all of the φ-features of that item and those are spelled out as a POSS marker.

In contrast, F^0 in PPs with an independent postposition and in purpose infinitives appears to search for a nominal phrase that is additionally marked with a special feature as a continued topic or a contrastive element; see Hartmann (2016) on information structure features entering syntactic derivation and Lohninger (2022) and Lohninger et al. (2022) on functional heads combining A and A-bar properties. After establishing an agreement relation with F^0, nominal phrases – continued topics get pro-dropped/silenced; see Bradley & Hirvonen (2022), building upon Frascarelli (2007, 2018), on pro-dropped items in Mari being continued topics that form a topic chain. (Compare this, for instance, to subject and object topic-drop in Russian and other Slavic languages (Tsedryk 2015).) Contrastive nominals still have to be pronounced to bear the necessary emphatic stress.

This gives rise to a question concerning the classification of F heads, as it becomes impossible to claim that they are exactly the same in all of the constructions described above. Instead, it may be proposed that the POSS suffixes shown in Table 4 are not the exponents of a particular functional head, but rather spell out φ-features that are acquired by any non-finite (tenseless) head via agreement regardless of the category of the latter.[16] If this is the case, F^0 probing for φ-features resembles T^0, while F^0 probing for [Topic]/[emph] is similar to $Topic^0$ within the split CP. This opens the way for thorough comparison of the left periphery of nominal and adpositional projections with that of a clause; see Koopman (2010) and Den Dikken (2010) for some suggestions in that direction.

6   Expanding the dataset: PPs with reflexives

In the previous part of the paper my goal was to demonstrate that the morphosyntactic behavior of PPs in Mari cannot be captured with a single structure. Instead, two configurations are used

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[16] Throughout the paper FP in possessive constructions was presented as a separate projection, to highlight the fact that the same set of person-number inflections appear in both possessive and non-possessive contexts. However, under the assumption that these markers are generally used to spell out default non-finite agreement, we can simplify the possessive structure outlined in Section 3.2, merging PossP and FP in the nominal domain back together. The benefits of such an approach are to be determined in future work.

in the language with Ground being merged either as a possessor of a LOCATION nominal or as a complement of a locative Place head. In this section I would like to expand the dataset by adding reflexive pronouns to the picture, whose behavior in PPs has been largely ignored in the literature. As I attempt to show, reflexives make use of either of the two structures (Ground-as-Comp or Ground-as-Possessor) depending on whether they are syntactically built possessed nominal phrases or 'ready-made' pronouns.

Reflexive pronouns in Mari are derived from the root *ške*, which goes back to the noun meaning 'shadow' (Majtinskaja 1964). On the surface, they resemble possessed constructions with a covert possessor: the root is accompanied by a POSS marker that cross-references the antecedent and the position of the marker relative to case suffixes is the same as in possessed noun; compare for instance, *ška-lan-na* 'to ourselves' (SELF-DAT-POSS.1PL) to *pört-lan-na* 'to our house' (house-DAT-POSS.1PL).

A detailed discussion of the syntactic properties of reflexives lies beyond the limits of the paper and I refer a reader to Volkova (2014) and Burukina (2021; to appear) for more data. For our purposes it is important to mention that reflexive pronouns pattern with full DPs and cannot be considered clitics: for instance, they allow various kinds of modifiers (32a), combine with constituent negation (32b) and can be separated from the predicate and the rest of the clause in focus constructions (32c).

(32) a.   Fotografijšte   užam   škem-əm   pij   den.
           photo.INE   see.1SG   SELF.1SG-ACC   dog   with
           '(On the photo) I see myself with a dog.'

     b.   Məj   voštončəšəšto   škem-əm   ogəl   užənam.
           I   mirror.INE   SELF.1SG-ACC   NEG   saw.1SG
           'In the mirror I saw not myself.'

     c.   Təj   škend-əm   vele   jöratet.
           you   SELF.2SG-ACC only   love.2SG
           'You love only yourself.'

Another property of the reflexive items that should be noted is that they are also used as emphatic pronouns (also known in the literature as intensifiers), either attributively (33) or adverbially. In such a case they no longer comply with the binding Principle A; see Burukina (to appear) describing the behavior of intensifying reflexives in Hill Mari. This is common cross-linguistically: consider, for instance, English *herself* in the translations in (33), as well as reflexives used as intensifiers in Turkish, Modern Hebrew, and Persian, among others (König & Siemund 2000a, 2000b).

(33) a. Nadežda Dmitrijevna-m škenžəm čüčkədən kompjuter vokten

Nadežda Dmitrijevna-ACC SELF.3SG.ACC often computer next.to

užaš lieš.

see.INF be.possible.NPST.3SG

'As for Nadežda Dmitrijevna herself, it is possible to often see her next to the computer.' [Arkhangelskiy 2019]

When used as Ground with an independent postposition, reflexive items surprisingly exhibit mixed behavior. First option is to keep the reflexive *ške* unmarked and attach the necessary POSS to the postposition (34). Alternatively, a genitive reflexive pronoun is used and the postposition is optionally marked with POSS.

(34) a. *ške olmeš-POSS* b. *ške.POSS$_i$-GEN olmeš(-POSS$_i$)*

ške olmeš-na škena-n olmeš(-na)

SELF instead.of-POSS.1PL SELF.1PL-GEN instead.of-1PL

'instead of ourselves' 'instead of ourselves'

The following two observations are of importance. First, genitive reflexives used with a postposition do not require a local antecedent (35) and often alternate with corresponding personal pronouns. Second, as noted by the native speaker consultants, compared to personal pronouns, genitive reflexives receive an emphatic, 'intensified' interpretation.

(35) a. Škenan olmeš(-na) pašaške tače Petjam kolten.

SELF.1PL.GEN instead.of-POSS.1PL work.ILL today Petja.ACC sent.3SG

'INSTEAD OF US, today s/he sent Petja to work.'

b. Memnan olmeš(-na) pašaške tače Petjam kolten.

we.GEN instead.of-POSS.1P work.ILL today Petja.ACC sent.3SG

'Today s/he sent Petja to work instead of us.'

I propose that the alternating patterns in (34) arise from two different underlying structures. Syntax treats the *ške-* items either as possessed NPs or as ready-made DPs, in parallel to personal pronouns. The former corresponds to the reflexive (bound) use and the latter corresponds to the intensifier use.

The structure of 'true' reflexive pronouns that require an antecedent is given in (36). The nominal *ške* is accompanied by a silent possessor, which I denote as *x*. To account for the obligatory compliance of reflexives with the binding Principle A, I assume that at the beginning of the derivation *x* is essentially a variable and that its value is determined by a local antecedent in the clause; the acquired features of *x* are spelled out as a possessive marker in F^0. Similar
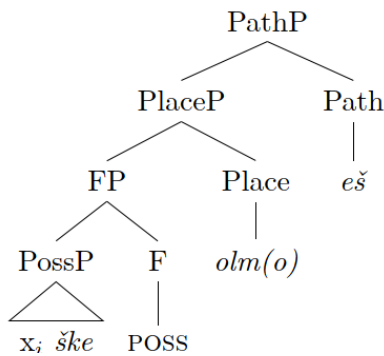
proposals whereby a reflexive stem is combined with a bound pronominal possessor were made by É. Kiss & Mus (2022) on Eastern Uralic and Ahn & Kalin (2018) on English.

(36) *Reflexive pronouns*

```
              FP
             /  \
         PossP    F
          /\      |
         /  \    POSS
       x_i  ške
```
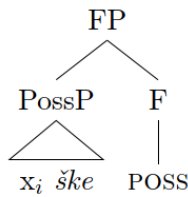
Combining this structure with the Ground-as-Comp one for PPs (Section 4.2) produces the configuration in (37). At Spell-Out the metathesis rule is applied giving rise to examples where POSS follows the postposition. The same structure is used to derive dative forms of reflexives, where the reflexive root *ška* is followed by the dative suffix and then POSS corresponding to the antecedent: for instance, *ška-lan-na* 'SELF-DAT-1PL' or *ška-lan-da* 'SELF-DAT-2PL'.

(37) *PPs with a dependent reflexive pronoun*

```
                    PathP
                   /     \
               PlaceP     Path
               /    \      |
             FP     Place   eš
            /  \      |
        PossP   F    olm(o)
         /\     |
        /  \   POSS
      x_i  ške
```

As discussed in Section 4, in PPs with a non-pronominal possessive dependent the order '(possessor) N-POSS P' is also possible. While there is certain intra- and inter-speaker variation, in general, reflexive PPs are no exception: such examples as *ške-m nergen* 'about myself', literally 'SELF-POSS.1SG about', and *ške-m-lan* 'SELF-POSS.1SG-DAT' are accepted by native speakers.

The analysis in (37) fails to accommodate PPs with a genitive reflexive (34b). To solve this problem, I propose that in such examples reflexive pronouns are treated as ready-made pronouns, i.e. their φ-features are not determined by an antecedent (hence no *x* variable) but directly enter the derivation. Essentially, such reflexives are full DPs with the syntactic distribution similar to that of personal pronouns; when used as Ground in PPs they are merged as possessors of a LOCATION noun (38). Interpretation-wise, the only difference between the two is that reflexive items are typically used as emphatic.

(38) *PPs with an intensifier*

27

```
                          FP
                        /    \
                    PathP      F
                   /    \       |
              PlaceP     Path  (POSS)
             /    \       |
           NP     Place   eš
          /  \      |
        DP   N_LOCATION  ∅
       /  \     |
self.PERSON  olm(o)
```
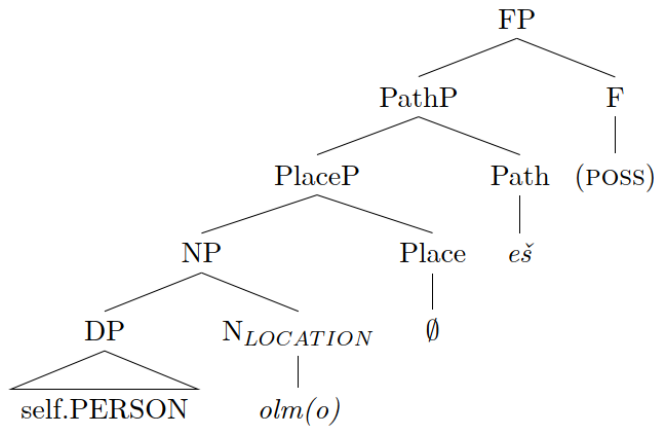
If the analysis sketched above is on the right track, the distribution of reflexive pronouns further supports the idea that in Mari PPs are derived using two different structures and that the choice between them depends not on the type of the postposition but on the properties of the Ground dependent.

7   Conclusion

The paper intended to start a discussion of postpositional phrases in Mari from a formal syntactic point of view. I focused mostly on location PPs with an independent postposition and spatial cases, including dative, although the proposed analysis can easily be extended to other postpositions as well. After having examined the morphosyntax of PPs with pronominal and non-pronominal Ground, I showed that they have two different structures. Specifically, in PPs with a Ground-personal pronoun the latter is merged as a possessor of an overt or silent LOCATION nominal, while in PPs with a non-pronominal Ground the latter is merged directly in the complement position of the adpositional head, and it is dominated only by projections of the category P. I further expanded the dataset with PPs with a Ground-reflexive pronoun. These can be used in either one of the configurations depending on whether the reflexive is treated as a syntactically built PossP with an anaphoric possessor or as a ready-made emphatic pronoun.

I aimed to show that the data from Mari offer an important contribution to the study of PPs across the world's languages and to present several interesting problems for future research. Thus, I touched upon the optionality of POSS in various contexts and the nature of agreeing functional heads in nominal and adpositional phrases compared to those in a finite clause.

To the best of my knowledge, among the Uralic languages PPs in Hungarian have received the most attention from syntacticians; see for instance, Marácz (1986), É. Kiss (1999, 2022), Hegedűs (2006), Asbury (2008), Surányi (2009), Dékány & Hegedűs (2015), Dékány

(2018) and a recent volume edited by É. Kiss & Hegedűs (2021). Among those Dékány (2018) proposes a uniform approach to PPs, whereby they all contain a silent PLACE (in my terms, LOCATION) nominal regardless of the type of Ground. While such an analysis works for Hungarian, where the contrast between PPs with pronominal and non-pronominal Ground matches the contrast between PossPs with a pronominal and non-pronominal possessor, as we have seen, the same is not true for Mari, where the Ground-as-Possessor configuration cannot accommodate all PPs. An important direction for future research will be to compare these two cases to the data from other Uralic languages in an attempt to come up with some generalization.

For example, the two structures also appear to be necessary to capture the distribution of PPs in Udmurt (Arkhangelskiy & Usacheva 2015) and Moksha (Mordvin). In Moksha specifically the situation is very similar to that of adpositional phrases in Mari; the main difference is that definite nominal expressions pattern with personal pronouns, Moksha being a language with overtly marked DEF (Pleshak 2020). In contrast, similarly to Hungarian, in Inari Saami and North Saami, as well as in Eastern Khanty, PPs with all types of Ground appear to pattern with possessive phrases (Grünthal 2019, Borise & É. Kiss 2022). This split raises a question of potential contact influence and prompts further comparison of Uralic PPs with those in Turkic languages of the Volga-Kama region.

It should also be noted that across the Uralic languages some postpositions govern specific cases. Exceptions (i.e. postpositions with non-unmarked Ground) can be found even in Mari (see for instance *verč* that usually combines with an unmarked NP when it means 'for (the sake of)' and with a dative-marked nominal when it means 'because of'); see also Finnic languages where in PPs partitive is often used (Kettunen & Posti 1932, Grünthal 2019). This topic remains for future work as a more systematic cross-linguistic investigation is still needed.

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