Deriving rationale clauses: Dative infinitives, embedded imperatives, and modality

Irina Burukina irina.burukina@btk.elte.hu

Hungarian Research Centre for Linguistics & Eötvös Loránd University

§1. The paper examines rationale clauses (RatCls) in Mari (Uralic; head-final) and develops for them a comprehensive semantico-syntactic analysis based on the idea that RatCls contain a MoodP with a teleological modal as its head. The research fills in a gap in the description of Uralic and contributes to the discussion of the split CP in adjunct clauses in the world's languages; in particular, it challenges an assumption that adjunct clauses are necessarily introduced by a (c)overt P (cf. Landau 2021), whose semantic content determines the type of the modifier, and instead derives the required interpretation from within the CP itself.

§2. RatCls in Mari present two puzzles. ● **Infinitival RatCls**, which contain either a referentially independent subject or a controlled PRO, are accompanied by an affixal dative postposition *lan* and the complementizer *manən*, the surface order of which indicates the structural sequence ... T^0 **] P^0] C^0]** (1). As I will show, the pattern cannot be analyzed in terms of post-syntactic reordering, and thus poses a problem for the theory of categorial selection, since cross-linguistically C heads are not known to take a PP complement. ● As RatCls, infinitives alternate with **embedded imperatives** (2). This is unusual from a cross-linguistic perspective, as typically embedded imperatives appear in indirect speech contexts interpreted as commands or permissions (Kaufmann 2014 for an overview); however, no directive semantics is involved in the case of Mari RatCls.

(1) a. [Məlanna / PRO$_i$ kudəvečə-š pur-aš-**lan manən**], təj$_i$ pečə-m sümər-en-at.
   we.DAT yard-ILL go-INF-DAT COMP you fence-ACC break-PST-2SG
   'You broke the fence in order (for us) to get into the yard.'

   b. [Čəla-m kalas-en puo-Ø manən], rveze-vlak-əm per-en-na.
   all-ACC tell-CVB give-IMP COMP boy-PL-ACC hit-PST-1PL
   'We hit the boys in order for you to tell (us) everything.'

   c. [Rveze-vlak čəla-m kalas-en pu-Ø-əšt manən], təj-əm per-en-na.
   boy-PL all-ACC tell-CVB give-IMP-3PL COMP you-ACC hit-PST-1PL
   'We hit you in order for the boys to tell (us) everything.'

§3. RatCls in Mari are TP-level adjuncts, as indicated by the following properties (examples are omitted to save space): ● RatCls are opaque for A-bar extraction (as other adjunct clauses in Mari), ● RatCls cannot be elided with the matrix VP and excluding the other main-clause material (→ they are adjoined higher than VP), ● the standard position of RatCls is at the left periphery, in front of the matrix subject, ● RatCls always scope above the matrix negation (2).

(2) [Urok-lan jamdəlalt-aš(-lan) (manən)], kniga-m nal-ən **onal**.
   class-DAT prepare-INF-DAT COMP book-ACC buy-CVB NEG.PST.1PL
   Int., 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.' RatCl > NEG
   (for instance, the book would have distracted us)

§4. I follow Nissenbaum (2005) and Grosz (2014) in that all RatCls contain a teleological modal operator (Mod$_{Rat}$), which is inserted in the head of MoodP at the periphery of the embedded clause. To capture the fact that RatCls modify the whole TP, I adopt a version of Grosz' (2014) semantics for Mod$_{Rat}$ proposed by Dąbkowski and AnderBois (2023) (3). In essence, Mod$_{Rat}$ is a two-place predicate that requires two arguments of the type <s,t>: one (p) is the embedded TP, and the other (q) 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.

(3) $[\![\text{Mod}_{Rat}]\!]^{a,w} = \lambda p_{st}.\lambda q_{st}.\forall w'[w'$ is compatible with the goals relevant to q: p(w')]

I further argue that in **infinitival RatCls** Mod$_{Rat}$ is spelled out as the marker identical to the dative postposition – *lan*. P$_{Dat}$ and Mod$_{Rat}$ are linked diachronically as follows. Historically, *-aš* infinitives in Mari were deverbal event nouns (Galkin 1964), and P$_{Dat}$ used to head rationale modifiers; as I propose, in such contexts P$_{Dat}$ was later reanalyzed as Mood, likely as a result of the expansion of the verbal domain (after *-aš* nominals were reanalyzed as infinitival TPs). In **embedded imperatives** Mod$_{Rat}$ is the

covert imperative modal (cf. Kaufmann 2012, Naumov 2018 on Mod$_{Imp}$) whose modal flavor is shifted to teleological (cf. flexible modal flavor of overt modals, such as *must* or *can*).

§5. As for the syntactic structure of RatCls, I propose that all three types of RatCls – controlled infinitives ((1a) with PRO), non-controlled infinitives ((1a) with *məlanna*), and imperatives (1b) – are derived in the same way using the same inventory of functional heads, as outlined in (4). Mod$_{Rat}$ is a modal that is inserted in the Mood head and it combines with a fully saturated TP of the type <s,t>. A

(4)
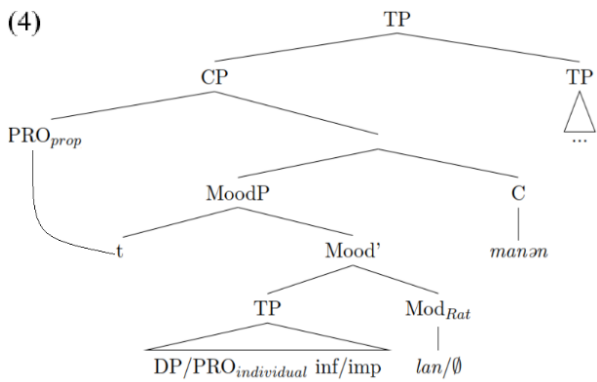
proposition-type element, a silent minimal pronoun (PRO$_{prop}$), is then merged in Spec,MoodP; cf. (Stegovec 2019) introducing a perspectival individual-type anaphor (PRO$_{pers}$) in Spec,MoodP to combine with a directive/deontic modal Mood. This makes the MoodP saturated and suitable for the general non-interrogative complementizer *manən* (C^0). To avoid the problem of combining the now propositional RatCl and the main TP of the same type, I argue that, inside the rationale clause, PRO$_{prop}$ moves to Spec,CP, where it turns into an operator. This creates a derived one-place predicate out of the whole CP, and the RatCl can be adjoined to the main TP.

§6. Infinitival RatCls with referentially independent subjects and imperative RatCls are derived straightfowardly as in (4). As for the RatCls with a controlled PRO subject, I show that in Mari they support only non-obligatory control (NOC; cf. Huettner 1989, Landau 2013 on RatCls in English being NOC infinitives). First, the controller cannot be [-human], as indicated by the ungrammaticality of (5) (under obligatory control [-human] controllers are allowed, Chomsky 1981). Second, PRO can receive an arbitrary interpretation (6) and be controlled by a non-local DP if the latter is a logophoric center (7). Additionally, PRO can receive a strict interpretation under ellipsis (examples omitted to save space). Following Landau (2021), I take TPs with an NOC PRO to be fully saturated and thus they should also be analyzed as in (4).

(5) *[PRO$_i$ šarl-aš(-lan)   (manən)] peledəš$_i$ šərka-m   kolt-a.
         spread-INF-DAT   COMP   flower   pollen   give.out-NPST.3SG
   Intended: 'The flowers produces pollen in order to propagate.'

(6) [PRO$_{arb}$ kurək-əm   saj-ən   už-aš(-lan)   (manən)] okna   kugu.
         mountain-ACC   good-ADV   see-INF-DAT   COMP   window   big
   'The window is big in order to better see the mountains.'

(7) Rveze-vlak$_i$ kalas-en-ət, [[PRO$_{i/*k}$ una-m   vašlij-aš(-lan)   (manən)]
   boy-PL   tell-PST-3PL   guest-ACC   receive-INF-DAT   COMP
   üstel$_k$ tide   pölem-əšte   šog-a.
   table   this   room-INE   stand-NPST.3SG
   'The boys$_i$ said that the table stands in this room in order for them$_i$ to receive guests.'

§7. Most of the existing work focuses either on the syntax or the semantics of rationale infinitives, and does not mention non-infinitival rationale adjuncts. The present research brings all such constructions together. It further opens the door to a study of the grammaticalization of adpositions into Mood (cf. P$_{Dat}$ → Mod$_{Rat}$), expanding the discussion of the connection between the postpositional and extended verbal projection (cf. for instance grammaticalization of Ps into C in Romance, etc.). The proposed analysis for rationale imperatives can also be extended to account for the behavior of subjunctive rationale and purpose adjuncts, attested outside of the Uralic language family, for instance, in some Slavic and Romance languages.

Selected references: Dąbkowski, M. & S. AnderBois. 2023. Rationale and precautioning clauses: Insights from A'ingae. *Journal of Semantics*. Grosz, P. 2014. Modal particles in rationale clauses and related constructions. In *Modes of Modality*, 263–290. Kaufmann, M. 2012. *Interpreting imperatives*. Springer. Landau, I. 2021. *A selectional theory of adjunct control*. The MIT Press. Stegovec, A. 2019. Perspectival control and obviation in directive clauses. *Natural Language Semantics* 27(1): 47–94.