



Burukina, Irina. 2026. Lexical P or functional Mood? Grammatical categories and mechanisms of clausal adjunction. *Glossa: a journal of general linguistics* 11(1). pp. 1–29. DOI: <https://doi.org/10.16995/glossa.23610>



Lexical P or functional Mood? Grammatical categories and mechanisms of clausal adjunction

Irina Burukina, University of Florida, irinaburukina@ufl.edu

The paper discusses mechanisms of clausal adjunction, that is, transforming a clause into a modifier with a specific interpretation (purpose, temporal, causal, etc.). It focuses on infinitival rationale clauses in Mari (Uralic), which can be headed simultaneously by a marker identical to the dative postposition (*lan*) and a complementizer (*manən*). Although in line with the popular P-approach to clausal adjunction (e.g., Landau 2021), analyzing *lan* as a P head is problematic because its distributional properties are atypical for an adposition and align closely with those of a clausal functional head, which prompts a question about its actual categorial status. I examine several ways to reconcile the P-approach with the Mari data, demonstrate that all these options face problems, and outline an alternative Mood-account. I propose that rationale clauses contain a MoodP with a teleological modal inserted as its head (spelled out as *lan*), which determines the semantic type and distribution of these clausal adjuncts—the presence of the modal allows rationale clauses to be used as modifiers predicated of the matrix TP. The paper contributes to the discussion of modifying clauses by showing that they can be regulated from within and offering a dual-strategy view that captures cross-linguistic variation; it further touches upon the issue of reanalyzing and grammaticalizing adpositions and ‘shifting’ grammatical categories.

Glossa: a journal of general linguistics is a peer-reviewed open access journal published by the Open Library of Humanities. © 2026 The Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC-BY 4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited. See <http://creativecommons.org/licenses/by/4.0/>.

OPEN ACCESS



1 Introduction

1.1 Overview of the argument

Adjunct clauses that modify events and situations are widespread across the world's languages and raise an interesting question: How do they work? Given that finite and many types of non-finite clauses are fully saturated propositions, how do they function as modifiers, that is, predicates? Moreover, where do the various flavors of modification (temporal, causal, rationale, etc.) come from?

A common strategy for overcoming both problems is to embed a clause as a dependent of a special P head, as in $[_{PP} P [_{CP/TP} \dots]]$. The resulted PP can be used as a VP/VoiceP/TP-level modifier due to the inherently predicative nature of adpositions, and the adposition further determines the specific interpretation of the adjunct. For non-finite clauses, an elaborate version of this analysis has been recently proposed by Landau (2021), who shows that the P-approach successfully accommodates the relevant data from English as well as Romance languages and Hebrew. The approach also leaves room for phonologically null adpositions and thus accommodates “unmarked” clausal adjuncts. It is tempting to further extend it to other languages and consider it a universal adjunction strategy.

The present paper focuses on infinitival rationale clauses in Mari, a Uralic language. A rationale infinitive bears a marker *lan*, identical to the affixal dative postposition, which at first glance fits the P-approach perfectly. What makes Mari interesting is that such ‘dative-marked’ rationale clauses also contain a complementizer *manən*, and the surface order of *lan* and *manən* indicates the structural sequence $[_{CP} [_{PP} [_{TP} \dots T] P] C]$. This pattern poses a problem for the theory of categorial selection (Grimshaw 1991, i.a.) and, consequently, for the P-approach to clausal adjunction, because a projection of category P appears to intervene between two functional layers of an extended verbal projection.

I examine several ways to reconcile the P-approach with the Mari data: (i) re-analyzing infinitives as deverbal nominals; (ii) treating *manən* as a lexical verb; and (iii) taking the underlying structure to be $[_{PP} [_{CP} [_{TP} \dots T] C] P]$ and postulating a postsyntactic operation responsible for the reordering of *lan* and *manən*. I demonstrate that all these options face further problems.

To account for the behavior of Mari rationale clauses without undermining the theory of grammatical categories and categorial selection, I propose an alternative Mood-approach, whereby *lan* spells out not a P but a functional head at the periphery of the non-finite clause, namely Mood. I work out a syntactic analysis at the core of which lies the idea that rationale clauses contain a modal operator Mod_{rat} , structurally represented as the head of MoodP (Nissenbaum 2005; Grosz 2014; Dąbkowski & AnderBois 2023).

The Mood-approach allows us to maintain a clear distinction between lexical and functional categories. It makes postulating an additional P head on top of a rationale clause unmotivated and redundant: it is the clause-internal Mood head itself that turns the rationale infinitive into a predicate and yields the desired purpose interpretation, obviating the need for a clause-external adposition.

Thus, Mari rationale infinitives provide no support for the P-approach to clausal adjunction and indicate that an alternative may be required, at least for some languages and some types of clausal modifiers. I do not claim that the Mood-approach can or should substitute the P-approach universally; rather, the two strategies complement each other and are both needed to capture the full range of adjunct clauses cross-linguistically.

From an empirical perspective, the paper fills in a gap in the description of Mari, an understudied language. While non-finite rationale clauses in English and some related Indo-European languages (e.g., German) have received much attention in the literature (see Faraci 1974; Jones 1991; Johnston 1994; Whelpton 1995, to name a few), adjunct infinitives outside the Indo-European family and in many Uralic languages specifically have remained understudied. The present work draws attention to the peculiar construction attested in Mari, which so far has only been briefly mentioned in grammars (Riese et al. 2022). From a theoretical perspective, the study contributes to the discussion of modifying clauses by offering a viable alternative to the P-approach and demonstrating that the distribution of infinitival adjuncts can be regulated from inside the clause, without a clause-external adposition. It also addresses broader issues of word categories, categorial features, and categorial reanalysis (section 5). Ultimately, the paper proposes that clausal adjunction is not regulated by a single universal mechanism, as two strategies are available cross-linguistically. Some clauses become modifiers by combining with a lexical P head with a specific interpretation (“power from outside”), while some clauses are turned into modifiers by inserting a modal in the clause-internal Mood head (“the power from within”), with the result structure functioning as a predicate with a rationale/purpose/goal reading.

1.2 The data and methodology

Meadow Mari (henceforth, *Mari*) is one of the two literary norms of Mari, Uralic; see Saarinen (2022) and Bradley & Luutonen (2023) for recent descriptions. Speakers of Mari primarily live in the Mari El Republic, Russian Federation, with other relatively large communities in Tatarstan, Bashkortostan, and Udmurtia. The status of Meadow Mari is described as “threatened” (Campbell et al. 2022): according to the 2010 Russian Census, there were at that time about 370,000 speakers of Meadow Mari, but the number of speakers registered in 2020 is lower – approximately 260,000.

The primary data presented in the paper were collected in 2020–2025 from two native speakers of the Morki(nsko)-Sernur dialect in individual online elicitation sessions. The consultants are from the same age group (38–45 y.o.), both grew up in the Mari El Republic and 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 grammar of literary Meadow Mari by Riese et al. (2022) and the data in the Korp corpus of Mari and the Meadow Mari social media corpus (Arkhangelskiy 2019).

1.3 Outline of the paper

The paper proceeds as follows. Section 2 presents the T-P-C puzzle, which challenges the adpositional approach to clausal adjunction. Section 3 considers and refutes two possible ways to avoid the C-over-P problem while still analyzing *lan* in infinitival rationale clauses as a postposition: reanalyzing the complementizer as a verb (3.1) and introducing a postsyntactic reordering operation (3.2). Section 4 outlines an alternative Mood-analysis that successfully captures the morphosyntax of Mari rationale clause. Section 5 discusses some implications of the proposal and concludes.

2 Mari rationale clauses

2.1 The T-P-C sandwich

Mari is a head-final language with basic SOV word order and optional subject pro-drop.¹ It has several types of subordinate clauses, both finite and non-finite. The latter group includes *aš* infinitives, participial and nominalized clauses, and so-called converbs (gerunds); see Burukina (2024a) for a recent discussion of the latter three groups.

Infinitives typically appear as complements (Riese et al. 2022: 251) and are rarely used as adjuncts, with a notable exception being the rationale clauses exemplified in (1). Rationale clauses (**RatCls**) express a reason behind some action: the action of the main clause serves as an instrument to bring about the action of the adjunct clause (Faraci 1974; Farkas 1988).

- (1) a. [Məlanna kudəβečə-š pur-aš-lan manən] təj pečə-m sümər-en-at.²
 1PL.DAT yard-ILL enter-INF-LAN COMP 2SG fence-ACC break-PST2-2SG
 ‘You broke the fence in order for us to get into the yard.’

¹ SOV is the dominant word order and it is preferred by the consultants that I worked with; some inter-speaker variation has been reported by Bradley et al. (2018). For a discussion of null subjects in Mari see Bradley & Hirvonen (2022).

² I use simplified UPA transcription: ы = ə, ч = č, x = x, ц = c.

- b. %*[Kogəl'-lan kü-aš-lan manən] duxovkə-m čüktə-š-na.*³
 pie-DAT ripen-INF-LAN COMP oven-ACC light-PST1-1PL
 'We turned on the oven in order for the pie to cook.'
- c. [*PRO_i kudəβečə-š pur-aš-lan manən*], *təj_i pečə-m sümər-en-at.*
 yard-ILL enter-INF-LAN COMP 2SG fence-ACC break-PST2-2SG
 'You broke the fence in order to get into the yard.'
- d. [*PRO_i kogəl'ə-m kü-kt-aš-lan manən*] *pro_i duxovkə-m čüktə-š-na.*
 pie-ACC ripen-CAUS-INF-LAN COMP oven-ACC light-PST1-1PL
 'We turned on the oven in order to cook the pie.'

As shown in (1), infinitival RatCls in Mari have either a referentially independent subject⁴ (1a, 1b) or a silent non-obligatorily controlled subject (1c, 1d), marked here as PRO, similarly to the English *She worked hard in order (for her children) to go to school.*

Rationale infinitives in Mari are accompanied by the suffix *lan*, glossed as neutral LAN throughout the paper. The suffix is identical in its form to the dative marker (e.g., *rβeze-βlak-lan* boy-PL-DAT), which belongs to the class of affixal postpositions (Luutonen 1997; Burukina 2023b; also Serebrennikov 1967 and Majtinskaja 1982 on Uralic).^{5,6} Given that dative in Mari is used to mark a nominal purpose or cause (2, Riese et al. 2022: 76) and that cross-linguistically, adjunct clauses are often introduced by an adposition (cf. in English *She did this while/after/before/despite doing something else*), it seems obvious that one should follow traditional grammars (e.g., Luutonen 1997) and assume that *lan* in (1) spells out the same syntactic element as in (2), namely a dative P head.

³ While both consultants accepted such examples with an inanimate embedded subject, one consultant strongly preferred to use a transitive embedded predicate instead (1d).

⁴ I leave the question about the source of the dative case assigned to the embedded subject to be addressed by future research. One option is to adopt a structural case approach and assume that dative is assigned by either T or Mood.

⁵ In modern Mari in some contexts, dative may be analyzed as a true case marker, K⁰. (Suggestions regarding the dual nature of dative in Mari were made already in Luutonen 1997 and more recently in Guseva & Weisser 2018 and Den Dikken 2018.) For example, while dative Goals and Beneficiaries are reasonably analyzed as PPs, dative subjects attested in RatCls have nominal distribution and nothing in their interpretation indicates the presence of a P head. Note, however, that analyzing *lan* in infinitival clauses as an exponent of K⁰ would only further aggravate the situation, as one would still be left with a categorial mismatch, this time of the type T-K-C. While there is plenty of work arguing that CPs can be selected by D, I am not aware of any research that would claim that C could take a DP complement and/or that D combines easily with an infinitival TP/FinP.

⁶ The co-occurrence of *aš* and *lan* is particular to Meadow Mari, and it does not occur in closely related Hill Mari. Interestingly, dative-marked infinitives are attested in Tatar, a Kipchak Turkic language that has been in close contact with Meadow Mari (but not with Hill Mari); see Landmann (2014), Burbiel (2018: 718). However, such forms in Tatar have a broader distribution and can be used as complements as well as rationale (purpose) adjuncts. I am grateful to Jeremy Bradley for bringing these facts to my attention.

- (2) $\beta\ddot{u}d$ -**lan** kaj-en-at.
 water-DAT go-PST2-2SG
 ‘You went to get water.’

In addition to *lan*, rationale infinitives also allow a complementizer *manən*. This complementizer is not unique to RatCls: it appears in embedded finite clauses (3a) and with some infinitival complements (3b).

- (3) a. [Konzert təgaj kužu lij-eš **manən**], pal-em əl'e gən,
 concert such long be-NPST.3SG COMP know-NPST.1SG PTCL if
 aňat, om kaj əl'e.
 perhaps be.NEG.1SG go.CNG PTCL
 ‘If I had known the concert would be this long, I doubt I would have gone.’
 [Riese et al. 2022: 336]
- b. Maša mələm_i [PRO_i tol-aš **manən**] kalas-en.
 M. 1SG.DAT come-INF COMP tell-PST2.3SG
 ‘Masha told me to come.’

While *lan* and *manən* cooccur in (1), it is also possible to leave either or both out. To the best of my knowledge, their surface presence/absence does not change the interpretation or any syntactic properties of the sentence, and I assume that both items have phonologically null variants. The only restriction that *lan* and *manən* fall under is that, when present overtly, *lan* always attaches to the infinitive and *manən* is always clause-final. There is some inter-speaker variation, with one consultant preferring to use either *lan* or *manən* rather than both in the same clause; however, importantly, both consultants regularly accepted sentences with the combination *lan manən* and produced such examples in a translation task (from Russian to Mari). Furthermore, examples with both *lan* and *manən* are also found in the Meadow Mari social media corpus (4), confirming the pattern.⁷

- (4) a. Šoč-ən-am čoņeštəl-aš-**lan manən**, məj šəm kəre oŋ-əm
 be.born-PST2-1SG fly-INF-LAN COMP 1SG NEG hit.CNG chest-ACC
 nıgunam.
 never
 ‘I was born to fly, I never hit myself in the chest.’
- b. Uβer-əm kalək-lan kumdan-rak šarkal-aš da uməl-aš-**lan**
 news-ACC people-DAT widely-CMPR spread-INF and understand-INF-LAN

⁷ I previously mentioned *lan-manən* RatCls in Burukina (2022), which contained one such example without a proper account; that paper argued that *lan* in RatCls in modern Mari is a postposition. Although I maintain that diachronically this was likely the case (section 5), I now propose that synchronically *lan* in infinitives spells out the Mood head.

manən, təške rušla βeraŋd-ena.

COMP here in.Russian place-NPST.1PL

‘In order to spread the news more broadly and to understand it, we will post it here in Russian.’

What is the structure of Mari RatCls and how do they fit into the broader typology of clausal adjuncts? Presumably, *aš* spells out the infinitival T, the dative *lan* spells out P, and the complementizer *manən* is in C. In adherence to the Mirror Principle (Baker 1985), the surface order of these elements indicates that the underlying structure of RatCls is [_{CP} [_{PP} [_{TP} [... verb] T=*aš*] P=*lan*] C=*manən*]. However, this T-P-C sequence of projections is problematic from the point of view of categorial selection, as it is extremely unlikely for a clausal C head to select a PP. As stated already by Grimshaw (1991), in an extended projection the lexical head and all the functional heads must belong to the same category (see also Van Riemsdijk 1990). The only exception are the so-called mixed projections—e.g., deverbal nominals and adjectives—in which the category is changed by a special nominalizing or adjectivizing head. Importantly, after the category is changed, no more projections of the core category can be built on top of the resulting structure; this is why, for instance, externally nominal *ing* gerunds in English are incompatible with T/C, as in **that/to John’s running of the marathon*.⁸

Analyzing *lan* in the *aš-lan* rationale clauses as the dative marker faces further challenges. While cases of an adposition combining with an infinitival TP/FinP have been discussed in the literature, they appear to have rather limited distribution. For instance, aside from purpose/goal infinitives, most of the English data discussed in Landau (2021) involves gerunds (arguably, mixed verbal-nominal projections, see Bresnan 1997; Borsley & Kornfilt 1999; Alexiadou 2001, i.a.); similarly, in Turkic languages adpositions combine with clausal nominalizations (Kornfilt 1997), while in Slavic languages they take headless or light-headed relative clauses (p.k.).

These observations suggest that Ps in Mari **and** cross-linguistically may be limited to selecting a dependent of category N and incompatible with extended verbal projections altogether (Marcel den Dikken p.c.). If true, this restrictiveness prevents adopting the P-approach to clausal adjunction as universal and brings us back to the question posed in the introduction: What makes clauses work as adjuncts (i.e., modifiers) and determines their specific adjunct interpretation?

⁸ It has been suggested that a C head can be merged in the extended projection of P (Koopman 2010; also Den Dikken 2010). Even if this is the case, the C heads found in the projection of P are not the same as those found in the projection of V. For instance, cross-linguistically it is unusual for the same word to spell out C in extended PPs and C in extended VPs: consider *that* or *if* in English, which are only allowed in clauses. Mari is not an exception, as the complementizer *manən* is restricted to embedded clauses and cannot be added to a postpositional phrase, regardless of whether the latter involves a lexical P or an affixal P, including the dative marker. Analyzing *manən* as a C head of category P would require explaining its unusually restricted distribution—why is it **only** allowed in dative PPs with an infinitival dependent and banned in all other PPs?

Overall, event nominals share the distribution with other nominal phrases and can bear semantic and structural case marking (e.g., comitative or accusative, (7a, 7b)) or be embedded under an adposition (7c, 7d).

- (7) a. Tud-lan agronom paša-ge kočk-aš šoltə-mə-ge šukt-aš jösö
 3SG-DAT agronomist work-COM eat-INF boil-NM-COM succeed-INF difficult
 lij-eš
 be-NPST.3SG
 ‘It will be difficult for him/her to work as an agronomist and to cook food.’
- b. Koropka küβar ümbalne kijə-mə-m mond-en-at.
 box floor above lie-NM-ACC forget-PST2-2SG
 ‘You forgot that the box was lying on the floor.’
- c. Aspirant-βlak Sibir’-əške košt-mə-št nergen kalaskal-en-ət.
 grad.student-PL Siberia-ILL go-NM-3PL about talk-PST2-3PL
 ‘The graduate students talked about their trip to Siberia.’
- d. Mardež dene vaze šalanə-mə-lan köra Vaslij ekspedicij-əške
 wind with vase scatter-NM-DAT because.of Vaslij expedition-ILL
 kaj-en ogəl.
 go-CVB be.NEG.3SG
 ‘Vaslij didn’t go to the expedition because the vase was broken by the wind.’

In contrast, infinitives in Mari generally do not combine with structural and semantic cases (Lavrentjev 1972; Riese et al. 2022). Several unsuccessful attempts to combine an *aš* form with a case marker are given in (8).

- (8) a. *Tud-lan agronom paša-m əšt-aš-ge kočk-aš šolt-aš-ge jösö
 3SG-DAT agronomist work-ACC do-INF-COM eat-INF boil-INF-COM difficult
 lij-eš.
 be-NPST.3SG
- b. *Koropka(-lan) küβar ümbalne kij-aš-əm mond-en-at.
 box-DAT floor above lie-INF-ACC forget-PST2-2SG

In fact, *lan* is the only case-like marker that can appear on an infinitival *aš* form (Riese et al. 2022: 252). Independent (i.e., non-affixal) postpositions also do not allow infinitival dependents, as shown in (9).

- (9) a. *Aspirant-βlak Sibir’-əške košt-aš(-əšt) nergen kalaskal-en-ət.
 grad.student-PL Siberia-ILL go-INF-3PL about talk-PST2-3PL

- b. *Mardež dene vaz(e/ə-lan) šalan-aš-lan köra Vaslij ekspedicij-əške
 wind with vase-DAT scatter-INF-DAT because.of Vaslij expedition-ILL
 kaj-en ogəl.
 go-CVB be.NEG.3SG

These discrepancies make it difficult if not impossible to analyze *aš* forms as nominal, but they are unsurprising if *aš* forms are, indeed, extended verbal projections (clauses). This brings us back to the original puzzle. If we want to keep the P-approach to adjunction and analyze the *aš-lan manən* sequence in rationale clauses as resulting from the underlying TP-PP-CP structure, both *manən* and the dative *lan* end up having a surprisingly limited and generally unusual distribution: *lan* is now the only adposition that can combine with infinitival TPs/FinPs (and only in one specific context) and allows adding a complementizer otherwise restricted to clauses. In the next section, I explore several possible ways to resolve this conundrum while still analyzing *lan* as a P head and salvaging the P-approach. Section 3.1 attempts to reanalyze *manən* as a lexical verb. Section 3.2 considers treating the surface *aš-lan manən* as a result of some morphological (i.e., postsyntactic) operation. All these attempts are shown to face certain challenges. After that, section 4 presents my original analysis, whereby *lan* is not a P head but a Mood head at the periphery of an infinitival clause.

3 Against analyzing *lan* as a P

One may try to salvage the postpositional approach to Mari RatCls by analyzing *manən* not as a complementizer but as a verb with a dative dependent, given that it was historically a converb of the lexical verb *manaš* ‘say, tell’.⁹ Another option is to argue that the surface order *aš lan manən* is derived postsyntactically and corresponds to the underlying order of the projections [_{pp} [_{CP} [_{TP} ...] T = *aš*] C = *manən*] P = *lan*]. This section challenges these accounts by presenting some novel data.

3.1 Option 1: *manən* is a lexical verb

To solve the C-over-P problem, one may propose that *manən* in RatCls is not a complementizer but a lexical predicate.¹⁰ The clausal adjunct then has the structure [_{VP} [_{pp} [_{TP/FinP} ... T] P] V],

⁹ As pointed out by a reviewer, the pattern of grammaticalization of quotative SAY in complementizers is a well-described macro-areal feature found across Northern Eurasia, attested not only in Meadow Mari and Hill Mari but also, e.g., in Turkic (Matić & Pakendorf 2013; Toldova & Serdobolskaya 2014; Klumpp 2016).

¹⁰ Alternatively, one may analyze *manən* as a postposition selecting a dative-marked non-finite clause. In Mari, as in other Uralic languages, several adpositions take a dative dependent, as in (i).

- (i) a. Jəβan okna-lan βaštareš šinč-ən.
 Yyvan window-DAT against sit.down-PST2.3SG
 ‘Yyvan sat down opposite the window.’ [Riese et al. 2022: 161]

where the P-headed non-finite clause is a dependent of the verb. In what follows I provide evidence against this approach.

As mentioned earlier, the complementizer *manən* is identical in its form to and has been grammaticalized from the non-agreeing converb of the verb *manaš* ‘say, tell’ (Isanbajev 1961; Galkin 1964). Such converbs are typically used to express an action simultaneous with the main event; the use of *manaš* as a lexical predicate is illustrated in (10).

- (10) Məlanna teŋgeče [kol-əm kuč-aš kaj-et] **man-ən-at**.
 1PL.DAT yesterday fish-ACC catch-INF go-NPST.2SG say-PST2-2SG
 ‘You told us yesterday that you would go fishing.’

This makes analyzing *manən* in RatCls as V and not C appealing; however, upon a closer examination, this approach can hardly be successful. One challenge is to determine the role of the dative PP dependent. While Mari verbs of saying can co-occur with dative DPs, those generally refer to a Goal of communication, that is, a preferably [+human] participant that the speaker is talking to. These verbs can also embed an infinitival clause expressing an order or a suggestion, but they are strictly incompatible with infinitival complements marked with *lan*, unless those are interpreted as rationale modifiers. For instance, the infinitival clause in (11) cannot be understood to be an argument of the lexical *manaš* ‘say’ and describe the Lexical Material, that is, what was being said.

- (11) #Məlanna [kudəβečə-š pur-aš-**lan**] man-ən-at.
 1PL.DAT yard-ILL enter-INF-LAN say-PST2-2SG
 Not available: ‘You told us that you would go into the yard.’
 Only: ‘You told us (this) in order to get into the yard.’

One may argue that the *lan* infinitive in (11) is indeed a rationale modifier. A hypothetical account will then proceed as follows. The rationale constructions with *manən* are biclausal: *manən* is the main lexical predicate and it is modified by a rationale (dative) PP with an embedded infinitive. This is schematized in (12) corresponding to (13). Under this approach, *manən* is a converb,

-
- b. Tudo təlat köra βele il-a.
 3SG 2SG.DAT because only live-NPST.3SG
 ‘S/he lives only for you.’ [ibid.: 172]

However, such an approach would find no support in the semantic and syntactic distribution and the history of *manən*. The literature does not mention it being ever used as an adposition. In modern Mari, *manən* generally cannot appear with nominal dependents in the intended adpositional role; e.g., *Petja-lan manən* does not have a PP distribution and *manən* here can only be analyzed as a lexical verb ‘say’, resulting in the reading ‘saying (something) to Petja’. One would have to stipulate that, as an adposition, *manən* appears **only** with infinitives and **not** with noun phrase dependents. In contrast, other postpositions in Mari are incompatible with infinitival clauses, whether marked dative or not.

hence the denotation C_{vbP} , and pro_{LM} stands for the null object of *manən* referring to the Lexical Material. The structure yields the literal translation of (11) along the lines of ‘You broke the fence, while saying (something) in order for us to get into the yard.’

(12) $[[_{C_{vbP}} [_{PP} [_{TP/FinP} \dots pur-a\check{s}] P \textit{lan}] [_{C_{vbP}} pro_{LM} \textit{manən}]] \dots [_{VP} \dots]]$

(13) Məlanna kudəβečə-š pur-aš-lan manən, təj pečə-m sümər-en-at.
 1PL.DAT yard-ILL enter-INF-LAN COMP 2SG fence-ACC break-PST2-2SG
 ‘You broke the fence in order for us to get into the yard.’

The structure in (12) raises more questions than it answers, as it struggles to account for several important empirical observations concerning the behavior of *manən* in rationale clauses, which are easily accommodated under the *manən*-as-a-complementizer approach. Below I expand the argumentation from Burukina (2023a), who shows that *manən* in certain clausal dependents must be a complementizer.

First, *manən* in rationale clauses is desemanticized, that is, it is used even when no speech act can possibly be implied. This becomes especially clear in examples with a matrix subject referring to an inanimate object that cannot speak, such as (14).

- (14) a. [Una-m βašlij-aš-lan manən] üstel tide pölem-əšte šog-a.
 guest-ACC meet-INF-LAN COMP table this room-INE stand-NPST.3SG
 ‘The table stands in this room in order to receive guests.’
- b. [Kurək-əm saǰ-ən uš-aš-lan manən] okna kugu (ul-eš).
 mountain-ACC good-ADV see-INF-LAN COMP window big be-NPST.3SG
 ‘The window is big in order to better see the mountains.’

One may suggest that the examples in (14) still involve the structure in (12) with the silent Agent of *manən* ‘saying’ being interpreted either as an arbitrary PRO or as a discourse-linked *pro* (e.g., ‘they’), yielding the literal reading ‘the table stands in this room while/as they are saying something in order to receive guests’ and ‘the window is big while/as they are saying something in order to better see the mountains.’ First, it is not immediately clear how such literal readings can give rise to straightforward rationale interpretations ‘X is in order for Y’. Second, Mari converbs ending with *n* enforce obligatory control: the antecedent (controller) of the implicit embedded subject must be in the immediately dominating clause and c-command it. This is illustrated in (15). In (15a) the silent subject of the converb can only be interpreted as coreferent with the c-commanding subject of the closest finite clause—Masha, but not Vasja—and this ban on non-local and extra-linguistic antecedents further renders (15b) semantically awkward. Going back to (14), if *manən* in these examples is a converb, ‘the table’ and ‘the window’ must control its implicit Agent, resulting in an infelicitous interpretation.

- (15) a. [Maša_i divan-əšte [e_{i/*k} kniga-m lud-ən] šinč-a manən] Vasja_k
 M. sofa-INE book-ACC read-CVB sit-NPST.3SG COMP V.
 už-ən.
 see-PST2.3SG
 ‘Vasja saw that Masha was sitting on a sofa reading a book.’
- b. Okna_i [e_{i/*k/*arb} kurək-əm onč-en] kugu ul-eš.
 window mountain-ACC look-CVB big be-NPST.3SG
 Intended, not available: ‘The window is big with someone looking at the mountains.’
 Only: #‘Looking at the mountain the window got big.’

If *manən* in the sentences under consideration is a lexical predicate, we further expect it to alternate with converbs derived from synonymous speech-act verbs, such as *kutəraš* ‘tell, speak’ or *kalasaš* ‘say, tell’. This prediction is not borne out (16). Likewise, it is not possible to substitute *manən* with *man-de* ‘say-CVB.NEG’, the negative converb form of *manaš*.

- (16) a. Rβeze-βlak-lan kurək-əm sajən už-aš manən / *kalas-en / *man-de
 guy-PL-DAT mountain-ACC well see-INF COMP say-CVB say-CVB.NEG
 okna kugu.
 window big
 ‘The window is big for the boys to see the mountain well.’
 Intended, *mande*: ‘The window is big not for the boys to see the mountain well.’
- b. Una-m βašlij-aš-lan manən / *kalas-en / *man-de üstel tide
 guest-ACC meet-INF-DAT COMP say-CVB say-CVB.NEG table this
 pölem-əšte šog-a.
 room-INE stand-NPST.3SG
 ‘The table stands in this room in order to receive guests.’
 Intended, *mande*: ‘The table stands in this room not to receive guests.’

In addition to this, given the structure in (12), one expects some overt lexical material to be able to intervene between *lan* and *manən*. As shown in (17), this is not the case: even examples in which *manən* could be interpreted as referring to an additional speech act are evaluated as marginal at best, and the speakers suggest that only the non-speech-act rationale reading is salient.

- (17) a. *Una-m βašlij-aš-lan tidə-m man-ən üstel tide pölem-əšte
 guest-ACC meet-INF-DAT this-ACC COMP/say-CVB table this room-INE
 šog-a.
 stand-NPST.3SG

- b. ?*Məlanna kudəβečə-š pur-aš-lan tidə-m man-ən təj pečə-m
 1PL.DAT yard-ILL enter-INF-LAN this-ACC COMP/say-CVB 2SG fence-ACC
 sümər-en-at.
 break-PST2-2SG
 ‘You broke the fence saying this in order for us to get into the yard.’

Taking these data into account, I conclude that analyzing *manən* in all rationale infinitives as a lexical predicate is not feasible. I do not exclude a possibility that some rare sentences may indeed have the structure as in (12), with *manən* introducing a speech event, yet in the majority of sentences with an infinitival rationale clause *manən* is a complementizer inserted in the C head.

3.2 Option 2: postsyntactic reordering

Another possible solution for the C-over-P problem posed by Mari rationale infinitives that would allow us to keep the P-approach to clausal adjunction is to reassign it from syntax to morphology. The underlying structure of RatCls (18) may be taken to be $[_{pp} [_{CP} [_{TP} T] C] P]$, with the dative P head selecting a CP as its complement. The order T-P-C is then derived at Spell-Out, as a result of a postsyntactic operation.

- (18) [Məlanna / PRO_i kudəβečə-š pur-aš-lan **manən**], təj_i pečə-m
 1PL.DAT yard-ILL enter-INF-LAN COMP 2SG fence-ACC
 sümər-en-at.
 break-PST2-2SG
 ‘You broke the fence in order (for us) to get into the yard.’

Several analyses in terms of postsyntactic reordering have been independently proposed for Mari to account for the distribution of possessive morphology, and it is reasonable to extend one of them to the RatCls instead of introducing a new approach. In possessive constructions and PPs with a possessed nominal dependent the possessive marker appears to the left of a structural case suffix (accusative or genitive) but flexibly to the left or to the right of an affixal P: *pört-em-βlak-əm* ‘house-POSS.1SG-PL-ACC’ but not **pört-βlak-əm-em* ‘house-PL-ACC-POSS.1SG’, and either *pört-em-βlak-əšt/lan* ‘house-POSS.1SG-PL-INE/DAT’ or *pört-βlak-əšt/lan-em* ‘house-PL-INE/DAT-POSS.1SG’.

The following two analyses aim at capturing this variation. The first is the **lowering** analysis (McFadden 2004). McFadden takes the underlying structure of possessed nouns to always be $[_{KP} [_{DP} [_{NP} N] D] K]$, with D hosting a POSS suffix and K standing for both structural and spatial cases. He then argues that some K-s *lower* onto the D head via postsyntactic head-movement, à la Embick & Noyer (2001). The second approach is the **metathesis** analysis (Guseva & Weisser 2018). Guseva and Weisser adopt a similar underlying structure as McFadden, with the D head

(POSS) base-generated under K/P. Building upon Harris & Halle (2005) they propose that D and K swap places via an operation of *Metathesis* available after linearization but before vocabulary insertion. Metathesis reduplicates a certain string (e.g., N-|D-K| → N-|D-K|-|D-K|), after which parts of both copies are deleted (N-Đ-K-D-Ɔ → N-K-D).

One may argue that in RatCls the surface sequence *aš lan manən* is derived from the underlying $[_{pp} [_{CP} [_{TP} T] C] P]$ structure in a similar way: either *lan* (P) **lowers** onto *manən* (C) attaching to the left of it¹¹ or *lan* and *manən* change positions via **Metathesis**. Both options are appealing because of the general parallelism between the CP and DP domain, often remarked upon in the literature. However, these postsyntactic accounts encounter at least two problems.

First, the alternation POSS-P/P-POSS is optional, including the contexts with P_{DAT}. In contrast, in RatCls, the order *lan manən* is the only possible one and **manən lan* is strictly prohibited. Note that *manən* is a stand-alone lexical item that bears a phonological stress and could easily host an affixal P. The restriction thus weakens the link between the two phenomena and requires an additional explanation for why Lowering or Metathesis must apply specifically in case of an infinitival dependent but not elsewhere.

The second observation concerns embedded negation. Infinitives, similarly to other non-finite dependents, combine with the negation *ogəl*. *Ogəl* is traced back to the combination of the negative verb *o* in the NPST.3SG form and the connegative form of the copula *ulaš* (Galkin 1964; Alhoniemi 1993; Riese et al. 2022). In modern Mari it is an invariant particle that is used as a constituent negation with nominals, PPs (19), adjectives, and non-finite verbal forms.

- (19) Keč-mogaj paša-m-at [kugət dene **ogəl**], a kačestvo dene
 any work-ACC-ADD volume with NEG but quality with
 akl-at.
 evaluate-NPST.3PL
 ‘All work is evaluated based not on the volume but on the quality.’

As shown by Georgieva et al. (2021), *ogəl* is a constituent negation that is adjoined to the negated constituent; thus the example in (19) has the structure $[_{pp} [_{pp} kugət dene] [NEG = ogəl]]$. *Ogəl* combines with RatCls too. Importantly for the present discussion, it can appear only in the following linear positions: (i) after the infinitive and before the suffix *lan* or the complementizer (20),¹² or (ii) at the edge of the infinitival construction, after *lan* and/or the complementizer

¹¹ A potential problem with the Lowering approach is that *lan* is not a prefix on *manən*, but a suffix on the infinitive. In turn, the TP on which *lan* is found is not the complement of the P on the $[_{pp} [_{CP} [_{TP} T] C] P]$ analysis. I'm grateful to Éva Dékány for bringing this issue to my attention.

¹² The two native speakers that I consulted considered the *ogəllan* examples to be degraded and suggested that these could be used but not frequently (hence the ? in (20b)). At the same time, such sentences are found in the corpora; see e.g., (i) from the Meadow Mari social media corpus.

(21). As indicated by the English translations, the two orders yield distinct interpretations: negation that is closer to the infinitive receives a narrow scope reading and negation that is at the periphery receives a wide scope reading.

- (20) a. Kapka-m [təlat pur-aš **ogəl** manən] poč-ən-na.
 gate-ACC 2SG.DAT enter-INF NEG COMP open-PST2-1PL
 ‘We opened the gates in order for you not to enter.’
- b. ?Kapka-m [təlat pur-aš **ogəl-lan**] poč-ən-na.
 gate-ACC 2SG.DAT enter-INF NEG-LAN open-PST2-1PL
 ‘We opened the gates in order for you not to enter.’ (= a)¹³
- (21) a. Kapka-m [təlat pur-aš-lan **ogəl** (manən)], a nuno kaj-Ø-əšt
 gate-ACC 2SG.DAT enter-INF-LAN NEG COMP but they leave-IMP-3PL
 manən poč-ən-na.
 COMP open-PST2-1PL
 ‘We opened the gate not in order for you to enter but in order for them to leave.’
- b. Kapka-m [təlat pur-aš(-lan) manən **ogəl**] ... poč-ən-na.
 gate-ACC 2SG.DAT enter-INF-LAN COMP NEG open-PST2-1PL
 ‘We opened the gate not in order for you to enter but in order for them to leave.’ (= a)

Assuming that NEG as a constituent negation can attach at different levels, one option is to adjoin it to the TP, as in (22). In this case it does not matter if the reordering is done via Lowering (McFadden 2004) or Metathesis (Guseva & Weisser 2018), since in neither case will it affect *ogəl*: the expected result is the allowed *ogəl lan manən* (20b). The same structure (22) with a null P (and no postsyntactic reordering) yields *ogəl manən* (20a).

- (22) [_{PP} [_{CP} [_{TP} [_{TP} infinitive-aš] NEG *ogəl*] C *manən*] P *lan*] (NEG < P_{Rat})
 Lowering/Metathesis: *aš ogəl lan manən* – ✓ (20b)

The second option is to introduce NEG as an adjunct to the CP, as in (23). In this case, Lowering yields acceptable *lan manən ogəl*, with *lan* skipping the adjunct *ogəl* (see McFadden 2004 on adjuncts not intervening in Lowering). The problem with this result, however, is its interpretation: according to the base structure in (23) NEG is within the scope of the rationale P, which is not

-
- (i) Zakon-əm pudərt-aš ogəl-lan specialist-βlak teβe mo-m əšt-aš teml-at
 law-ACC break-INF NEG-LAN specialist-PL PTCL what-ACC do-INF advise-NPST.3PL
 ‘In order not to break the law the specialists suggest to do the following ...’

¹³ While examples in (20) may appear odd, they are judged as grammatical. An appropriate context here is the following: you were only allowed to enter by opening the gates yourself; thus, by opening the gates first we stopped you from entering. I tested the behavior of negation with multiple parallel examples, and they all revealed the same syntactic pattern.

corroborated by the actual data in (21b). Applying the Metathesis rule is more promising. As formulated by Guseva & Weisser (2018), the operation allows for some material to intervene between the two swapped items; thus, the sequence *manən ogəl lan* can be turned into *ogəl lan manən* (20b).

- (23) $[_{PP} [_{CP} [_{CP} [_{FinP} \text{ infinitive-}a\check{s}] C \text{ man}\acute{n}an] NEG \text{ og}\acute{e}l] P \text{ lan}]$ (NEG < P_{Rat})
 Lowering: V-*aš lan manən ogəl* – # (wrong scope)
 Metathesis: V-*aš |manən ogəl lan| |manən ogəl lan|* → V-*aš ogəl lan manən* – ✓ (20b)

Finally, NEG can also be adjoined to the whole PP, as in (24). The negation is not affected and applying either Lowering or Metathesis results in the same sequence *lan manən ogəl*, matching (21b) with the correct scope.

- (24) $[_{PP} [_{PP} [_{CP} [_{TP} \text{ infinitive-}a\check{s}] C \text{ man}\acute{n}an] P \text{ lan}] NEG \text{ og}\acute{e}l]$ (NEG > P_{Rat})
 Lowering/Metathesis: *aš lan manən ogəl* – ✓ (21b)

The problem with the P-approach is that it undergenerates and cannot produce the commonly attested pattern *lan ogəl manən*, as in (21a). To get this surface order one can start with a structure in which NEG is adjoined to the TP (yielding *ogəl manən lan*) and then either apply Lowering twice (breaking the intermediate sequence *lan-manən* on the way) or allow Lowering to skip a head (C = *manən*). However, allowing for either of these options causes more problems. First, Lowering of P (*lan*) needs to result not in left-adjunction to C (*manən*) but in right-adjunction to T (*aš*). Second, in this configuration NEG is base generated within the scope of P, thus not matching the actual interpretation of these examples (21a). Most importantly, double Lowering and non-local Lowering are not attested elsewhere; both are banned explicitly by McFadden, following a discussion of lowering being blocked by an intervening head in Embick & Noyer (2001). Likewise, one may postulate additional metathesis operations, but they will lack independent motivation and risk overgenerating.

To summarize, we have seen that, while it is tempting to analyze *lan* in infinitival rationale clauses as a dative postposition, this approach poses a problem for the theory of categorial selection that cannot be solved by reanalyzing *manən* as a verb or by assuming that the surface order of the exponents results from a postsyntactic operation. These leaves the original questions without an answer: How should we analyze *lan* and what enables *lan*-marked infinitives (and more generally, infinitives cross-linguistically) to serve as rationale modifiers?

I propose an alternative to the P-approach to clausal adjunction—a Mood-analysis, whereby *lan* in rationale clauses spells out a Mood head in a peripheral yet clause-internal MoodP projection; the surface order of the exponents matches the order of the projections on the clausal spine (25). This approach straightforwardly captures the data in (20) and (21), as schematized in (25). *Ogəl* NEG can be adjoined to the TP, MoodP, or CP. In the former case NEG scopes below the

modal in Mood (spelled out as *lan*) and in the latter two cases it scopes above the modal, yielding the two distinct interpretations. Importantly, no other combinations are predicted to be possible, and indeed the patterns in (20) and (21) are the only ones allowed by the speakers.

(25) *NEG structures under the Mood-approach*

- a. $[_{CP} [_{MoodP} [_{TP} [_{TP} \text{ infinitive } T = a\check{s}] \text{ NEG} = \mathbf{og\check{a}l}] \text{ Mood} = \text{Mod}_{Rat} = \mathbf{lan}/\emptyset] \text{ C} = \mathbf{man\check{a}n}/\emptyset]$
NEG < Modal, examples (20)
- b. $[_{CP} [_{MoodP} [_{MoodP} [_{TP} \text{ infinitive } T = a\check{s}] \text{ Mood} = \text{Mod}_{Rat} = \mathbf{lan}] \text{ NEG} = \mathbf{og\check{a}l}] \text{ C} = \mathbf{man\check{a}n}/\emptyset]$
NEG > Modal, example (21a)
- c. $[_{CP} [_{CP} [_{MoodP} [_{TP} \text{ infinitive } T = a\check{s}] \text{ Mood} = \text{Mod}_{Rat} = \mathbf{lan}/\emptyset] \text{ C} = \mathbf{man\check{a}n}] \text{ NEG} = \mathbf{og\check{a}l}]$
NEG > Modal, example (21b)

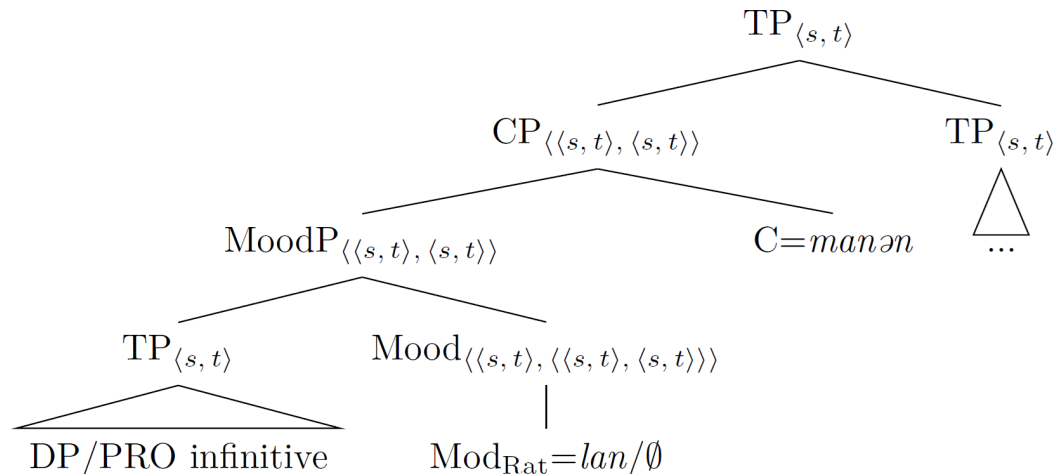
The Mood analysis offers a simple solution to the T-P-C puzzle that does not violate the Mirror Principle and avoids unnecessary stipulations. It predicts all and only the attested combinations with NEG to be possible, utilizing the structural components independently attested in Mari and/or cross-linguistically. The next section discusses the approach in more detail.

4 The Mood approach to rationale clauses

4.1 Deriving rationale clauses

I propose that all RatCls in Mari have the structure as in (26).¹⁴

(26) The structure of rationale clauses in Mari



¹⁴ In Burukina (2024b), a short proceedings paper, I suggested that a proposition-type PRO was inserted in spec,MoodP in the embedded clause. The present article outlines a more elegant and straightforward analysis.

The crucial component of the structure is a teleological Mod_{Rat} , which makes reference to the goals of the main clause agent or initiator; in this I follow Dąbkowski & AnderBois (2023) on the semantics of rationale clauses in A'ingae, an Amazonian language, who in turn, build upon Grosz (2014). In essence, Mod_{Rat} is a two-place predicate that requires two propositional arguments of the type $\langle s,t \rangle$: one is the embedded TP, and the other is the main TP. The modal quantifies over the set of possible worlds compatible with the matrix agent's/initiator's goals in this specific situation.¹⁵

Grosz (2014) and Dąbkowski & AnderBois (2023) concur that, structurally, Mod_{Rat} is inserted in the Mood head that takes an infinitival TP as its complement; however, they do not focus on the syntax of RatCls. Let us go through the derivation in (26) step-by-step.

- i. A RatCl contains Mod_{Rat} , a teleological modal, which is inserted in the Mood head. The modal is spelled out as *lan*, making the suffix homonymous between an exponent of Mood, a functional head in the extended verbal projection, and the dative adposition, an item of category P. Mod_{Rat} requires two propositional arguments.
- ii. Mod_{Rat} combines with a saturated embedded TP of the type $\langle s,t \rangle$, thus filling in one of its argument slots.¹⁶ Rationale infinitives with an overt subject are evidently saturated, but one may ask whether this holds for the TP in RatCls with a controlled subject. This is a fair question: if RatCls with a PRO subject involved obligatory non-exhaustive control (OC), they could plausibly be analyzed as predicates, to be predicated of a controller in the main clause (Landau 2015). In this case we would need to postulate another Mod_{Rat} that could combine with a complement of the type $\langle e, \langle s,t \rangle \rangle$. This is not an insurmountable problem; for instance, Landau (2021) postulates homonymous adpositions that introduce either NOC or OC clausal adjuncts. Yet, such an approach may not be necessary for Mari: as shown in Burukina (2024b), in the variety of Mari under discussion, all RatCls with a controlled subject instantiate non-obligatory control and are accommodated by the structure in (26) without change.
- iii. At the MoodP level, Mod_{Rat} still misses one propositional argument. This slot is to be filled in by the main TP: the embedded CP is a one-place predicate (Williams 1980) predicated of the main TP.

¹⁵ To accommodate examples without an explicit matrix Agent/Initiator, Dąbkowski & AnderBois (2023) also introduce a presupposition of existence for an individual that intentionally brings about the event described by the main clause. I would like to thank Julian Grove for discussing with me the semantic part of the analysis.

¹⁶ One may question the limited distribution of Mod_{Rat} , since (aside from its uses as a dative P) *lan* only appears in infinitival RatCls. As discussed in Burukina (2024b), Mari also has rationale imperatives, which arguably contain a similar modal at the periphery. Its exponent is always null (and never *lan*), but that can be captured by an insertion rule. Furthermore, cross-linguistically, it is not surprising for a functional head, especially a modal, to be specialized for particular inflections; consider, for instance, the fact that most of the English modals only occur in finite clauses and combine with a bare verb but *ought* uniquely selects a *to* infinitive. To the best of my knowledge, *lan* is also not allowed in root clauses: this is because the rationale modal requires two propositional dependents.

- iv. The MoodP is merged with the complementizer *manən*. Mari has several lexical entries for *manən*: one is used in finite CP complements (section 2) and subject clauses and selects a saturated TP/FinP, another appears in non-finite clausal dependents, for instance, those that instantiate control, where it combines with a property-type TP/FinP.
- v. The result rationale CP is adjoined to the main TP.

The central part of the proposal that distinguishes it from the P-approach is that infinitival RatCls are built around a teleological modal that is responsible for their interpretation and determines their syntactic distribution, i.e., allows for them to be used as modifiers/predicates.

One may attempt to bring the P-approach and the Mood-approach together by analyzing *lan* in Mari rationale clauses as Mood and postulating a silent P that takes the whole CP as its complement, as in $[_{PP} [_{CP} [_{MoodP} [_{TP} \dots] \text{Mood} = \textit{lan}] \text{C} = \textit{manən}] \text{P}_\emptyset]$. However, it is virtually impossible to prove that such silent P is structurally present. One may suggest that it is the covert preposition that carries the rationale semantics, while Mood (spelled out as *lan*) is merely interpreted as irrealis. This, however, predicts that, when combined with a constituent negation, the *aš lan ogəl manən* pattern with the underlying structure $[_{PP} [_{CP} [_{MoodP} [_{MoodP} [_{TP} \dots] \text{Mood} = \textit{lan}] \text{Neg} = \textit{ogəl}] \text{C} = \textit{manən}] \text{P}_\emptyset]$ should be interpreted with negation being in the scope of the rationale modal, contrary to the facts ((21a) in section 3.2). With P being semantically vacuous and unpronounced, its presence remains unproven and unmotivated other than by the desire to have a uniform analysis for all clausal adjuncts: Mood already does all the necessary job turning an infinitival clause into a rationale modifier.

Before I discuss some implications of the Mood-approach, the position of RatCls in the main clause needs to be addressed. That RatCls are adjoined at the TP level is not self-evident, as some types of clausal adjuncts have been shown to be lower VoiceP/vP-level modifiers (see Landau 2021 and references therein). The next section discusses this issue.

4.2 Rationale clauses as TP-level adjuncts

The following observations support the analysis of RatCls in Mari as TP adjuncts: (i) their behavior under ellipsis, (ii) their interpretation in sentences with a matrix negation, and (iii) the surface word order.

First, RatCls cannot be elided together with the main VP and excluding the other material, which proves that they attach above the VP level. This is shown in (27), where the elided part can only be reconstructed as ‘(you) showed the recipe (to Semjon)’, without the RatCl.

- (27) Olja-lan recept-əm [šür-əm šolt-aš-lan manən] ončə-kt-en-na, a
 O.-DAT recipe-ACC soup-ACC cook-INF-LAN COMP look-CAUS-PST2-1PL and
 təj Semjon-lan.
 2SG S.-DAT

‘We showed the recipe to Olja in order for her to make soup, and you
 <showed the recipe> to Semjon.’

Not available: ‘We showed the recipe to Olja in order for her to make soup,
 and you <showed the recipe> to Semjon <in order for him/her to make soup>.’

Second, RatCls always scope above the matrix negation (28), regardless of whether they are sentence-initial (28a) or preceded by other main-clause material (28b).

- (28) a. [Urok-lan jamdɔlalt-aʃ-lan manən], kniga-m nal-ən onal.
 class-DAT prepare-INF-LAN COMP book-ACC buy-CVB be.NEG.1PL
 Intended, not available: ‘We did not buy the book to prepare for the class.’
 NEG > RatCl
 Only: ‘In order to prepare for the class, we did not buy the book.’
 (for instance, the book would have distracted us) RatCl > NEG
- b. Me, [urok-lan jamdɔlalt-aʃ-lan manən], kniga-m nal-ən onal.
 1PL class-DAT prepare-INF-LAN COMP book-ACC buy-CVB be.NEG.1PL
 Intended, not available: ‘As for us, we did not buy the book to prepare for the class.’
 NEG > RatCl
 Only: ‘As for us, in order to prepare for the class, we did not buy the book.’
 (for instance, the book would have distracted us) RatCl > NEG

Syntactically, NegP in Mari is inserted between vP/VoiceP and TP and typically takes the highest scope (Georgieva et al. 2021). Therefore, for a RatCl to scope over the matrix negation it must be merged above the NegP, at the TP level. Under the compositional semantics approach, at that stage a modifier can be a predicate of propositions (naturally combining with the matrix TP). However, it is very unlikely to be a predicate of events: the event variable must be existentially closed before the negation is merged to get the desired interpretation ‘there is no such event *e*’ and not ‘there is an event that is not *e*’.

Finally, the surface position of RatCls in Mari also indicates that they are adjoined to one of the higher projections. Their natural placement is at the left edge of the sentence, in front of all other items of the main clause (29a). Occasionally, a RatCl can be preceded by some material; however, the latter is then interpreted as a topic or focus: for instance, in (29b) *joča-βlak-lan* is naturally interpreted as an aboutness topic (as indicated by the English translation).

- (29) a. [Šür-əm šolt-aʃ-lan manən] joča-βlak-lan recept-əm ončə-kt-en-na.
 soup-ACC cook-INF-LAN COMP child-PL-DAT recipe-ACC look-CAUS-PST2-1PL
 ‘We showed the recipe to the children in order for them to make a soup.’
- b. Joča-βlak-lan, [šür-əm šolt-aʃ-lan manən] recept-əm ončə-kt-en-na.
 child-PL-DAT soup-ACC cook-INF-LAN COMP recipe-ACC see-CAUS-PST2-1PL
 ‘(Among other members of the family) As for the children, we showed them the recipe in order for them to make a soup.’

Taken together, the data above strongly suggest that Mari RatCls are TP-level adjuncts and corroborate the analysis in (26).

5 Implications and concluding remarks

The paper has investigated rationale clauses in Mari (Uralic) from semantic and syntactic perspectives. At first glance, Mari infinitival RatCls seem to provide support for the commonly accepted P-approach to clausal adjunction (Landau 2021, i.a.) because they are headed by an apparent dative postposition *lan*. However, the same clauses also contain a complementizer (*manən*), and the ordering of the two elements raises a question of whether *lan* truly belongs to category P.

Treating *lan* in rationale clauses as a P head is problematic: its distributional properties are atypical for an adposition and more closely resemble those of a clausal functional head. After analyzing the syntactic behavior of Mari RatCls, I have shown that the P-approach encounters several problems and outlined an alternative Mood-account. Specifically, I have proposed that RatCls contain a MoodP with a teleological modal inserted as its head, which is spelled out as *lan*.

It is the presence of this clause-internal modal—not a clause-external adposition—that solves two major problems related to clausal adjunction: it turns a saturated clause into a modifier (i.e., a predicate) and ensures the rationale/purpose interpretation. The Mood-approach not only resolves the Mari puzzle but also invites us to reconsider similar data from better studied languages: are those clausal adjuncts introduced by a silent P, or do they also instantiate the Mood/internal modal strategy? Some examples that could reasonably be analyzed under the Mood-approach include subjunctive purpose clauses in Slavic and rationale imperatives in Chukchi (Naumov 2018).

At the same time, I do not deny that cross-linguistically many types of clausal adjuncts are indeed headed by an adposition that is responsible for their syntactic behavior and interpretation. The two approaches—P and Mood—complement each other, together capturing the distribution of all clausal adjuncts across the world's languages.

If there are two strategies available to derive clausal adjuncts, either by adding an adposition or by inserting a special modal in the clause-internal Mood head, can the mutual distribution of such constructions be predicted and/or regulated? I propose that, on the one hand, various **modal** types of adjunct clauses—rationale, purpose, and goal dependents (see Landau 2021 on the differences between the three)—are derived by manipulating the clause-internal modality under the Mood-approach. Cross-linguistically, such adjuncts are usually infinitives or subjunctives (non-epistemic modality being compatible with irrealis mood), structurally large enough to contain a MoodP; see e.g., infinitival adjuncts in Germanic and the above-mentioned subjunctives in Slavic languages, e.g., Russian. On the other hand, deriving clausal

modifiers with **a more specialized interpretation**, such as temporal or justification adjuncts, requires adding a special adposition, i.e., a predicate with a specific lexical meaning (Déchaine 1993), falling under the P-approach. Due to their general selectional requirements, adpositions combine with nominalized clauses and gerunds, accounting for the contrast between *while doing X* and **while (to) do X* in English. To illustrate the P-approach, consider e.g., English P-headed gerunds, PPs with a light-headed relative clause in Basque ((30a), Kloudová & Caha 2022), and nominalized adjunct clauses in Turkish ((30b), Kornfilt 2001). Evidently, both strategies can be used in the same language: for instance, while Mari rationale clauses are best analyzed under the Mood-approach, Mari temporal converbs (gerunds) are nominalized clauses headed by an adposition (Burukina 2024a; Georgieva 2024). Hopefully, the present article will stimulate a broad-scope typological survey to confirm the Mood/P distinction that will involve, among other tasks, examining languages with multiple types of irrealis/modal clauses and languages with a limited inventory of adpositions.

- (30) a. [Eguzkia atera d-en-e-tik] lanean ibili gara.
 sun rise AUX-REL-DEF-ABL work.LOC walk AUX
 ‘We have been working [since the sun rose.]’
- b. [[Oya ev-de kal-dıĝ-ı] için] Ali iş-e gid-ebil-di.
 Oya house-LOC stay-FNMZ-3SG because Ali work-DAT go-ABIL-PST
 ‘Ali could go to work because Oya stayed at home.’

Another promising direction for future research is the synchronic and diachronic connections between Mood and adpositions. A typical adposition is a two-place predicate that establishes a relation between a Figure and a Ground. In clausal adjuncts, the Figure and the Ground are usually propositional (and sometimes predicative) clauses (Landau 2021 and references therein). As discussed in section 4, Mod_{Rat} has a very similar semantics. The key difference between the modal and adpositions lies in the category (V vs. P),¹⁷ the resulting selectional requirements (TPs vs. dependents with an external nominal distribution), and the position in the structure (inside vs. outside the embedded clause).

What brings the modal Mood and adpositions even closer is a plausible historical link. In modern Mari, the ambiguous categorization of *lan* is not accidental, as it is plausible that P_{DAT} used to head rationale modifiers and was later reanalyzed in such contexts as Mod/Mood, changing its category from P to V. Due to the limitation of space, I must refer the reader to Burukina (2025) for a detailed discussion of the history of *lan*; however, it is important to note that this relation between adpositions and functional heads in the clausal periphery is not unique to Mari.

¹⁷ In the Amherst system adpositions are characterized as [-N, -V] (Chomsky 1970), which brings them categorially closer to lexical verbs, described as [-N, +V].

For example, within the Indo-European family, grammaticalization of adpositions into C or T is widely attested: consider English *for* (e.g., Greisinger 2016), Romance *de/di* or *a* as prepositional complementizers (Kayne 1984), and English *to* and Germanic *zu* as non-finite T heads. Likewise in Athabaskan, Benner (2005) argues that the postposition *gha* in Slave was the source for a modal particle and a purpose complementizer (analyzable as a Mood head).¹⁸ The reanalysis of P into Mod/Mood in Mari neatly fits into this larger picture, possibly driven by reanalyzing *aš* infinitives as extended verbal projections (“denominalization”).¹⁹

¹⁸ I would like to thank Nicholas Welch for drawing my attention to these data.

¹⁹ The new clausal structure might have developed partially under the influence of Tatar, a contact language, with Mari being part of the Volga-Kama Sprachbund (Helimski 2003; Bradley 2016 for an overview), which includes both Turkic and Uralic languages; see fn. 6. I’m grateful to Jeremy Bradley for bringing this to my attention.

Abbreviations

ABIL = abilitative, ABL = ablative, ACC = accusative, ADD = additive, ADV = adverbial, AUX = auxiliary, CAUS = causative, CMPR = comparative, CNG = connegative, COM = comitative, COMP = complementizer, CVB = converb, DAT = dative, DEF = definite, FNMZ = finite nominalization, ILL = illative, IMP = imperative, INE = inessive, INF = infinitive, LOC = locative, NEG = negation, NM = nominal, NMZ = nominalization, NPST = non-past, PL = plural, POSS = possessive, PST1 = simple past tense I, PST2 = simple past tense II, PTCL = particle, Q = question particle, REL = relativizer, SG = singular.

Acknowledgments

I am grateful to Tatiana Jefremova and Elena Vedernikova for sharing their knowledge of Meadow Mari with me. I would like to thank Jeremy Bradley, Éva Dékány, Marcel den Dikken, Katalin É. Kiss, Ekaterina Georgieva, Lukasz Jedrzejowski, and Maria Polinsky for their interest in the project and helpful feedback on various versions of this paper. Many thanks to the anonymous reviewers and the Editor of *Glossa*, the reviewers and the audiences at DiGS 24, Olinco 2023, and the FCTC workshop (Graz, Austria), as well as the audiences at the University of Potsdam, the Leipzig University, and the University of Tartu, where parts of this research were presented. All mistakes are mine.

Competing interests

The author has no competing interests to declare.

Resources

Korp – Corpus of Literary Mari

https://gtweb.uit.no/u_korp/?mode=mhr#?stats_reduce=word&cqp=%5B%5D (25 December, 2025)

Meadow Mari social media corpus

https://meadow-mari.web-corpora.net/meadow-mari_social_media/search (25 December, 2025)

References

- Alexiadou, Artemis. 2001. *Functional structure in nominals: Nominalization and ergativity*. Amsterdam: John Benjamins. DOI: <https://doi.org/10.1075/1a.42>
- Alhoniemi, Alho. 1993. *Grammatik des Tscheremissischen (Mari): Mit Texten und Glossar*. Hamburg: Buske.
- Arkhangelskiy, Timofey. 2019. Corpora of social media in minority Uralic languages. In Tyers, Francis M. & Kaalep, Heiki-Jaan & Pirinen, Tommi A. (eds.), *Proceedings of the fifth workshop on computational linguistics for Uralic languages*, 125–140. Tartu, Estonia: Association for Computational Linguistics. DOI: <https://doi.org/10.18653/v1/W19-0311>

- Baker, Mark C. 1985. The Mirror Principle and morphosyntactic explanation. *Linguistic Inquiry* 16(3). 373–415.
- Benner, Allison. 2005. A unified analysis of the Slave particle *gha*. In *Proceedings of the 2005 Dene Languages Conference*, 1–12. Victoria, B.C.: University of Victoria.
- Bereczki, Gábor. 2002. *A cseremis nyelv történeti alakzata [Historical morphology of the Cheremis language]*. Debrecen: Kossuth Egyetemi Kiadó.
- Borsley, Robert D. & Kornfilt, Jaklin. 1999. Mixed extended projections. In Borsley, Robert D. (ed.), *Syntax and semantics: The nature and function of syntactic categories* 32, 101–131. San Diego, CA: Academic Press. DOI: https://doi.org/10.1163/9781849500098_006
- Bradley, Jeremy. 2016. *Mari converb constructions: Productivity and regional variance*. Vienna: University of Vienna dissertation.
- Bradley, Jeremy & Hirvonen, Johannes. 2022. 10 Null subjects in Mari. In Cegłowski, Piotr & Tsedryk, Egor & Dalmi, Gréte (eds.), *Null subjects in Slavic and Finno-Ugric: Licensing, structure and typology*, 281–306. Berlin: Mouton de Gruyter. DOI: <https://doi.org/10.1515/9781501513848-010>
- Bradley, Jeremy & Kellner, Alexandra & Partanen, Niko. 2018. Variation in word order in Permic and Mari varieties: A corpus-based investigation. In Ivanova, Alena Mikhailovna & Fomin, Eduard Valentinovich (eds.), *Jazykovyje kontakty narodov povolžja [Language contacts of the peoples of the Volga region]*, 238–244. Cheboksary, Russia: I. N. Ulianov Chuvash State University.
- Bradley, Jeremy & Luutonen, Jorma. 2023. Mari. In Abondolo, Daniel & Valijärvi, Riitta-Liisa (eds.), *The Uralic Languages*, 527–575. Routledge. DOI: <https://doi.org/10.4324/9781315625096-12>
- Bresnan, Joan. 1997. Mixed categories as head sharing constructions. In Butt, Miriam & Holloway King, Tracy (eds.), *Proceedings of LFG 97*, 1–17. Stanford, CA: CSLI Publications.
- Burbiel, Gustav. 2018. *Tatar grammar: A grammar of the contemporary Tatar literary language*. Stockholm: Institute for Bible Translation.
- Burukina, Irina. 2022. On dative subjects and agreement with infinitives licensed by an external P head. In Pratley, Breanna (ed.), *NELS 52: Proceedings of the fifty-second annual meeting of the North East Linguistic Society*, 105–118. Amherst, MA: GLSA.
- Burukina, Irina. 2023a. External merge in spec,CP: Complementizers projecting an argument. *Syntax* 26. 85–105. DOI: <https://doi.org/10.1111/synt.12246>
- Burukina, Irina. 2023b. On the syntax of postpositional phrases in Mari: Choosing between two structures. *Journal of Uralic Linguistics* 2(2). 158–193. DOI: <https://doi.org/10.1075/jul.00021.bur>
- Burukina, Irina. 2024a. (Un)marked subjects and person-number marking in non-finite clauses in Mari. *Acta Linguistica Academica* 71(4). 511–555. <https://doi.org/10.1556/2062.2024.00808>
- Burukina, Irina. 2024b. Deriving rationale clauses: Infinitives and imperatives. In Janebová, Markéta & Čakányová, Michaela & Emonds, Joseph (eds.), *Language use and linguistic structure: Proceedings of the Olomouc Linguistic Colloquium 2023*, 12–23. Olomouc: Palacký University.
- Burukina, Irina. 2025. *On the possibility of a historical reanalysis of postpositions into Mood*. Ms. University of Florida.

- Campbell, Lyle & Lee, Nala & Huiying, Okura & Eve, Simpson Sean & Ueki, Kaori. 2022. The Catalogue of Endangered Languages (ElCat). <https://endangeredlanguages.com/about-catalogue> (22 December, 2025)
- Chomsky, Noam. 1970. Remarks on Nominalization. In Jacobs, Roderick A. & Rosenbaum, Peter S. (eds.), *Readings in English transformational grammar*, 184–221. Waltham, MA: Ginn and Company.
- Dąbkowski, Maksymilian & AnderBois, Scott. 2023. Rationale and precautioning clauses: Insights from A'ingae. *Journal of Semantics* 40(2–3). 391–425. DOI: <https://doi.org/10.1093/jos/ffac012>
- Déchaine, Rose-Marie. 1993. *Predicates across categories*. Amherst, MA: University of Massachusetts, Amherst dissertation.
- Den Dikken, Marcel. 2010. On the functional structure of locative and directional PPs. In Cinque, Guglielmo & Rizzi, Luigi (eds.), *Mapping spatial PPs: The cartography of syntactic structures* 6, 74–126. New York: Oxford University Press. DOI: <https://doi.org/10.1093/acprof:oso/9780195393675.003.0003>
- Den Dikken, Marcel. 2018. *Case, P and Number in Mari possessive noun phrases*. Ms. Budapest, Hungary.
- Embick, David & Noyer, Rolf. 2001. Movement operations after syntax. *Linguistic Inquiry* 32(4). 555–595. DOI: <https://doi.org/10.1162/002438901753373005>
- Faraci, Robert. 1974. *Aspects of the grammar of infinitives and for-phrases*. Cambridge, MA: Massachusetts Institute of Technology dissertation.
- Farkas, Donka. 1988. On obligatory control. *Linguistics and Philosophy* 11. 27–58. DOI: <https://doi.org/10.1007/BF00635756>
- Galkin, Ivan Stepanovich. 1964. *Istoricheskaja grammatika marijskogo jazyka. Morfologija [Historical grammar of Mari. Morphology]*. Yoshkar-Ola: Mari book publisher.
- Georgieva, Ekaterina. 2024. Predicting syntactic distribution from morphological structure: The PP syntax of converb clauses in Uralic and Turkic. *Acta Linguistica Academica* 71(4). 468–510. DOI: <https://doi.org/10.1556/2062.2024.00802>
- Georgieva, Ekaterina & Salzmann, Martin & Weisser, Philipp. 2021. Negative verb clusters in Mari and Udmurt and why they require postsyntactic top-down word-formation. *Natural Language & Linguistic Theory* 39(2). 457–503. DOI: <https://doi.org/10.1007/s11049-020-09484-w>
- Greisinger, Isabella. 2016. *Die Unidirektionalität des grammatischen Wandels: Studien zur Diachronie der deutschen, englischen und niederländischen Adverbialsätze im Kontext der Interaktion zwischen Grammatikalisierungsforschung, Generativer Grammatik und Indogermanistik*. Salzburg: University of Salzburg dissertation.
- Grimshaw, Jane. 1991. *Extended projection*. Ms. Brandeis University, Waltham, Mass.
- Grosz, Patrick. 2014. Modal particles in rationale clauses and related constructions. In Leiss, Elisabeth & Abraham, Werner (eds.), *Modes of Modality*, 263–290. John Benjamins. DOI: <https://doi.org/10.1075/slcs.149.09gro>

- Guseva, Elina & Weisser, Philipp. 2018. Postsyntactic reordering in the Mari nominal domain. *Natural Language & Linguistic Theory* 36(4). 1089–1127. DOI: <https://doi.org/10.1007/s11049-018-9403-6>
- Harris, James & Halle, Morris. 2005. Unexpected plural inflections in Spanish: Reduplication and metathesis. *Linguistic Inquiry* 36(2). 195–222. DOI: <https://doi.org/10.1162/0024389053710710>
- Helimski, Eugen. 2003. Areal groupings (Sprachbünde) within and across the borders of the Uralic language family: A survey. *Nyelvtudományi Közlemények* 100. 156–167.
- Isanbajev, Nikolay Isanbajevich. 1961. *Dejprichastija v marijskom jazyke [Gerunds in the Mari language]*. Yoshkar-Ola.
- Johnston, Michael James Robert. 1994. *The syntax and semantics of adverbial adjuncts*. Santa Cruz, CA: University of California Santa Cruz dissertation.
- Jones, Charles. 1991. *Purpose Clauses*. Dordrecht: Springer Netherlands. DOI: <https://doi.org/10.1007/978-94-011-3478-1>
- Kayne, Richard. 1984. *Connectedness and binary branching*. Dordrecht: Foris. DOI: <https://doi.org/10.1515/9783111682228>
- Kloudová, Veronika & Caha, Pavel. 2022. Time and causality in cased adverbial clauses: Evidence from Basque. Talk presented at the 15th Conference on Syntax, Phonology and Language Analysis (SinFonLJA 15). September 22–24, Udine, Italy.
- Klumpp, Gerson. 2016. Semantic functions of complementizers in Permic languages. In Boye, Kasper & Kehayov, Petar (eds.), *Complementizer semantics in European languages*, 529–586. Berlin: Mouton de Gruyter. DOI: <https://doi.org/10.1515/9783110416619-016>
- Koopman, Hilda. 2010. Prepositions, postpositions, circumpositions, and particles. In Cinque, Guglielmo & Rizzi, Luigi (eds.), *Mapping spatial PPs: The cartography of syntactic structures* 6, 26–73. Oxford: Oxford University Press. DOI: <https://doi.org/10.1093/acprof:oso/9780195393675.003.0002>
- Kornfilt, Jaklin. 1997. *Turkish. Routledge descriptive grammars*. London: Routledge.
- Kornfilt, Jaklin. 2001. Functional projections and their subjects in Turkish clauses. In Erguvanlı Taylan, Eser (ed.), *The Verb in Turkish*, 183–212. Amsterdam/Philadelphia: John Benjamins. DOI: <https://doi.org/10.1075/la.44.08kor>
- Landau, Idan. 2015. *A two-tiered theory of control*. Cambridge, MA: The MIT Press. DOI: <https://doi.org/10.7551/mitpress/9780262028851.001.0001>
- Landau, Idan. 2021. *A selectional theory of adjunct control*. Cambridge, MA: The MIT Press. DOI: <https://doi.org/10.7551/mitpress/13925.001.0001>
- Landmann, Angelika. 2014. *Tatarisch: Kurzgrammatik. 1. Aufl.* Wiesbaden: Harrassowitz.
- Lavrentjev, Gurij Ivanovich. 1972. *Spetsificheskiye padezhnyje formy v volzskom govore marijskogo jazyka [Specific case forms in the Volga dialect of the Mari language]*. Sovetskoje Finno-Ugrovedenije 1. 193–196.

- Luutonen, Jorma. 1997. *The variation of morpheme order in Mari declension*. Helsinki: Suomalais-Ugrilainen Seura.
- Majtinskaja, Klara Evgenjevna. 1982. *Sluzhebnye slova v finno-ugorskikh yazykakh [Functional words in Finno-Ugric languages]*. Moscow: Nauka.
- Matić, Dejan & Pakendorf, Brigitte. 2013. Non-canonical SAY in Siberia: Areal and genealogical patterns. *Studies in Language* 37(2). 356–412. DOI: <https://doi.org/10.1075/sl.37.2.04mat>
- McFadden, Thomas. 2004. *The position of morphological case in the derivation: A study on the syntax-morphology interface*. Philadelphia, PA: University of Pennsylvania dissertation.
- Naumov, Ilya. 2018. *The first-person singular imperative in Chukchi*. Ms. Higher School of Economics, Moscow, Russia. DOI: <https://doi.org/10.2139/ssrn.3301210>
- Nissenbaum, Jon. 2005. Kissing Pedro Martinez: (Existential) anankastic conditionals and rationale clauses. In *Proceedings of Semantics and Linguistic Theory 15 (SALT 15)*, 134–151. DOI: <https://doi.org/10.3765/salt.v15i0.3093>
- Rätsep, Huno. 1954. *Infiiniitsed verbivormid soome-ugri keeltes*. Tartu: University of Tartu dissertation.
- Riese, Timothy & Bradley, Jeremy & Yefremova, Tatiana. 2022. *Mari (марий йылме): An Essential Grammar for International Learners. 1.0*. Vienna: University of Vienna. grammar.mari-language.com (25 December, 2025)
- Saarinen, Sirkka. 2022. Mari. In Bakró-Nagy, Marianne & Laakso, Johanna & Skribnik, Elena (eds.), *The Oxford guide to the Uralic languages*, 432–470. Oxford: Oxford University Press. DOI: <https://doi.org/10.1093/oso/9780198767664.003.0024>
- Serebrennikov, Boris Aleksandrovich. 1967. *Istoricheskaja morfologija mordovskikh jazykov [Historical morphology of Mordvinic languages]*. Moscow: Nauka.
- Toldova, Svetlana Yurjevna & Serdobolskaya, Natalia Vadimovna. 2014. Glagol reči manaš v marijskom jazyke: osobennosti grammatikalizatsii [The verb of speech manaš in Mari: grammaticalization]. *Voprosy Jazykoznanija* 6. 109–134.
- Van Riemsdijk, Henk. 1990. Functional prepositions. In Pinkster, Harm & Genee, Inge (eds.), *Unity in diversity: Papers presented to Simon C. Dik on his 50th birthday*, 229–241. Dordrecht: Foris.
- Whelpton, Matthew. 1995. *The syntax and semantics of infinitives of result in English*. Oxford: University of Oxford dissertation.
- Williams, Edwin. 1980. Predication. *Linguistic Inquiry* 11(1). 203–238.

