

A Radial Category Profiling Analysis of North Sámi Ambipositions

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Abstract

We present a study of four North Sámi adpositions that can be used as both prepositions and postpositions and thus be termed “ambipositions”. We advance three hypotheses concerning 1) dialectal differences in use of ambipositions in North Sámi, 2) differences between their use as prepositions and postpositions, and 3) a possible typological correlation between the frequency of ambipositions and the extent to which position is used to differentiate meaning, with North Sámi at the high end of this scale. Our study tests these hypotheses against two databases representing the use of ambipositions in newspapers and in literature.

1. Introduction: North Sámi and its ambipositions

This study examines the behavior of North Sámi adpositions with particular emphasis on the relationship between prepositional vs. postpositional use and the expression of meaning. The major tool used in this investigation is radial category profiling (Nesset et al. 2011, Janda et al. 2013), which emerges from the radial category model of meaning familiar to cognitive linguists (Taylor 2003, Langacker 2008).

North Sámi is an indigenous Finno-Ugric language spoken by approximately 30,000 people in contiguous regions of northern Norway, Sweden, and Finland. North Sámi is unique in Europe as a minority language that is in contact with majority languages from two different language families: Indo-European (Norwegian and Swedish) and Finno-Ugric (Finnish; Ylikoski 2009:201-202). This situation is significant for our study because the languages that North Sámi is in contact with exert opposite pressures on the use of adpositions: Norwegian and Swedish have primarily prepositions, whereas Finnish has primarily postpositions.

Ambipositions are adpositions that can appear as both prepositions and as postpositions. An English example is *over* which is a preposition in *He travelled all over the world*, but a postposition in *He travelled the world over*. While it is not unusual for a language to have some ambipositions, it is unusual for a language to make extensive and systematic use of ambipositions (Hagège 2010:116–124). Typically one of the positions is highly marginal, as we see with the postpositional use of English *over*. Russian, for example, shows somewhat more variation than English with over 150 prepositions like *na* ‘on(to)’ and *pod* ‘under’, one postposition *nazad* ‘ago’, and three ambipositions *spustja* ‘after’, *pogodja* ‘after’, and *radi* ‘for the sake of’. However, both *spustja* and *pogodja* are marginal relative to the synonymous preposition *posle* ‘after’, and *radi* ‘for the sake of’ is mainly used as a preposition. In other words, prepositions are the norm in Russian, where postpositions are few and usually marginal. By contrast, the majority of Finno-Ugric languages make exclusive or nearly exclusive use of postpositions (Grünthal 2003:45).

Finnish, Estonian, and the Sámi languages stand out typologically because they make extensive use of ambipositions. While all three are predominantly postpositional languages, prepositions and ambipositions are used systematically. Finnish and Estonian have relatively similar distributions: Finnish has 76% postpositions, 10% prepositions, and 13% ambipositions while Estonian has 74% postpositions, 16% prepositions, and 10% ambipositions. The percentage of postpositions in North Sámi is similar at 75%, but the remaining proportions are very

different, with only 3% prepositions but 22% ambipositions (data compiled from Karlsson 2008:313–320, Grünthal 2003:57, Nickel and Sammallahti 2011:171–196). In other words, North Sámi makes much more extensive use of ambipositions than either Finnish or Estonian.

In both Finnish and Estonian the position of ambipositions tends to be correlated with expression of different meanings (Huomo 2013, Lehisemets 2011, Erelt 2003:117–118, Grünthal 2003). For example, if an ambiposition can express both time and space, the tendency is to use the preposition to express time and the postposition to express space, as we see with the Finnish ambiposition *läpi* ‘through’ in *metsän läpi* [forest.GEN through] ‘through the forest’ vs. *läpi talven* [through winter.GEN] ‘through the winter’ (note that GEN = genitive). Very little has been written about ambipositions in North Sámi; exceptions are Ylikoski (2006), Nielsen (1979), and Bartens (1974), but aside from the comment that prepositional use can be more emphatic than postpositional use (Nielsen 1979:188–189) none of these works address differences between prepositional and postpositional use in any detail. Ours is the first study to focus on the relationship between position and meaning in North Sámi ambipositions.

Given what is known about the contact situation of North Sámi, the relatively high frequency of ambipositions in North Sámi, and the differential use of position for ambipositions in Finnish and Estonian, we advance three hypotheses that we will test in our study:

- (1) We expect to find regional variation in use of ambipositions since North Sámi is in contact with Norwegian/Swedish (predominantly prepositional) in Central and Western regions, and in contact with Finnish (predominantly postpositional) in the East.
- (2) We expect position to be associated with differences in expression of meaning.
- (3) We expect that a language with more ambipositions will use position in a more complex way; thus North Sámi should show more complexity than Finnish and Estonian, which should in turn be more complex than a language like Russian.

This study will focus on four North Sámi ambipositions: *miehtá* ‘over’, *čada* ‘through’, *rastá* ‘across’, and *manjel* ‘after’, here illustrated in use as both prepositions and postpositions (note that all adpositions govern the genitive case = GEN in North Sámi; these collocations are extracted from attestations in our database):

- (4) a. *miehtá* *dálvvi*
 over winter.GEN
 ‘during the winter’
 b. *dálvvi* *miehtá*
 winter.GEN over
 ‘during the winter’
- (5) a. *čada* *áiggi*
 through time.GEN
 ‘through time’
 b. *áiggi* *čada*
 time.GEN through
 ‘through time’
- (6) a. *rastá* *joga*
 across river.GEN

- ‘across the river’
- b. joga rastá
river.GEN across
‘across the river’
- (7) a. manjel soađi
after war.GEN
‘after the war’
- b. soađi manjel
war.GEN after
‘after the war’

A variety of criteria were considered in selecting these four ambipositions for the study. The initial group of candidates for the study were selected on the basis of frequency: we restricted the study to ambipositions that were of relatively high frequency so that it would be possible to apply statistical analysis to the behavior of ambipositions in pre- vs. postposition. To this end, we selected ambipositions that would yield at least 100 examples in our newspaper corpus (described below) for each position. All four ambipositions fulfilled or exceeded this frequency criterion. In addition we designed the selection to facilitate meaningful comparisons with Finnish and Estonian. This meant that it was best to select ambipositions that could express both time and space. The examples in 4-5 above illustrate the use of two of our ambipositions, *miehtá* ‘over’ and *čađa* ‘through’, to express time; in addition these ambipositions can express spatial relations, as illustrated in 8-9 (extracted from attestations in our database):

- (8) a. miehtá máilmmi
over world.GEN
‘(all) over the world’
- b. turistabálgá miehtá
hiking-trail.GEN over
‘along the hiking-trail’
- (9) a. čađa Ruota
through Sweden-GEN
‘through Sweden’
- b. vuovdde čađa
woods.GEN through
‘through the woods’

The remaining two ambipositions are restricted to expression of only one domain: space only for *rastá* ‘across’, and time only for *manjel* ‘after’ and could be thought of as “control” ambipositions in contrast with the previous two that operate in both domains. Furthermore, the ambipositions that express spatial relationships cover a range of different dimensions in their spatial expression: *rastá* ‘across’ characterizes a single dimension (typically crossing borders and rivers), *miehtá* ‘over’ characterizes two dimensions (typically surfaces and regions), while *čađa* ‘through’ characterizes three dimensions (typically volumes and conduits). Thus the four ambipositions in this study were judged likely to provide enough data for statistical analysis, to represent a variety of meanings, and to facilitate comparison with Finnish and Estonian.

The examples in 4-9 give the impression that position is entirely arbitrary, since both positions are attested, often with the same words. However, despite the presence of considerable flexibility, there are also strong asymmetrical tendencies. Our strategy is to establish the radial category networks of meanings that are relevant for each ambiposition and show how the distributions of attestations differ in relation to various factors such as prepositional vs. postpositional use, geography, and genre. In order to make this research possible, we assembled several corpora and databases, as detailed in the following section.

2. Data and methodology

For the purpose of this study we put together various kinds of corpus material, including literary works, newspapers, and the New Testament. The literary works represent authors from three regions where North Sámi is spoken:

Western region: Southern Troms in Norway and Jukkasjärvi in Sweden, where North Sámi is a minority language under strong pressure from Norwegian and Swedish;

Central region: Kautokeino in Norway, where North Sámi is not under as strong pressure from other languages;

Eastern region: Along the Tana River that forms the border between Norway and Finland, where there is pressure from Finnish.

The translation of the New Testament is a recent work in which a deliberate effort was made to represent the language continuum of North Sámi and establish a normative standard (Magga 2004: 52). Altogether 652 sentences containing the four ambipositions in our study were extracted from literary works and the New Testament, and all these examples were analyzed manually.

Texts from three newspapers, *Min Áigi*, *Áššu*, and *Ávvir*, representing publications for the years 1997-2011 were compiled into a corpus of 10 million words. The majority of newspaper journalism in North Sámi is undertaken in Norway, often using Norwegian texts as sources, so one would expect the use of language in newspapers to reflect Norwegian influence. Our corpus contained a total of 7496 examples of our ambipositions. A minimum of 100 examples was analyzed by hand for each ambiposition in each position, yielding a total of 901 sentences. Table 1 shows the distribution of data analyzed in this study.

ambipositions	preposition		postposition	
	newspapers	literature + NT	newspapers	literature +NT
<i>miehtá</i>	133	72	100	25
<i>čađa</i>	102	34	158	99
<i>rastá</i>	101	37	100	56
<i>maŋŋel</i>	107	88	100	243

Table 1: Distribution of examples that were analyzed manually

All of the example sentences and their analyses are publicly available at <http://giellatekno.uit.no/adp/>. This site also houses our statistical data and the code that was used to analyze this data by means of the R software package. In the remainder of this article we describe how this data was used to test the three hypotheses presented in the conclusion.

3. Confirmation of hypothesis 1: regional variation

Hypothesis 1 states that we expect to find a stronger tendency to use ambipositions as prepositions in places where North Sámi is in contact with Norwegian and Swedish, but the opposite tendency in places where North Sámi is in contact with Finnish. Therefore we should expect to see more prepositional use in the Western (S. Troms) region, and more postpositional use in the Eastern (Tana) region, with the Central (Kautokeino) region falling somewhere between the two. Figure 1 represents the relative distribution according to region and genre, with all data from all four ambipositions aggregated. The black bars show the percentage of prepositional (PR) use, and the gray bars show the percentage of postpositional (PO) use. The first three clusters of bars compare the distributions of position in literary works across the three regions. These distributions align precisely with our expectations since prepositions predominate in the Western region, postpositions predominate in the Eastern region, and the Central region shows a more even balance, though with some preference for postposition. The regional differences are statistically significant with a robust effect size (chi-square=129.7, df=2, $p < 2.2e-16$, Cramer's $V=0.48$). Note that the distribution in the New Testament seems to fall between the Central and Eastern regions, whereas the newspapers show a distribution very similar to that in the West.

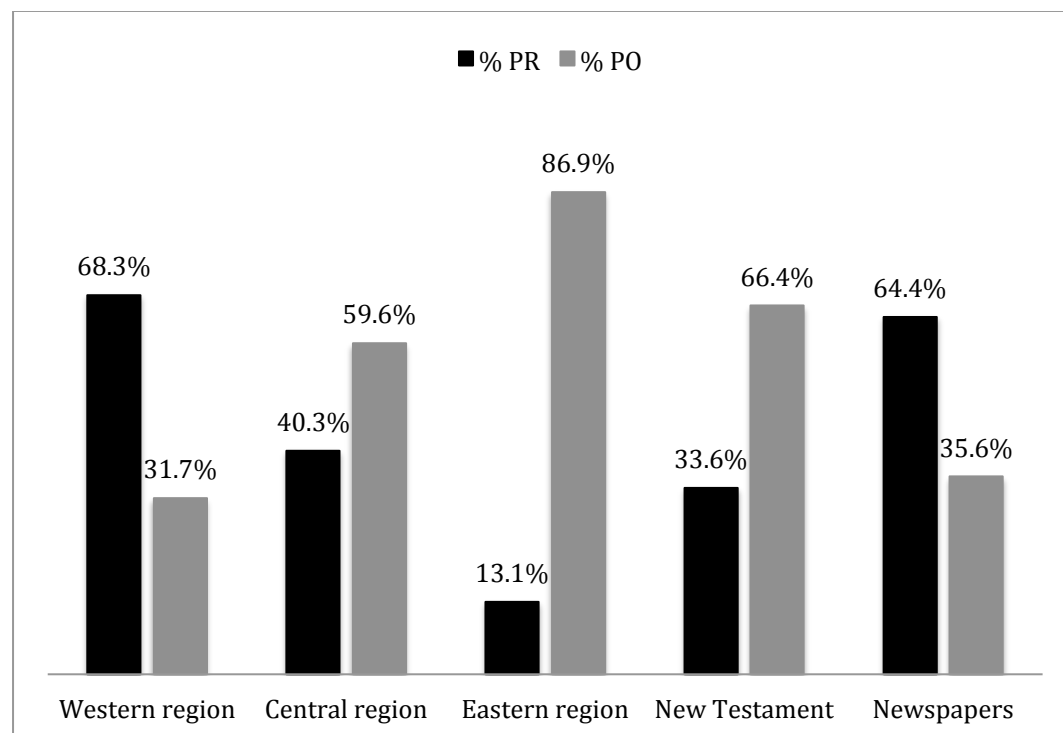


Figure 1: Distribution of prepositional vs. postpositional use

Thus we can confirm hypothesis 1 concerning regional variation in use of position, and in addition we find differences in genre that likely stem from regional differences.

4. Confirmation of hypothesis 2: position and meaning

Hypothesis 2 states that we expect there to be a connection between position and the expression of meaning. We used the method of radial category profiling (Nesset et al. 2011, Janda et al. 2013) in order to test this hypothesis. Radial category profiling has been developed in order to measure differences between two (or more) highly synonymous polysemous linguistic units. The idea is that if two units share a single

radial category, one can collect data on the distribution of attestations of the various meanings in the radial category and determine whether there are statistically significant differences. Often one finds that although the same range of meanings is attested for each of the synonyms, the center of gravity in the radial category is different for each one. For the purpose of this test we treated the prepositional vs. postpositional use of each ambiposition as a pair of near-synonyms.

The manual analysis of examples involved sorting them according to the meanings expressed. Based on the attested uses, a radial category network of meanings was established for each ambiposition. Three of the ambipositions, *miehtá* ‘over’, *čađa* ‘through’, and *rastá* ‘across’ were found to be polysemous, with 3-4 related meanings. It was discovered that in all three cases, the overall radial category of meanings expressed in prepositional and postpositional use was the same, but the distribution was quite different, with some meanings being more strongly associated with prepositional use and others more strongly associated with postpositional use. These differences were found to be statistically significant with robust effect sizes for the data collected from newspapers. Although the other data was too sparse for statistical analysis, it appears to differ somewhat showing an overall tendency to prefer expression of concrete spatial relations. The fourth ambiposition, *manjel* ‘after’, was found to be monosemous and thus did not lend itself to this kind of analysis. We take up each of the first three ambipositions in turn in the following three subsections.

4.1 Radial category profiling of *miehtá* ‘over’

Three meanings were identified in the radial category network of *miehtá* ‘over’: MOTION, EXTENT, and TIME, as illustrated in 10-12 (the relevant adpositional phrase is boldfaced in both the original example and in the translation):

MOTION

- (10) Mii vánddardit **miehtá suohkana**, ja jearahallat olbmuid.
‘We wander **around the municipality** and interview people.’

EXTENT

- (11) Dat leat beaivelottit ja gávdnojit **miehtá máilmmi**.
‘Those are butterflies and they are found **all over the world**.’

TIME

- (12) Guovža oaddá **dálvi miehtá**.
‘The bear sleeps **through the winter**.’

The three meanings of *miehtá* ‘over’ are closely related to each other. Both MOTION and EXTENT describe a relation to a two-dimensional plane in the domain of space, but with MOTION we see a dynamic relation whereas the same relation is rendered as static with EXTENT. In these two meanings the substantives that collocate with *miehtá* ‘over’ clearly refer to places that are conceived of as surfaces, such as the names of countries and other regions, the world, yards, and floors. The relation signaled by *miehtá* ‘over’ is rendered in the domain of TIME mostly with reference to the major portions of the diurnal and yearly cycle, which are apparently understood as two-dimensional temporal objects: *dálvi* ‘winter’, *geassi* ‘summer’, *beaivi* ‘day’, and *idja* ‘night’.

		MOTION	EXTENT	TIME
newspapers	Preposition (N = 133)	12%	79%	9%
	Postposition (N = 100)	0%	5%	95%

literature + NT	Preposition (N = 72)	10%	68%	22%
	Postposition (N = 25)	16%	36%	48%

Table 2: Radial category profiling of *miehtá* ‘over’

Table 2 presents the radial category profiling analysis of our data on *miehtá* ‘over’. We find strong differences in the distribution of the meanings of the ambiposition according to position. As a preposition it is primarily associated with EXTENT, whereas it mostly expresses TIME as a postposition. This difference is starker in the case of the newspaper data. There also appear to be differences between the genres, suggesting that MOTION is expressed more in literature and the New Testament, however the data from the latter is sparser.

Differences in distribution can also be tracked at the level of the substantives that collocate with *miehtá* ‘over’. For example, we have 27 attestations of prepositional use with *máilbmi* ‘world’, but no attestations of postpositional use with this noun. In the domain of TIME, in prepositional use there are only 8 attestations with *geassi* ‘summer’ and 5 with *dálvi* ‘winter’, but in postpositional use 26 with *geassi* ‘summer’ and 21 with *dálvi* ‘winter’.

4.2 Radial category profiling of *čađa* ‘through’

Four meanings were identified in the radial category network of *čađa* ‘through’: MOTION, EXTENT, TIME, and MEANS, as illustrated in 13-16:

MOTION

(13) Gugán njuikii čuožžut ja viehkali **vuovdde čađa** joksas dihte Katriinna.
‘Gugan jumped up and ran **through the forest** in order to catch up with Katrina’

EXTENT

(14) ... oidnen ahte **čađa náhki** lea ráigi
‘... I saw that there was a hole **through the skin**’

TIME

(15) **Čađa áiggi** almmuhuvvojit odđa girjjit dán davviriikkalaš dramatihka titána birra.
‘**Through time** new books were published about the drama of the titan of the North.’

MEANS

(16) **Skuvlla čađa** oažžu kultuvrralaš vuodu viidásit oahpuide.
‘**Through school** one gets the cultural basis for broader knowledge.’

The meanings of *čađa* ‘through’ are likewise related to each other and tend to reference spatial or temporal objects that are conceived of as three-dimensional. Forests, marketplaces, and towns, as well as weather conditions are common for both MOTION and EXTENT, and they are characterized by having both horizontal and vertical dimensions. Alternatively we find openings such as holes, doors, gates, and windows. Various kinds of problems and feelings are associated with metaphorical uses in these meanings. The temporal nouns associated with *čađa* ‘through’ are very different from those found with *miehtá* ‘over’. Here we find two words that are very frequent: *áigi* ‘time’ and *gaska* ‘distance, interval’ (always interpreted metaphorically to express a simultaneous action ‘all during the time that...’); very few other words are found here, though examples are *buolva* ‘generation’ (used in plural) and *jahki* ‘year’. In addition to the domains of time and space, *čađa* ‘through’ can express relations in

the domain of purpose, as we see in the MEANS meaning. Here the most typical substantives that collocate with *čáđa* ‘through’ refer to organizations such as *Sámediggi* ‘Sámi Parliament’ and media like *TV* ‘TV’.

		MOTION	EXTENT	TIME	MEANS
newspapers	Preposition (N = 101)	37%	8%	55%	0%
	Postposition (N = 158)	49%	2%	25%	25%
literature + NT	Preposition (N = 34)	65%	24%	12%	0%
	Postposition (N = 99)	94%	3%	2%	1%

Table 3: Radial category profiling of *čáđa* ‘through’

Table 3 presents the radial category profiling analysis of our data on *čáđa* ‘through’. In the newspaper corpus TIME dominates the prepositional use of this ambiposition, while MOTION is the most frequent meaning expressed in postpositional use. In both genres, MEANS is found only in postpositional use. It appears that MOTION dominates use in both positions in literature and the New Testament, but our data on prepositional use is relatively sparse.

At the level of the substantive, we find some interesting trends. *Vuovdi* ‘forest’ and synonyms like *rohtu* ‘thicket’ signal difficult terrain, found only 6 times in prepositional use, but 21 times in postpositional use. Weather that is difficult to move through is found in only two attestations with prepositional use, one with *biegga* ‘wind’ (in plural), and one with *guoldu* ‘snow flurry’ (also in plural), but in postpositional use there are 14 attestations with these two words and near-synonyms. Metaphorical hindrances appear as *váivi* ‘problem’ (usually plural) and near-synonyms only 4 times in prepositional use, but 20 times in postpositional use. The different distribution of nouns referring to time is particularly interesting. As mentioned above, there are only two nouns that are relatively frequent here, namely *áigi* ‘time’ and *gaska* ‘interval’. At first glance it seems that *áigi* ‘time’ is distributed equally across the two positions, since we have 27 attestations for each. However, the uses differ according to number: in prepositional use 24 attestations are singular as opposed to 3 that are plural, whereas the distribution is reversed in postpositional use where we find only 4 singular uses as opposed to 23 in the plural. The preference for the plural of *áigi* ‘time’ with postpositional *čáđa* ‘through’ reflects the same pattern seen with forests and weather and problems. *Gaska* ‘interval’, however appears only in the singular and only in prepositional use, where it is attested 31 times. This one noun, *gaska* ‘interval’, is thus alone responsible for the most of the significant difference found in the expression of temporal vs. spatial meanings of *čáđa* ‘through’ across prepositional and postpositional uses. However, the collocation *čáđa gaskka* ‘all the while’ is attested only in our newspaper corpus. This particular collocation seems to be on its way to becoming fused into an adverb and can be often found written as one word, *čádagaskka*, on the internet.

4.3 Radial category profiling of *rastá* ‘across’

Three meanings were identified in the radial category network of *rastá* ‘across’: MOTION, EXTENT, and ENDPOINT, as illustrated in 17-19

MOTION

- (17) Nu guhká go Guovdageainnu eatnu ii dulvva, de lea álki beassat **rastá eanu**.
 ‘As long as the Kautokeino river doesn’t flood, it is easy to get **across the river**.’

EXTENT

(18) Suohkan áigu boares telegráfastoalppuiguin ráhkadit šaldiid **muhtin jogaid ja jekkiid rastá.**

‘The municipality will use old telegraph poles to make bridges **across some rivers and marshes.**’

ENDPOINT

(19) Rasmussen lohká sin áinnas viiddidit barggu **rájá rastá.**

‘Rasmussen says they would like to expand the work **on the other side of the border.**’

All of the meanings expressed by *rastá* ‘across’ reference the domain of space. Here we see both dynamic MOTION and static EXTENT, which we found also with *miehtá* ‘over’ and *čáđa* ‘through’, plus a third spatial meaning: ENDPOINT. This third meaning is related to the other two by means of “endpoint metonymy” (Janda 2010), where only the endpoint of a path is relevant. The relationship between MOTION and ENDPOINT is seen in English *over* in examples like *Sally walked over the hill* vs. *Jane lives over the hill*, where the latter involves only the endpoint. Similarly in example 19, no one is moving across the border, nor is the work stretched across the border, it is simply located on the other side of the border. In all three meanings *rastá* ‘across’ is often associated with objects that are conceived of as one-dimensional lines such as *johka* ‘river’, *rádji* ‘border’, *luodda* ‘road’, although wide bodies of water such as *mearra* ‘sea’ and *jávri* ‘lake’ are also found.

		MOTION	EXTENT	ENDPOINT
newspapers	Preposition (N = 101)	77%	23%	1%
	Postposition (N = 100)	48%	45%	7%
literature + NT	Preposition (N = 37)	92%	8%	0%
	Postposition (N = 56)	84%	14%	2%

Table 4: Radial category profiling of *rastá* ‘across’

MOTION predominates in both positions and in both genres, but is consistently stronger in prepositional use than in postpositional use, where in the newspaper corpus we find almost an equal portion of MOTION and EXTENT. MOTION appears to be relatively stronger in literature and the New Testament, but the data here is sparse.

Some nouns seem to show little or no preference for position with *rastá* ‘across’: for example, *johka* ‘river’ and its near-synonyms appear 36 times in prepositional use and 39 times in postpositional use, similarly *jávri* ‘lake’ and its near-synonyms appear 10 times in prepositional use and 12 times in postpositional use. However, *luodda* ‘road’ and its near-synonyms strongly prefer prepositional use with 29 attestations in that position as opposed to only 7 for postpositional use. We see the opposite trend with *rádji* ‘boundary’, which appears 24 times in prepositional use but 47 times in postpositional use.

4.4 Summary of radial category profiling analysis

The radial category profiling analysis shows that all three of the ambipositions have different tendencies for both expression of meaning and collocation with specific nouns according to position. In other words, different meanings and nouns are characteristic for prepositional use than for postpositional use. The differences in tendencies are strongest for *miehtá* ‘over’ and *čáđa* ‘through’ than for *rastá* ‘across’, but are significant for all three ambipositions, at least in the case of the newspaper

data (see tests of significance and effect size on <http://giellatekno.uit.no/adp/>). Thus hypothesis 2 is confirmed: position in the use of North Sámi ambipositions is sensitive to the meaning expressed.

5. Confirmation of hypothesis 3: typology of ambipositions

Hypothesis 3 expresses the expectation of a positive relationship between the extent of use of ambipositions in a language and the complexity of use of position with respect to meaning. Here we compare three types of languages:

- languages with minimal use of ambipositions -- here our example is Russian
- languages with systematic use of ambipositions, representing 10-15% of adpositions -- here our examples are Finnish and Estonian
- languages with systematic and extensive use of ambipositions, representing over 20% of adpositions -- here our example is North Sámi.

Hypothesis 3 would lead us to expect the greatest complexity in the use of position with North Sámi, the least complexity with Russian, and Finnish and Estonian should fall somewhere between the two.

We extracted data on the three Russian ambipositions *spustja* ‘after’, *pogodja* ‘after’, and *radi* ‘for the sake of’ from the Russian National Corpus (<http://ruscorpora.ru/>) which contains over 200 million words. We found 395 attestations of *spustja* ‘after’, of which 243 represented prepositional use and 152 represented postpositional use. 924 attestations of *pogodja* ‘after’ were found; of these, about 10% were adverbial uses, 5% were prepositional uses, and the remainder were postpositional uses. *Radi* ‘for the sake of’ was much more frequent, with 18,137 attestations as a preposition and 7,304 as a postposition. Data was annotated for various possible factors, but we were unable to discover any differences connected to the expression of meaning in prepositional vs. postpositional use of the Russian ambipositions. The only trend we could find was that *radi* ‘for the sake of’ appears to prefer prepositional use when collocated with an animate noun, as in *radi detej* ‘for the sake of the children’, but postpositional use when collocated with an inanimate noun, as in *spravedlivosti radi* ‘for the sake of fairness’.

For Finnish and Estonian, we rely upon secondary sources cited in section 1 (Huomo 2013, Lehismets 2011, Erelt 2003: 117–118, Grünthal 2003). They report that position is indeed sensitive to meaning in the use of ambipositions in those languages, and furthermore that there are consistent tendencies across ambipositions, such that prepositional use tends to be associated with temporal expression whereas postpositional use is associated with spatial expression.

Our data shows that North Sámi also uses position in the expression of different meanings, but here we see more complexity since we do not find a consistent trend across ambipositions. Both *miehtá* ‘over’ and *čáđa* ‘through’ use position differently in relation to temporal vs. spatial expression, but the trends are opposed: *miehtá* ‘over’ prefers postpositional use in temporal expression, whereas *čáđa* ‘through’ prefers prepositional use in temporal expression. Furthermore, we see a quite complicated picture at the level of the nouns that collocate with the ambipositions, with strong individual preferences.

The typological expectation in hypothesis 3 is confirmed. Russian, a language with few ambipositions, makes minimal or no distinctions with relation to position. Finnish and Estonian have systematic use of ambipositions and make consistent use of position to express meaning. The use of ambipositions in North Sámi is approximately double that in Finnish and Estonian and is also more complex, with different ambipositions showing different preferences for the use of position.

6. Conclusion

In this empirical study of data from newspapers and literary texts we show that North Sámi makes systematic and complex use of position to express meaning in collocations with ambipositions. It appears that the complexity of use of position is positively correlated to the extent that ambipositions are used in a language, with zero or little complexity in a language like Russian with few ambipositions, some complexity in a language like Finnish and Estonian with systematic use of ambipositions, and more complexity in a language like North Sámi with more extensive use of ambipositions. The use of position is also strongly influenced by language contact in North Sámi, where contact with Norwegian and Swedish is associated with a preference for prepositional use, but contact with Finnish is associated with postpositional use.

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