



Body part terms as a semantic basis for grammaticalization: a Mordvin case study into spatial reference and beyond

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ABSTRACT

Body parts have played an important role in the development of theories describing grammaticalization processes (Heine and Kuteva, 2002, pp. 62–63 and 165–171). Within Uralic linguistics, this particular area of study has not yet received a great deal of attention, although the agglutinative character of most of these languages is known to have resulted in a large number of postpositions that are derived from a nominal basis. This paper will focus on body parts as the basis of grammaticalization processes in Mordvin, and compare these findings with expected development paths. For in a recent study, (Suutari, 2006) it is argued that Finno-Ugric languages in some respects do not follow the standard grammaticalization paths. An important part of this paper will therefore be to see whether the developments in Mordvin are in line with these recent findings.

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1. Theme of this paper

This paper will describe some grammaticalization processes found in Mordvin¹ that involve terms expressing body parts, with special focus on spatial reference adpositions.

The main motivation for this article arose from a number of claims by Suutari (2006) according to which the developments related to body part terms in other Uralic languages (a.o. Mordvin, Finnish and Estonian) sometimes diverge from the suggested unidirectional grammaticalization processes associated with these terms, as outlined by Svorou (1994) and Heine (1997).

The first part of this paper will investigate to what extent the relevant characteristics of Mordvin can shed more light on the unidirectional ideas with respect to the grammaticalization of body part terms.

Several Mordvin terms for body parts have become associated with spatial reference. The second part of this paper will describe these developments and investigate the level of grammaticalization of these terms, using criteria that have been outlined previously by linguists investigating similar developments in related and unrelated languages. This latter issue is related to the fact that there are doubts concerning the appositional status of some of these Mordvin elements. A number of terms for body parts have also undergone further developments and these will be treated separately.

The goal of this paper will therefore be to evaluate a number of typologically relevant theories with relation to the grammaticalization of body part terms and compare these to similar developments in Mordvin.

Abbreviations: abl, ablative; acc, accusative; ade, adessive; all, allative; caus, causative; cnjv, conjunctive; dat, dative; def, definite; ela, elative; gen, genitive; ill, illative; imp, imperative; ine, inessive; inf, infinitive; nom, nominative; obj, object; poss, possessor; pres, present tense; pret, preterite; prol, prolative; ptcp, participle; sg, singular; subj, subject.

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¹ Mordvin is a Uralic language spoken in European Russia in dispersed language islands located in and around its titular republic Mordovia, which lies roughly 500 km to the southeast of Moscow. The Mordvins usually designate themselves as either Erzya or Moksha, for which separate literary languages were developed in the 1930s. If no mention is made of either two, then an Erzya form is meant, and Moksha forms will be in parentheses if they are divergent.

2. Previous research

In general, information on contemporary Mordvin syntax rarely found its way into the grammars that have been appearing since the 1830s. Most linguists either concentrated on its complex morphology or the etymology of its lexical elements.

Over the last 50 years there has been a steady increase in the number of articles and monographs treating specific traits of Mordvin grammar, including parts of its syntax. Most of these were published in Russia with low print runs, while others appeared in Hungary, Estonia and Finland.

The most relevant sources for this paper are the monograph on historical Mordvin morphology by Serebrennikov (1967) and the articles by Turgaeva-Smirennikova (1972, 1990) on the usage of Erzya *přa* (Moksha *přä*) 'head' as a reflexive marker. Two articles by Maticsák (2005, 2006) also contain findings relevant to this topic.

Apart from these limited sources, there have been no attempts to relate the diachronic changes in Mordvin to the recent developments in grammaticalization research, much less have there been articles or monographs focussing on the grammaticalization of body part terms in Mordvin that I am aware of. In a broader Uralic context there have been a number of Finnish and Hungarian linguists who used recent studies on grammaticalization research as a basis for their own study of terms for body parts in Finnish/Estonian (Ojutkangas, 2000, 2001; Suutari, 2006), Hungarian (Kovács, 2000) and Mansi (Sipőcz, 2005).

2.1. Two major models for the origin of spatial expressions

Heine (1997, pp. 37–40, 44–45) and Svorou (1994, pp. 70–117) have developed some very precise ideas on the origin of expressions for spatial orientation. The basic claim of Heine and Svorou is that there are only two major scenarios along which expressions for spatial relations are formed. One is the body part model (under 1) and the other is the landmark model, which is the body part model in reverse order:

(1) The development from body part to spatial concept (Heine, 1997, p. 44):

1. Stage 1 – a region of the human body
2. Stage 2 – a region of an (inanimate) object
3. Stage 3 – a region in contact with an object
4. Stage 4 – a region detached from the object

Heine largely based his division on an earlier division posited by Svorou (1994, pp. 70–117) who listed five groups as sources for spatial expressions, four nominal ones and one verbal. In addition to the body part and landmark models, Svorou also included *relational object parts* (terms like 'front', 'back', 'side') and *abstract spatial notions* (terms like 'proximity', 'direction', 'length') as separate nominal groups. Both Svorou (1994, p. 85) and Heine (1997, pp. 39–40) stressed, however, that relational object parts largely originate from either body part terms or landmark terms. As such they concluded that this group should be seen as an intermediate stage of either the body part model or the landmark model.

The last nominal group described by Svorou (1994, p. 86), consisting of terms expressing abstract spatial notions, was found to be too uncommon to form a solid basis for further analysis of the underlying motivations which would have led to the development of spatial expressions. Heine left out this particular type of development from his analysis of the topic.

Finally, the *verbal* group is characterised by dynamic concepts, which are usually in the form of verbs expressing motion or static location (Svorou, 1994, pp. 109–117; Heine, 1997, p. 39). This is a relatively rare development, and also does not involve terms for body parts. Therefore, this kind of development falls outside the realm of this paper.

2.2. Objections against the two models

Although Heine's main aim was to find the most frequently used principles for the development of spatial expressions, based on an impressively wide variety of languages, there are indications that not all language families follow these two templates. Focusing on the Uralic languages, Suutari (2006) has formulated three main objections to the two outlined templates. His first one concerns the development from contact area (step 3) to adjacent area (step 4). In Finnish and Estonian (and in the postulated proto-Finnic stage, see Laanest (1982, pp. 165–167) the difference between these steps is expressed by local cases, as shown in (2).

(2) Spatial reference using nominal morphology in Finnish (Suutari, 2006, p. 107):

- | | | | |
|----|---------------------|---------------------------------|-----------------------------------|
| a. | <i>Internal:</i> | | |
| | <i>talo-ssa</i> | <i>talo-sta</i> | <i>talo-on</i> |
| | house-INE | house-ELA | house-ILL |
| | 'in a/the house' | 'from a/the house' | 'into a/the house' |
| b. | <i>External:</i> | | |
| | <i>talo-lla</i> | <i>talo-lta</i> | <i>talo-lle</i> |
| | house-ADE | house-ABL | house-DAT/ALL |
| | 'at/on a/the house' | 'from (outside of) a/the house' | 'to (the outside of) a/the house' |

The external cases are only used when no direct contact is involved, whereas the internal cases also indicate direct contact. Therefore, the differentiation between direct contact and adjacent area without contact forms an important part of the morphology of Finnish. Any change in meaning along these lines does not constitute a diachronic stage, but is merely a part of its nominal morphology (Suutari, 2006, pp. 106–108).

Secondly, Suutari objects to the claim that the body part model should be considered unidirectional. Erzya Mordvin *přa* (Moksha *přä*) ‘head’ has cognates in many related languages, and only here has the lexical item become associated with the human body part. The meaning of the postulated proto-word **perä* is widely accepted to be ‘back area, back side’ (UEW I, p. 373), and the Mordvin development is therefore indicative of a semantic change that does not involve a landscape term changing into a body part term, nor did it have a body part term as a starting point (for the further grammaticalization of *přa/přä* see Section 4.3.1). Suutari also mentions a similar development in Udmurt and Komi and postulates that Finnish *pää* ‘head’ is similarly derived from a noun indicating an extremity of an inanimate object; this meaning is represented by the cognate words in Mordvin, Komi, and Udmurt.

His final objection to the two models is the idea of anthropocentricity, i.e. the suggestion that spatial orientation either ends in or originates from terms expressing body parts. This partly overlaps with the above argument and shows that by no means all spatial reference adpositions in the Uralic languages are ultimately based upon human body parts.

3. The situation in Mordvin

3.1. Grammatical background

Since Mordvin is linguistically relatively close to the Finnic branch of Uralic, the objections brought forward by Suutari and Ojutkangas have some bearing on Mordvin too.

- (3) Spatial reference using nominal morphology in Erzya^a (Bartens, 1999, p. 74):

| | | |
|-----------------|------------------|------------------|
| <i>vel'e-se</i> | <i>vel'e-stē</i> | <i>vel'e-s</i> |
| village-INE | village-ELA | village-ILL |
| ‘in a village’ | ‘from a village’ | ‘into a village’ |

^a The Moksha forms are *vel'ä-sa*, *vel'ä-sta*, *vel'ä-s*, respectively (Bartens *ibid.*).

The case system in Mordvin is quite different from Finnic, although there is a series of cases which can be dubbed ‘internal’ as well, as can be seen under (3). Keresztes (1990, p. 73) in fact mentions that these cases are used for direct contact as well, which would suggest a cognitive link between the three, but there also postpositions based on these cases, such as *čiräsa* (Moksha *širäsa*) ‘near, at’, which have no such relationship with contact.

- (4) Adjacent spatial reference with ‘internal’ cases
- | | | | |
|----------------------------|---------------|---------------|----------|
| <i>aŋ'a-nc</i> | <i>širäsa</i> | <i>efä-j</i> | (Moksha) |
| father-GEN/ACC.3SG.POSS | at | live-PRES.3SG | |
| ‘he lives with his father’ | | | |

However, there are a number of complicating factors that make further comparison problematic. To start with, there is no specific series in Mordvin for external spatial reference, and the spatial relationships expressed by the Finnish *ADJESSIVE* (‘at’ and ‘on’) are expressed by different postpositions rather than the same case ending in Mordvin. Other complicating factors are the coding of definiteness (which has led to fused case/definiteness endings), and the simplification of the use of spatial case endings in the definite declination. Both Erzya and Moksha use one case ending for the illative (internal in Finnic) and the dative-allative (external in Finnic) in the definite declination, and Moksha also uses a single adpositional construction for the *ELATIVE* (internal in Finnic) and *ABLATIVE* (external in Finnic) when coding for definiteness (Bartens, 1999, pp. 83–88).

As such, the distinction between direct contact and adjacent area is not as clear-cut in Mordvin nominal morphology, although what Mordvin does share with Finnic is a highly flexible spatial reference system which still allows for a distinction to be made between contact and adjacent outside area by means of adpositions.

3.2. Dedicated case endings for Mordvin adpositions

A typical characteristic of Uralic spatial adpositions is that they usually form a paradigm of a fixed number of derivations by augmenting an original etymon with spatial case endings. For Mordvin this number is formally five, but effectively four (see Table 1), since the derivations formed with two of these case endings (*LATIVE* and *ILLATIVE*) are usually interchangeable (see Abondolo, 1998, p. 23).

There are two more productive case endings expressing spatial relations (*DATIVE-ALLATIVE* and *ABLATIVE*), and some obsolete ones (which are reconstructed based on the form of several adpositions) but these are not used for recent adpositions. A

Table 1
Spatial differentiation of Mordvin adpositions.

| Spatial reference | Ending added to adpositional root lexeme |
|-------------------|---|
| Location | INESSIVE -so/-se (Moksha -sa) |
| Movement towards | LATIVE -v (Moksha -v/-u/-i) and ILLATIVE -s |
| Movement from | ELATIVE -sto/-ste (Moksha -sta) |
| Movement along | prolative -va/-ka/-ga |

noun augmented with a productive case ending different from the ones mentioned above is therefore also an indication of a locative phrase rather than an adpositional phrase (Suutari, 2006, p. 109).

The original etymon used for such a set of adpositions usually adds a second spatial concept to the adpositional phrase, such as ‘inside’, ‘above’, ‘under’ or ‘next to’. As a result, Mordvin has a very precise way of expressing location and direction.

3.3. The use of anthropomorphic principles in Mordvin

The same anthropomorphic principles that form the basis for metonymic expansion of body part terms in other languages (such as *the eye of a needle*, *the neck of a bottle*, Sipőcz, 2005, p. 413) can be found in Mordvin as well. Examples are Erzya *ulo* (Moksha *ula*) ‘chin, jawbone’ which has developed into a more abstract meaning of ‘point of separation’, such as in *lej ulo* ‘river confluence; river bank’ (*lej* ‘river’), or in *ki ulo* ‘crossroads’ (*ki* ‘road’).

In Moksha, we find *l’äj šama* ‘slope of a gully’ (*l’äj* ‘river, gully’, *šama* ‘face’). There are more examples of body part terms used in toponyms in an article by Kazaeva (1994, p. 94). However, in Mordvin only a limited number of these terms have undergone grammaticalization.

For the objections against the focus on the anthropomorphic form being either the starting point or end point of spatial reference terms I have already mentioned Suutari’s Mordvin examples (see above), but there are two other grammaticalization paths found in Mordvin that need to be mentioned here, as they also involve spatial reference and grammaticalization of body part terms.

The Erzya word *ekše* (Moksha *jäšä*) ‘cold’² has developed semantically into ‘shadow’ and ‘area behind something’, from which Erzya and dialects of Moksha have formed the adpositions *ekšnie* ‘behind’ (using the obsolete locative -*nie*), *ekšse* ‘behind’, *ekšte* ‘from behind’, *ekš(e)s* ‘to the back of’ and *ekševa* ‘along the back of’ (Serebrennikov, 1967, p. 242; PaasWb. I, pp. 358–361; Kolādēnov and Cyganov, 1949, p. 257; Serebrennikov et al., 1993, p. 777). This example shows that neither animate mediation nor landmark terms are necessary for the development of spatial reference terms.

Secondly, the Erzya word *lango* (Moksha *langa*) is originally thought to have meant ‘surface’, with a secondary meaning ‘exterior’ and from this notion the traditional number of spatial adpositions has developed (Serebrennikov 1967, p. 247, see also Section 2.3.2). The noun is also used attributively, meaning ‘outer’, ‘small’, ‘shallow’ and ‘flat’, but a further semantic development led to the meaning ‘body’, which can only be explained by a change from inanimate to animate usage (see PaasWb, *lango*). The use of *lango* as ‘body’ is restricted to verbs of clothing and contexts referring to clothes or lack thereof, which suggests a recent development, not the starting point of a semantic development.

- (5) Current uses of Mordvin *lango/langa*
- | | | | | | |
|----|---|----------------------------------|-------------------------------|----------------------------------|----------|
| a. | <i>lango-st</i> exterior-3PL.POSS ‘their exteriors would be smooth’ | <i>ule-st</i> be:CNJV-3PL | <i>s ĵnst</i> they:GEN/ACC | <i>valańa-t</i> smooth-PL | (Erzya) |
| b. | <i>langa</i> flat ‘flat dish’ | <i>lapšava</i> dish | | | (Moksha) |
| c. | <i>štapo</i> naked ‘I will clothe their naked bodies’ | <i>lango-st</i> body-3PL.POSS | <i>mon</i> I | <i>orča-n</i> clothe-PRES:1SG | (Erzya) |

3.4. The distinction between compounds, locative phrases and adpositional phrases

In Mordvin, as in most Uralic languages, it is often difficult to decide what level of grammaticalization should be attributed to a body part term when it has developed a locative meaning and is used in a noun phrase. Following Suutari’s terminology, I will differentiate between locative and adpositional phrases, where only adpositional phrases should be considered examples of grammaticalized body part terms.

² Of Finno-Ugric origin, with cognates found in Finnish *jä(ä)htyä* ‘to become cold’, Saami, Mari, and Khanty (see UEW I, pp. 90–91).

| | | | | | | |
|--|---|-------------------------------------|------------------------------|-------------------------------------|----------------------|--------------------------------------|
| (6) The noun phrase structure in Mordvin | | | | | | |
| a. | <i>vagon</i> train.car 'through the train car window' | <i>val'ma-va</i> window-PROL | (Erzya) | | | |
| b. | <i>pando</i> hill 'on the hill top' | <i>přa-so-ńt'</i> top-INE-DEF:SG | (Erzya) | | | |
| c. | <i>kudo-ńt'</i> house-DEF:GEN/ACC:SG 'at the window of the house' | <i>val'ma-so</i> window-INE | (Erzya) | | | |
| d. | <i>kudo-ńt'</i> house-DEF:GEN/ACC:SG 'at the edge of the house' or 'at the house' | <i>čire-se</i> edge-INE | (Erzya) | | | |
| e. | <i>Sura</i> Sura 'at the other banks of the Sura and Volga rivers' | <i>i</i> and | <i>Rava</i> Volga | <i>l'äj-ńeń</i> river-PL:GEN/ACC | <i>tona</i> other | <i>tərvə-sa</i> bank-INE (Moksha) |
| f. | <i>oza-n</i> sit-PRES:1SG 'I am mounting a horse' | <i>alaša</i> horse | <i>laŋk-s</i> surface-ILL | (Erzya) | | |

In comparison to Finnish, the syntax of Mordvin offers some similar characteristics that can help decide in favour of or against a noun phrase being an adpositional phrase. Example 6a represents a noun phrase that can be best analysed as a compound, but it shows that it is formally identical to locative expressions and adpositional phrases. When the final part of a noun phrase is coded for definiteness (as in 6b), we can also safely assume that we are dealing with a compound, whereas when the first part is coded as definite, analysis of the semantic content of the second part is needed, such as in examples 6c and 6d. Example 6d represents a case where two readings are possible (cf. Finnish *äidi-n rinna-lla* 'in mother's arms' or 'beside its mother', Suutari, 2006, p. 113).

When a modifier can be added to the second noun (example 6e), we can conclude that this is a locative phrase. The body part term is used in a spatial sense, but it has not undergone sufficient bleaching of semantic content, nor is the spatial reference used in a wider context (see Sipőcz, 2005, pp. 421–422). The possibility to add modifiers also indicates that the nominal character of the derived form is still very much present. Example 6f represents a grammaticalized adposition whose content is wholly focused on spatial reference.

4. Case study

4.1. Methodology

For this study I have used a corpus that consists of several modern novels and newspaper articles in both Erzya and Moksha, the six-volume Mordvin dialect dictionary based on language material collected by Paasonen, and a number of Russian dictionaries for both languages. I have also taken into account the way body part terms and their derivations are listed in the dictionaries available to me. The criteria I used for inclusion in this paper were a semantic content referring to a body part in Erzya and/or Moksha, and a further grammaticalization of the specific lexical item, either based on claims in previous literature, or as a result of personal analysis of its usage in the abovementioned corpus, using well-known criteria such as semantic bleaching and phonetic erosion.

I will analyse the Mordvin terms for body parts by first looking at the etymological background and semantic content of the noun, and then at the grammaticalization process. Following a number of criteria formulated by Suutari, I will also analyse the level of grammaticalization of the terms by examining whether combining them with other nouns influences their nominal characteristics.

4.2. Adpositional developments

I have found three body part terms in Mordvin that have developed locative meanings in a wider sense: the term for 'lip' (Section 4.2.1), the term for 'innards' (Section 4.2.2) and two lexical items representing the body part term 'side, flank' (Section 4.2.3).

Table 2
Derived forms of Moksha *t̂rva* ‘lip’.

| | Moksha |
|------------------|----------------------|
| Location | <i>t̂rvasa</i> |
| Movement towards | <i>t̂rvas/t̂rvav</i> |
| Movement from | <i>t̂rvasta</i> |
| Movement along | <i>t̂rvava</i> |

4.2.1. ‘lip’

The Mordvin word for ‘lip’ has cognates in several other Finno-Ugric languages in which they are used to designate either ‘lip’ or ‘muzzle’ (UEW II, p. 801). The meaning ‘lip’ has remained stable in Erzya, but in Moksha it has expanded to inanimate objects, mostly referring to landscape objects. The derived forms have been treated as postpositions in the dictionary of Potapkin and Imārekov (1949, p. 276) and by Serebrennikov (1967, p. 252), but not in the most recent dictionary by Serebrennikov et al. (1998) (Table 2).

The spatial area derived from this body part term is usually associated with the edge of landscape objects, such as rivers (examples 7a and 7b), roads, and gullies and landscape objects edging these previous objects (examples 7c and 7d). The term only sporadically refers to objects outside the realm of landscape objects (7e).

(7) Locative usage of Moksha *t̂rva* ‘lip’

- a. *Sura* *i* *Rava* *l’äj-nieñ* *tona* *t̂rva-sa*
Sura *and* *Volga* *river-PL:GEN/ACC* *other* *bank-INE*
‘at the other banks of the Sura and Volga rivers’
- b. *l’äj* *t̂rva-t’i*
river *edge-DEF:SG:DAT/ALL*
‘to the river bank’
- c. *viř* *t̂rva-t’i*
forest *edge-DEF:SG:DAT/ALL*
‘to the edge of the forest’
- d. *viř-t’* *t̂rva-s*
forest-DEF:SG:GEN/ACC *edge-ILL*
‘to the edge of the forest’
- e. *ežəm* *t̂rva-t’i*
bench *edge-DEF:SG:DAT/ALL*
‘to the edge of the bench’

Although the Moksha forms are sometimes listed as postpositions, formally the nominal character of these forms is still very much present. The semantic spread of these forms is also still restricted to the abovementioned landscape objects, and only rarely found in other contexts. In fact, the only example I have found in another context is better analysed as a compound than an adpositional phrase, because of the presence of definite marking on the second part (example 7e). Therefore, I conclude that the formations based on Moksha *t̂rva* only represent locative phrases, not adpositional ones.

4.2.2. ‘innards’

The origin (indigenous or loanword) of Erzya *potmo* ‘innards; inside, interior; soul’ (Moksha *potma* ‘inside, interior; hollow, cavity; stomach’) has not been convincingly proven until now, although an original meaning of ‘inner organ’ seems most probable (see Van Pareren, 2009, pp. 116–117). In compounds, the term generally refers to the inside of animate body parts, such as Moksha *kurga potma* ‘oral cavity’, *šälkä potma* ‘nasal cavity’. In inanimate contexts it refers to a general inside area of something, or the objects located there, such as Erzya *kudo potmo* ‘inside or furniture of a house’.

When used attributively, *potmo* again refers to the inner quality of objects either in animate contexts, such as *potmo orma* ‘internal disease’ (*orma* ‘disease’), *potma pil’e* ‘inner ear’ (*pil’e* ‘ear’), or inanimate contexts, such as *potmo stenat* ‘internal walls’ (*stenat* ‘walls’), *potmo zebe* ‘internal pocket’ (*zebe* ‘pocket’).

The derived forms are treated as postpositions in all the dictionaries available to me, up to the most recent ones (see Table 3). The situation in Erzya in this case differs from that of Moksha, because here the derivations *potso*, *pots* and *potsto* have shorter parallel forms for the more frequently used spatial terms. The more frequent usage is a valid argument in favour of phonetic erosion, instead of fossilisation of a postulated earlier non-suffixed etymon **pot-* (contra Van Pareren, 2009, p. 117).

The extra dimension of phonetic erosion in the most frequently used Erzya derivations already suggest a more advanced form of grammaticalization compared to Moksha. In both languages, however, the locative designation has become more

Table 3
Derived forms of Mordvin *potmo/potma* ‘innards’.

| | Erzya | Moksha |
|------------------|--------------------|----------------------|
| Location | <i>potso</i> | <i>potmꞑssa</i> |
| Movement towards | <i>pots/potmov</i> | <i>potmꞑss/potmu</i> |
| Movement from | <i>potsto</i> | <i>potmꞑsssta</i> |
| Movement along | <i>potmova</i> | <i>potmꞑsva</i> |

general, from ‘central part’ to more general spatial reference (8a, 8b, and 8c). In line with this development the adpositions can now also be applied to more abstract notions (8d and 8e). Only in Erzya can the postpositions also be used in time adverbials (8f).

(8) Adpositional usage of Mordvin *potmo/potma* ‘innards’

- a. *Křeml'a-ńt'* *potso* (Erzya)
Kremlin-GEN/ACC:DEF inside:INE
‘inside the Kremlin’
- b. *akvarium-t'* *potmꞑssa* (Moksha)
aquarium-DEF:SG:GEN/ACC inside:INE
‘inside the aquarium’
- c. *col'aña* *lopa* *potmo-va* (Erzya)
rustling leave inside-PROL
‘through rustling leaves’
- d. *jumajt-š* *šobda-t'* *potmꞑs* (Moksha)
get.lost-PRET:3SG darkness-DEF:SG:GEN/ACC inside:ILL
‘s/he got lost in the darkness’
- e. *poezia-š* *šä,* *konań* *potmꞑssa*
poetry-DEF:SG:NOM this which:GEN/ACC inside:INE
pal-i *pši* *i* *valda* *tol* (Moksha)
burn-PRES:3SG hot and bright fire
‘this is poetry in which a hot and bright fire is burning’
- f. *vé* *cas'ke* *pocto* *kudo-v* *pačt'a-sa* (Erzya)
one hour inside:ELA house-LAT send-PRES:3SG.OBJ/1SG.SUBJ
‘I will bring him/her home within one hour’

There is no doubt that these elements are best analysed as adpositions in both Erzya and Moksha based on the developments sketched above.

4.2.3. ‘side, flank’

In Mordvin, there are three synonyms for the human body part ‘side’, two of which I will treat in this paper, i.e. the indigenous *pel'* (Moksha *pāl'*), and the Russian loanword *bok(a)* (see Tables 4 and 5).

There is also a third term for ‘side’, the Tatar loanword *jon*, but I have found no indications that this term referred to the human body part (which does occur in the Tatar original *jan*, TRS 710, 1966), only to the flank of inanimate objects. I will therefore not treat the derivations of Mordvin *jon* here.

For the indigenous word *pel'* the meanings ‘half’ and ‘part’ are also listed in some dictionaries. Whether these belong to different etymons or not is still open to debate (see Maticsák, 2006, pp. 41–43). What is clear is that quite a number of cognates are found in the Uralic languages, and that in quite a number of them the same lexical item expresses both ‘half’ and ‘side’ (UEW I, pp. 362–363).

Table 4
Forms derived from Mordvin *pel'/pāl'* ‘side’.

| | Erzya | Moksha |
|------------------|----------------|----------------|
| Location | <i>pel'e</i> | <i>pāl'e</i> |
| Movement towards | <i>pel'ev</i> | <i>pāl'i</i> |
| Movement from | <i>pel'd'e</i> | <i>pāl'd'e</i> |
| Movement along | <i>pel'ga</i> | <i>pāl'ge</i> |

Table 5
Forms derived from *bok(a)* 'side'.

| | Erzya | Moksha |
|------------------|------------------|--------------------|
| Location | <i>bok(a)so</i> | <i>bok(ə-)-sa</i> |
| Movement towards | <i>bok(a)s</i> | <i>bok(ə-)-s</i> |
| Movement from | <i>bok(a)sto</i> | <i>bok(ə-)-sta</i> |
| Movement along | <i>bokava</i> | <i>bokə-va</i> |

Following Maticsák (2006, p. 44), I will not treat words ending in *-pel'* here. Maticsák reasons that because a non-related word in Mansi (likewise Uralic) for 'half; part' has changed into a diminutive, the same change from lexical item to nominal derivation suffix is plausible for Mordvin as well. Since this does not involve a body part term, I will not treat this development here. I will treat the derivations of the two terms separately here.

4.2.3.1. *Pel' /päl' 'side'*. In Erzya, the usage for spatial reference seems restricted to locative usage (example 9a). The usage in time adverbials (example 9c) does suggest that it once was used for more abstract spatial reference. In Moksha, the forms have clearly developed into a fully-fledged set of adpositions for spatial reference situations (examples 9d and 9e). A further development in both languages restricted to the forms for *direction from* is its use in constructions where the regular relative can also be used (examples 9b and 9g).

- (9) Usage of the derived forms of *pel'/päl'* 'side'
- | | | | | | |
|---|--|-----------------------------------|---------------------------------|---|--|
| a. | <i>valdo</i> clear | <i>t'es-ñe</i> star-DEF:PL | <i>kavto</i> two | <i>pel'-ga-m</i> side-PROL-1SG.POSS | (Erzya) |
| 'the clear stars are on both sides of me' | | | | | |
| b. | <i>poluča-ms</i> receive-1ST.INF | <i>ćora-m</i> son-1SG.POSS | <i>pel'-d'e</i> side-ABL | <i>šorma</i> letter | (Erzya) |
| 'to receive a letter from my son' | | | | | |
| c. | <i>čoksñe-ñ</i> evening-GEN/ACC | <i>pel'e-v</i> side-ILL | <i>košto-š</i> air-DEF:SG | <i>ekšend-š</i> become.cold-1ST.PRET:3SG | (Erzya) |
| 'towards the evening it became chilly' | | | | | |
| d. | <i>traka</i> Drakino | <i>pälä</i> at | <i>pižem-š</i> rain-DEF:SG | <i>ul'-š</i> be-1ST.PRET:3SG | (Moksha) |
| 'it was raining at Drakino' | | | | | |
| e. | <i>traka</i> Drakino | <i>päl'-gä</i> side-PROL | <i>pižem-š</i> rain-DEF:SG | <i>jota-š</i> go.past-1ST.PRET:3SG | (Moksha) |
| 'the rain went past Drakino' | | | | | |
| f. | <i>kiza</i> year | <i>eřä-š</i> live-1ST.PRET:3SG | <i>al'ä-ñ</i> father:GEN/ACC | <i>päl'ä</i> at | (Moksha) |
| 's/he lived with his father for a year' | | | | | |
| g. | <i>kujarə-ñ</i> pickle-GEN/ACC ^a | <i>päl'-d'ä</i> side-ABL | <i>moñ</i> I:GEN/ACC | <i>ul'-i</i> be-PRES:3SG | <i>kožäši-žä</i> abundance-1SG.POSS |
| 'I have an abundance of pickles' | | | | | |

^a Note there is no coding for number in Mordvin in case of indefinite non-nominative forms.

In both languages the use of the derivations of *pel'/päl'* has developed further than locative phrases, so there is sufficient reason to accept these forms as adpositions based on the developments outlined above.

4.2.3.2. *Bok(a)* 'side'. The Russian loanword for 'side' is listed as *boka* in the most recent Erzya and Moksha dictionaries, although strong Russian influence lead to a parallel form *bok* which is in line with the Russian original. Both Erzya and Moksha use the term to designate the human body part (as Russian does), as shown in examples 10a and 10b.

- (10) Body part usage of *boka*
- | | | | | | | |
|----|-----------------|----------------------------------|----------------------------------|-----------------------------------|--|---------|
| a. | <i>mon</i> I | <i>uč-i-ñ,</i> sleep-PRES-1SG | <i>uč-i-ñ,</i> sleep-PRES-1SG | <i>boka-m</i> side-PL:1SG.POSS | <i>puvoř-št'</i> become.numb-1ST.PRET-3PL | (Erzya) |
|----|-----------------|----------------------------------|----------------------------------|-----------------------------------|--|---------|

(continued on next page)

'I slept and slept, my sides have become numb.'

- b. *lomañ* *pānaklang-sa* *keļ'm-i* *bok-će* (Moksha)
 stranger kiln.surface-INE cool.down-PRES:3SG side-2SG.POSS
 'You can have your side cool down on the stranger's kiln surface'

The spatial forms based on *boka* show the same allophonic appearance of the final epenthetic vowel of the noun. The use of the derived forms of *boka* (Table 5) all show the same context of landscape objects, such as rivers, forests, roads and houses.

- (11) Spatial usage of *bok(a)* 'side'
- a. *rav-oñ* *tona* *boka-s* (Erzya)
 Volga-GEN/ACC that side-ILL
 'to that side of the Volga'
- b. *lašt'ä-t'ñä* *pačkät'-št'* *oču* *viř* *bok-s* (Moksha)
 rider-DEF:PL arrive-1ST.PRET:3PL large forest side-ILL
 'the riders arrived at a large forest'
- c. *leje-ñt'* *boka-s* *pačkod-ś* (Erzya)
 river-GEN/ACC:DEF side-ILL reach-1ST.PRET:3SG
 's/he reached the river'
- d. *ki-t'* *bokš-va* *ozafnəf-t* *šuftšña-t* (Moksha)
 road-DEF:GEN/ACC side-PROL plant:PASS.PTCP PRES:3PL tree-PL
 'the trees are planted along the road'

Due to the restricted context of the spatial terms, the suspicion arises that their spatial reference function has only reached locative level, such as in the Erzya example (11a).

However, the terms in question can also indicate a less specific spatial area, such as in examples 11b, 11c and 11d. The less precise spatial reference is also indicated by Serebrennikov (1967, p. 240). Therefore these forms should be considered grammaticalized adpositions based on a decrease in accuracy of spatial reference from 'the side of' to 'near'.

4.3. Further developments

In Mordvin, there are two body part terms that have undergone further processes and have gone beyond the spatial reference frame, *pra/přä* 'head' and *ked/käd* 'hand'.

I have decided not to treat the possible function as nominalising suffix of both *pulo* 'tail; grove' (see Mészáros, 1999–2000; Maticsák, 2005, pp. 22–23) and *peļ* 'side; half' as a denominal nominalising suffix (see Maticsák, 2005, pp. 26–28, 2006) because of the uncertainty that exists around both etymons. The question with both lexical items is whether the two diverse meanings constitute two different etymons or not and consequently whether it is the body part term or the other term that has undergone a possible grammaticalization process.

4.3.1. 'head'

The Mordvin word for 'head' (Erzya *přa*, Moksha *přä*) has cognates in a number of Finno-Ugric languages, where the cognate term most commonly refers to the back of inanimate objects (UEW I, p. 373). E.g. in Finnish it can also refer to the back-side of humans (Suutari, 2006, p. 119). Mordvin *přa/přä* is still in active use today as the prototypical word for the animate body part 'head'. There are a number of other meanings associated with the term, such as 'end' (of animate and inanimate objects) and 'top' (mostly of landscape objects).

This noun is the basis for a number of highly syntactic developments, even when its original meaning of body part is still in active use. To start with, it follows the usual pattern of spatial reference (see Table 6) and the derivations are mostly treated as postpositions in dictionaries and literature, such as by Serebrennikov (1967, p. 250).

Table 6
Forms derived from *přa/přä* 'head'.

| | Erzya | Moksha |
|------------------|---------------|---------------|
| Location | <i>přaso</i> | <i>přasa</i> |
| Movement towards | <i>přas</i> | <i>přav</i> |
| Movement from | <i>přasto</i> | <i>přasta</i> |
| Movement along | <i>přava</i> | <i>přava</i> |

My objection against the view of treating the derivations as adpositions is that the context in which they are used is rarely outside the realm of landscape objects. I would therefore consider this usage as locative and not adpositional. The meaning of ‘top part’ is almost always discernable from the noun phrases.

(12) Spatial usage of *p̄ra/p̄rā* ‘head’

- | | | | | | | |
|---|-------------------------------------|---|---|------------------------|--|---------------------------|
| a. | <i>guboř-eñ</i> mountain-GEN/ACC | <i>p̄ra-so</i> head-INE | <i>čopuda</i> dark | <i>vířńe</i> forest | | (Erzya) |
| ‘There is a dark forest on top of the mountain’ | | | | | | |
| b. | <i>p̄lĩ-sta</i> ear-ELA | <i>ķeřavksn-ĵ-ń</i> cut-PTCP-GEN/ACC | <i>puc-ĵ-ż</i> put-1ST.PRET-3PL.SUBJ/3.OBJ | <i>še</i> this | <i>stolba-ńť</i> stick-GEN/ACC:DEF:SG | <i>p̄ra-s</i> head-ILL |
| ‘what was cut off from their ears will be put on the end of this stick’ | | | | | | |
| c. | <i>šä</i> this | <i>kubor-t’</i> hill-DEF:SGGEN/ACC | <i>p̄ra-sa</i> head-INE | <i>šälińä</i> elm | | (Moksha) |
| ‘There is an elm tree on top of this hill’ | | | | | | |

As previously mentioned, the pronominal development of *p̄ra/p̄rā* has been treated in the literature, as has its usage as reflexive pronoun, which is summarised by Keresztes (1990, p. 64) and Bartens (1999, pp. 113–114).

(13) Usage of *p̄ra/p̄rā* as a reflexive pronoun:

- | | | | |
|--------------------------|--|-----------------------------------|----------|
| a. | <i>Vano-do</i> take.care.of-IMP:2PL | <i>p̄ra-nk!</i> head-2PL.POSS | (Erzya) |
| ‘Take care of yourself!’ | | | |
| b. | <i>p̄ra-nzo</i> head-GEN/ACC:3SG.POSS | <i>t’ra-ms</i> feed-1ST.INF | (Erzya) |
| ‘to feed oneself’ | | | |
| c. | <i>p̄ra</i> head | <i>id’e-ms</i> save-1ST.INF | (Erzya) |
| ‘to save oneself’ | | | |
| d. | <i>p̄rā-ń</i> head-GEN/ACC | <i>arala-ms</i> defend-1ST.INF | (Moksha) |
| ‘to defend oneself’ | | | |

The pronominal use of *p̄ra/p̄rā* is in competition with another reflexive pronoun *eś*, which has cognates in Finnic and other related Finno-Ugric languages. With the fixed order *eś p̄ra/p̄rā* the simultaneous use of both pronouns expresses emphasis:

(14) Doubling of reflexive pronouns in Mordvin

- | | | | | |
|--------------------------------|---|------------------|------------------------------|----------|
| a. | <i>eśp̄ra-ńť</i> self-GEN/ACC:SG:DEF | <i>a</i> not | <i>ńej-e</i> see-PRES:3SG | (Erzya) |
| ‘s/he doesn’t see her/himself’ | | | | |
| b. | <i>eśp̄ra-nc</i> self-GEN/ACC:SG:DEF | <i>ař</i> not | <i>ńäĵ-i</i> see-PRES:3SG | (Moksha) |
| ‘s/he doesn’t see her/himself’ | | | | |

Both pronouns can also be augmented with possessive suffixes. As such, *p̄ra/p̄rā* shows the same coding characteristics and usage functions as *eś*, except that *p̄ra/p̄rā* cannot be used attributively. Although the article by Turgaeva-Smirennikova (1972) focussed on comparing Russian verbs with Mordvin semantic equivalents, she did point out indirectly that *p̄ra* has also undergone a further development from reflexive pronoun to anti-causative marker (Turgaeva-Smirennikova, 1972, p. 184): *ķepšems p̄ra* ‘to rise’ < *ķepšems* ‘to raise’. This characteristic was used by Geniušienė (1987, p. 322) in her monograph on reflexives, picked up by Haspelmath (1990, p. 44) in his article on passives and related constructions, and ultimately ended up in the reference work on grammaticalization by Heine and Kuteva (2002, pp. 169, 252).

4.3.2. ‘hand; arm’

The Mordvin word *ked* ‘hand’ has cognates in almost all Finno-Ugric languages and in the majority of these, the term has remained a very stable term for the human hand or arm or both (Table 7). In a few instances the cognates refer to animate counterparts (UEW I, p. 140).

Table 7
Forms derived from Mordvin *ked'/kät*.

| | Erzya | Moksha |
|------------------|----------------|----------------|
| Location | <i>ked'se</i> | <i>kät'sa</i> |
| Movement towards | <i>ked's</i> | <i>kät's</i> |
| Movement from | <i>ked'ste</i> | <i>kät'sta</i> |
| Movement along | <i>ked'ga</i> | <i>kät'ga</i> |

There has been no semantic expansion to relative spatial areas in Mordvin, only to the physical living quarters of humans. The only secondary semantic development for this lexical item has been to 'handwriting' and 'pen'.

In the usage of this noun there has been a semantic development from 'hand' to 'person' and from 'person' to a 'person's living quarters', but there has not been a direct link to any concrete inanimate object. Its usage is restricted to pronouns and humans.

Any concrete meaning has remained restricted to the human body part, which means that any attribute preceding the noun will only relate to the original meaning 'hand', and not to any locative or functional sense. The semantic developments based on 'hand' are closely related to possession and object transfer. Examples of the functional usage of the derivations of *ked'/käd* within this sense include the role of temporary possession (example 15b) and the source of an object transfer (examples 15a, 15c, and 15d).

(15) Possession related usage of Mordvin *ked'/käd*

- a. *vandi* *jalga-ze-ń* *kät'-sta*
tomorrow friend-1SG.POSS-GEN/ACC hand-ELA
kniga-ńe-ń *šäv-sajńä* (Moksha)
book-PL.1SG.POSS-GEN/ACC get-PRES:3PL.OBJ/1SG.SUBJ
'Tomorrow I will get my books from a friend of mine'
- b. *kniga-š* *kät'-sə-n* (Moksha)
book-DEF:SG:NOM hand-INE-1SG.POSS
'I have the book with me'
- c. *son* *dova-ń* *ket'-stę* *ńej* *rań-iže* (Erzya)
he widow-GEN/ACC hand-ELA it buy-1ST.PRET:3SGOBJ/3SGSUBJ
's/he bought it from the widow'
- d. *mon* *k'epəd'-an* *jarmak* *toń* *k'äd'-sta-t* (Moksha)
I borrow-PRES:1SG money you:GEN/ACC hand-ELA-2SG.POSS
'I will borrow some money from you'

A second development based on 'hand' is similar to the previously treated body part term *pel'/päl* 'side' (under Section 3.1.3.1), where a link is made with a person's living quarters (example 9f).

(16) Possession related usage of Mordvin *ked'/käd*

- a. *mon* *toń* *ket'-sę-t* *ulń-i-ń* (Erzya)
I you:GEN/ACC hand-INE-2SG.POSS be-1ST.PRET-1SG
'I was at your place'
- b. *eřams* *al'äń-t'id'äń* *kät'-sa* (Moksha)
live-1ST.INF father:GEN/ACC-mother:GEN/ACC hand-INE
'to live at one's parents'
- c. *kekše-vele-ń* *šupav* *eřža-ń* *ket'-s* (Erzya)
hide-CNJV-1SG rich Erzya-GEN/ACC hand-ILL
'I would hide at the place where a rich Erzya lives'

A type of usage that constitutes an even further development of the elative form of the adposition (Erzya *kedste*, Moksha *kädsta*) is the marking of the performing agent of causative verbs. This agent is either coded as an object using the genitive-accusative, (see Koläděnkov, 1954, pp. 192–193; Koläděnkov and Zavodova, 1962, pp. 255–256) or by use of this construction (see Hallap 2000, pp. 198–199):

| | | | | |
|---|---|------------------------|-----------------------------|----------|
| (17) Performing agent of causatives based on Mordvin <i>ked'/käd'</i> | | | | |
| a. | <i>dj</i> | <i>baba-ndo</i> | <i>ket-ste</i> | |
| | and | wife-GEN/ACC:3SG.POSS | hand-ELA | |
| | <i>langa</i> | <i>jama-ńt</i> | <i>véłta-vt- jže</i> | (Erzya) |
| | shallow | pit-GEN/ACC:DEF:SG | cover-CAUS-3SG.OBJ/3SG.SUBJ | |
| | 'and he let his wife cover the shallow pit' | | | |
| b. | <i>kant-ft-žžä</i> | <i>saldať-ťńä-ń</i> | <i>kjät-sta</i> | (Moksha) |
| | carry-CAUS-3SG.OBJ/3SG.SUBJ | soldier-DEF:PL-GEN/ACC | hand-ela | |
| | 'She/He let the soldiers carry it' | | | |

The grammaticalization of this Mordvin body part term differs significantly from the other cases in this paper because of the lack of a specific spatial reference. Due to the highly functional character of its usage, there can be no doubt that the derivations based on *ked'/käd'* are fully grammaticalized adpositions.

5. Conclusion

The grammaticalization paths based on the body parts that have been discussed in this paper have indeed mostly resulted in terms for spatial reference, in line with the findings of Svorou and Heine. The change from body part term to spatial reference term involves applying a metonymic relationship between the body part and the inanimate object. This mostly follows the body part model. However, with the adpositions based on *ked'* 'hand' this process only partly applies. It does refer to inanimate living quarters, but still requires a human referent for this link to be made. The development of *přa/přä* 'head' is again inline with previous typological research, although the parallel development of spatial reference based on this term has not yet reached adpositional level.

Not all spatial terms used in Mordvin can be traced back to body parts. The grammaticalization path of quite a number of adpositions can in fact only be traced back to a relative locative expression, which according to Svorou and Heine are mostly traceable back to either body part terms or landscape objects. In Mordvin, this development is often not found. Of the 28 spatial reference adpositions (sometimes only locative phrase items) mentioned in Serebrennikov (1967, pp. 239–255) only 5 (*bok* 'side', *ked'* 'hand', *pel'* 'side', *přa* 'head', and *čırva* 'lip') can be traced back to body part terms. All other terms only express a relative spatial area, and are not linked to body parts or landscape objects.

For the origin of spatial terms in Mordvin, and more generally in Uralic, it seems more appropriate to focus on the more familiar processes within language change of semantic extension, blurring of spatial reference and phonological loss instead of over-focussing on body parts being the centre of human cognitive processes. For the Uralic languages at least, there is ample evidence that body part terms are neither an end point nor a starting point of a grammaticalization process that involves spatial reference. As such, this paper confirms previously expressed objections by other linguists with respect to the postulated grammaticalization paths concerning spatial orientation.

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