
A Paradigm Function Morphology approach to Moksha objective conjugation

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1 Introduction

This study seeks to apply the Paradigm Function Morphology (PFM) framework developed by Stump (e.g. 2001, 2016) to the analysis of verb inflection in Moksha (Mordvin, Uralic). The study focuses on the phenomenon traditionally termed OBJECTIVE CONJUGATION, in which the inflection of transitive verbs is sensitive to person and number values of the definite object as well as the subject (intransitive verbs, and transitive verbs with indefinite objects, present a separate series of inflectional exponents, the SUBJECTIVE CONJUGATION, sensitive only to the person and number values of the subject). An example from the Šokša variety (Djordjevic Léonard & Léonard 2006:277) is given below, illustrating the contrast between objective conjugation (1a) and subjective conjugation (1b).

- (1) a. *ćoreng-iś* *ker-i-že* *pře-d'*
 boy.NOM-SG.DEF cut_off-PRT-SBJ3SG.OBJ3SG head-ACC.SG.DEF
 ‘The boy cut off the head.’
- b. *kere-ś* *kevejke* *bandit-eń* *pře*
 cut_off-PRT-SBJ.3SG eleven bandit-GEN.PL head-ACC.SG
 ‘He cut off eleven bandits’ heads.’

As established by synchronic and diachronic studies (e.g. Keresztes 1999, Fournet 2004, Léonard 2008, Samvelian 2008), the relationship between morphosyntactic values and inflectional exponents in Mordvin objective conjugation is no longer an entirely transparent one. In contemporary varieties, there is extensive and highly systematic syncretism between inflectional exponents: some patterns are functionally arbitrary, others less so. A further point of interest is that, across Mordvin speech varieties, patterns of distribution are generally stable, while variation in the form of exponents is concentrated in certain areas of the paradigm.

This study proposes an analysis of objective inflection in Moksha in accordance with Stump’s theory of PARADIGM LINKAGE, illustrating the suitability of this approach for developing an empirically plausible account of the study data.

2 Overview of objective conjugation in Moksha

Moksha presents a rich system of verb inflection, exhaustive analysis of which is beyond the scope of the present study. Following Keresztes (1999), the study focuses on objective conjugation for a subset of paradigm forms which are traditionally considered basic – the present (here glossed NPST), preterite (PST) and imperative (IMPV). Exponents for these categories in standard Moksha are shown in Table 1; note that the suffixes do not vary across inflectional classes, and that stem forms do not vary with reference to the person or number values of subject or object arguments.

The data in Table 1 illustrate several key structural principles of the system of objective conjugation (subjective forms are provided for comparison). No synthetic forms are available for the combinations {SUBJ.1, OBJ.1} or {SUBJ.2, OBJ.2}; these meanings are instead expressed analytically with a reflexive pronoun *eś* ‘self’. There is widespread neutralisation of number contrasts (object number is neutralised where the subject is plural, subject number is

neutralised where the object is 1PL or 2PL). Exponents primarily associated with object agreement values occur nearer to the stem than exponents primarily associated with subject agreement values (and exponents primarily associated with subject agreement values frequently differ in form from the corresponding exponents in the subjective series). First-person objects are consistently associated with an exponent *-ma-*, while second-person objects typically present exponents *-tä-*, *-dä-*, *-t'äd'ä-*; in the non-past, a default exponent *-sa-* is found for non-second-person objects [note that *-si-* in SUBJ.3SG forms is a reflex of older *-saj-*].

| <i>mood</i> | <i>tense</i> | SBJ | <i>Sbjve</i> | <i>Objve</i> , where DEF.OBJ person/number values are : | | | | | |
|-------------|--------------|-----|--------------|---|----------|--------|----------|------------|--------|
| | | | | 1SG | 2SG | 3SG | 1PL | 2PL | 3PL |
| IND | NPST | 1SG | -(a)n | — | -t'ä | -sa | — | -t'äd'äz | -sajño |
| | | 2SG | -(a)t | -samak | — | -sak | -samašt' | — | -sajt' |
| | | 3SG | -j, -i | -samañ | -tanza | -si | -samaž | -t'äd'äz | -siñə |
| | | 1PL | -tamə | — | -t'äd'äz | -sašk | — | -t'äd'äz | -sašk |
| | | 2PL | -tadə | -samašt' | — | -sašt' | -samašt' | — | -sašt' |
| | | 3PL | -jt' | -samaž | -t'äd'äz | -saž | -samaž | -t'äd'äz | -saž |
| | PST | 1SG | -ñ | — | -jt'añ | -jño | — | -d'äz | -jño |
| | | 2SG | -t' | -majt' | — | -jt' | -mašt' | — | -jt' |
| | | 3SG | -ś | -mañ | -nžə | -žə | -maž | -d'äz | -žəñ |
| | | 1PL | -mə | — | -d'äz | -śk | — | -d'äz | -śk |
| | | 2PL | -d'ə | -mašt' | — | -št' | -mašt' | — | -št' |
| | | 3PL | -št' | -maž | -d'äz | -ž | -maž | -d'äz | -ž |
| IMP | 2SG | -k | -mak | — | -k | -mašt' | — | -jt', -št' | |
| | 2PL | -də | -mašt' | — | -št' | -mašt' | — | -št' | |

Table 1. 'Subjective' (*Sbjve*) and 'objective' suffixes (data from Keresztes 1999:67–68).

3 PFM analysis of the standard Moksha system

The PFM framework and the theory of paradigm linkage are founded on two key principles: the notion that 'paradigms are the interfaces of inflectional morphology with syntax and semantics' (Stump 2016:23) and that 'some morphological regularities are, irreducibly, regularities in paradigm structure' (Stump 2016:26).

Three types of inflectional paradigm are assumed to exist: a CONTENT PARADIGM which provides information on available combinations of morphosyntactic/semantic feature values, a FORM PARADIGM which provides information on distributional patterns of exponence, and a REALISED PARADIGM which provides information on the form of exponents. The three paradigms are linked by functions which describe the formal relationships between cells and their exponents. Because this architecture explicitly dissociates syntactic and morphological processes (cf. Zwicky 1992) and provides for autonomously morphological structure (cf. Aronoff 1994), it is well equipped to describe systemic regularities in the distribution of inflectional exponents, whether these regularities map onto morphosyntactic/semantic features or not.

Thus, in the Moksha case illustrated here, one can assume that within the content paradigm there are individual cells corresponding to the sets of feature values {IND NPST SUBJ.1PL OBJ.2SG}, {IND NPST SUBJ.3PL OBJ.2SG}, {IND NPST SUBJ.1SG OBJ.2PL}, {IND NPST SUBJ.3SG OBJ.2PL}. {IND NPST SUBJ.1PL OBJ.2PL} and {IND NPST SUBJ.3PL OBJ.2PL}, because each of these combinations is required by a distinct syntactic context; but that all six of these content paradigm cells map to the same form paradigm cell, because for any given lexeme their

corresponding wordforms display systematic syncretism (e.g. for *kundams* ‘take’, all six sets of feature values correspond to the single realised form *kundat’äd’äž*)

The distribution and phonological form of inflectional exponents are described using ordered blocks of REALISATIONAL RULES; the rules within each block are in competition and apply from most to least specific (i.e. default). For the data in Table 1, two blocks are required: the first introduces a formative which may be broadly characterised as an object marker, and the second an exponent which may be broadly characterised as a subject marker. Note that the series of exponents found in the present is also shared with the conditional, while the series of exponents found in the preterite is common to the subjunctive, desiderative and conditional-subjunctive (Bartens 1999:139), the optative has a unique series, and the imperfect is only found with subjective inflection (Bartens 1999:131). For this reason, it is desirable to consider the two realisational rule blocks as describing exponents of MORPHOMIC SUFFIX SERIES, rather than exponents of particular TAM categories (cf. Stump 2016:120-126).

| series 1 | | series 2 | |
|---------------------|--------|---------------------|--------|
| SUBJ.2SG OBJ.1 | -sama- | SUBJ.2PL OBJ.1 | -sama- |
| SUBJ.3SG OBJ.2SG | -ta- | SUBJ.3SG OBJ.2 | -tädä |
| SUBJ.3SG OBJ.3SG | -si- | SUBJ.3SG OBJ.3PL | -si- |

Table 2. Exponents of object person and number features for the two morphomic series.

The exponents described by the first rule block are shown in Table 2, highlighting contrasts between the more substantial, robustly object-iconic exponents found in series 1, and the more diverse, idiosyncratically distributed exponents found in series 2. Also of note is the particularly wide variety of exponents associated with second-person objects (uniquely distinguishing the ‘contrastive’ speech act participant, that which renders the speech act possible).

4 Adapting to dialectal variation

| series 1 | northern | central | south-western | south-eastern | southern |
|--|----------------|----------------------------|-------------------|------------------|-----------------|
| SUBJ.1SG, OBJ.3SG | -sa | | | | |
| SUBJ.1SG, OBJ.3PL | -sań -sajně | -sajně -sajnä -sajěň | -sajn -sajně | -sajn | -sajä -sajně |
| SUBJ.2SG, OBJ.1SG | -samak | | | | |
| SUBJ.1PL, OBJ.2SG SUBJ.3PL, OBJ.2SG SUBJ.1SG, OBJ.2PL SUBJ.3SG, OBJ.2PL SUBJ.1PL, OBJ.2PL SUBJ.3PL, OBJ.2PL | -tädäž | | -tedež -tëd’ëž | -tädäž -tedež | -tädäž |

Table 3. Comparison of an illustrative selection of inflectional exponents across varieties of Moksha (data from Keresztes 1999:206, 208, 238, 240).

In a framework with three distinct levels of paradigmatic structure, diatopic variation may involve any of three dimensions: from one speech variety to another, the content paradigm

may contain a different array of cells, the form paradigm may consist of different groupings of cells, and the realised paradigm may involve different exponents. Consideration of the data presented by Keresztes (1999) for Moksha varieties shows that, overwhelmingly, diatopic variation only affects the realised paradigm, while the shape of (and mapping between) the form and content paradigms remains constant; furthermore, variation within the realised paradigm is concentrated in certain cells. Illustrative examples of ‘present’ or ‘series 1’ suffixes are shown in Table 3 for five varieties of Moksha: some exponents are uniform across the dialect area, while others show much greater variability; notably, the exponent realising combinations of a second-person object and a plural object or subject varies in form, but its paradigmatic distribution remains robustly stable across the dialect area.

5 Conclusions and perspectives

This study proposes a formal PFM analysis of a fragment of Moksha verb inflection, namely the inflectional exponents which occur for transitive verbs with a definite object. The analysis, which provides a starting point for a fuller description of Moksha verb inflection, is comparable to the PFM analysis of equivalent data for Erzya (Mordvin) conducted by Samvelian (2008), but integrates the more recent notion of paradigm linkage, and demonstrates the advantage of this notion in providing an empirically and theoretically satisfying account of the data. Within a paradigm linkage analysis, the syntactic context (presence/absence, definiteness/indefiniteness of the object) does not directly condition inflectional realisations, but instead determines which content cell is to be selected; the mapping between this cell and inflectional forms is mediated by the form paradigm, which groups together cells which share inflectional realisations. The separation of content and form paradigms preserves the principles of morphology-free syntax and syntax-free morphology, while the mapping between the two explicitly builds recurrent patterns of relationship between cells into the structure of the inflectional paradigm. PFM is shown to be an effective tool for capturing the organisational principles of Moksha objective conjugation, and thus revealing the underlying simplicity of this apparently complex inflectional system.

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