

WHY DO DAGHESTANIAN SPATIAL CASE SYSTEMS LEAK ?

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1. Introduction

The two languages we have analysed, Akhvakh and Karata belong to the Andi sub-branch of the Daghestanian branch of the Nakh-Daghestanian (aka. East-Caucasian) language family. These languages have rich case systems, and in particular, very elaborate spatial case systems.

Akhvakh and Karata present similar case systems, although the morphemes are different. Taking examples from these two languages, not only do we want to show that (1), contrary to what is implied in most accounts of Daghestanian spatial case systems¹, there is no univocal relation between a marker and its semantics, but most of all we want to bring evidence that (2) the system's capacity to combine morphemes specifying distinct parameters is in fact not productive to capture all semantic distinctions.

In the course of this presentation we will use the following concepts. The *figure* as defined by Talmy in his 1983's article is 'the object which is considered as moving or located with respect to another object'. In the same article, the complementary concept of *ground* (alias *orienter* in this presentation) is defined as 'the object with respect to which a first object is located'.

First of all, we give general background on spatial case systems and the two languages we have analysed.

2. Types of spatial case systems (Creissels 2009)

Case systems tend to be structured along two parameters (alias dimensions):

- the directionality parameter, i.e. the distinction between location, destination, source and path (aka. 'through X').
- the topological parameter, i.e. the distinction between such topological concepts as 'on, under, next to, in, ...'

Taking these parameters into consideration, the following typology of spatial case systems emerges:

- unidimensional spatial case systems are found in languages such as Turkish or Basque which have spatial cases that are only sensitive to the directionality parameter, and optionally specify the topological parameter by means of adpositions or locational nouns.

¹ See Testelefs 1980 for a typology of spatial cases in Daghestanian languages. In particular comparative concepts labelled SUPER, AD, SUB, ... are used as descriptive labels for a language's topological markers (see section 3.).

- bidimensional systems have cases that are sensitive to both the topological and directionality parameters. Examples of languages with such systems are Finnish, Hungarian, Burushaski and Daghestanian languages (except Udi and Tsez).
- tridimensional systems are sensitive to both parameters mentioned above and to the additional distality parameter. Tsez (Daghestanian language) is a language with such an exceptional system.

3. Bidimensional spatial case systems in Daghestanian languages²

Daghestanian languages have bidimensional spatial case systems³. They have two sets of morphemes which obligatorily combine to specify a spatial relation. The first set contains morphemes encoding topological distinctions while the second set specifies the directionality parameter. In Karata and Akhvakh this last parameter varies according to three distinctions: locative, allative and ablative.

Table 1 presents the typical structure of noun forms marked for case in Daghestanian languages.

$$\left(\quad \text{STEM} \quad (+ \text{ PL}) \quad (+ \text{ OBL}) + \text{ CASE} \quad \right)$$

Table 1. *Noun structure.*

The noun stem is the citation form and the nominative (alias absolutive) form. To the nominal stem is suffixed the plural marker, to which is added the oblique formative to which is suffixed the case marker (1) & (2). It also happens that case is directly suffixed to the nominal stem.

- (1) *mak'-i-lo-l* Karata
child-PL-H'-ERG
'the children'
- (2) *l̄ēj-i-l̄i-gal*
water-OBL-TOPO₇-ABL
from the water (lit. from inside the water)

What is of interest to us is the spatial case subparadigm (\neq grammatical case subparadigm). As mentioned above, the spatial case marker is obligatorily composed of a first morpheme specifying the topological parameter (TOPO) and of a second morpheme specifying the directionality parameter (DIR). The inventories of these morphemes are presented in table 2 for Akhvakh and in table 3 for Karata.

² Except Tsez (► 2.) and Udi which has lost this system, see Daniel & Ganenkov 2009, 678.

³ See among others Comrie & Polinsky 1998, Comrie 1999, Comrie 2007, Daniel & al. 2009, Ganenkov 2005, Testelelets 1980.

SPATIAL CASE			
TOPO	+	DIR	
1	-g-	LOC	-i ~-e
2	-χar-~-lir-	ALL	-a(je)
3	-q̄-	ABL	-u(ne)
4	-l̄'-		
5	-l̄-		

Table 2. *Spatial case markers in Akhvakh.*

SPATIAL CASE			
TOPO	+	DIR	
1	-č'o-	LOC	-∅
2	-l'a-	ALL	-r
3	-a-	ABL	-gal
4	-χa-		
5	-q̄-		
6	-i-		
7	-li-		
8	-l'i-		

Table 3. *Spatial case markers in Karata.*

Akhvakh has five productive topological markers while Karata has eight and both languages have three markers encoding directionality⁴. In principle topological markers and directionality markers combine freely. However restrictions apply to this apparently free combinability (see table 4 for Akhvakh and table 5 for Karata).

Note that in Akhvakh, topological marker 2 has two allomorphs in complementary distribution: *-χar-* in the locative and ablative and *-lir-* in the allative. Concerning the directionality markers, the locative morpheme of TOPO₁ and TOPO₃ is *-e-* while it is *-i-* for the others.

	TOPO ₁	TOPO ₂	TOPO ₃	TOPO ₄	TOPO ₅
LOC	-g-e	-χar-i	-q̄-e	-l̄'-i	-l̄-i
ALL	-g-a(je)	-lir-a(je)	-q̄-a(je)	-l̄'-a(je)	-l̄-a(je)
ABL	-g-u(ne)	-χar-u(ne)	-q̄-u(ne)	-l̄'-u(ne)	-l̄-u(ne)

Table 4. *Possible combinations of spatial markers in Akhvakh.*

Karata has no marker in complementary distribution as Akhvakh has, however four combinations are impossible.

	TOPO ₁	TOPO ₂	TOPO ₃	TOPO ₄	TOPO ₅	TOPO ₆	TOPO ₇	TOPO ₈
LOC	-č'o-∅	-l'a-∅	-a-∅	-	-q̄-∅	-i-∅	-li-∅	-l'i-∅
ALL	-	-l'a-r	-a-r	-χa-r	-	-i-r	-li-r	-l'i-r
ABL	-č'o-gal	-l'a-gal	-a-gal	-	-qi-gal	-i-gal	-li-gal	-l'i-gal

Table 5. *Possible combinations of spatial markers in Karata.*

What we want to disclaim in this presentation is precisely the idea according to which, on account of the high combinability of topological and directionality markers, Daghestanian spatial case systems are productively used on purely semantic grounds.

In each language, topological markers go from default, unspecific semantics to unique semantic value.

⁴ On Akhvakh, see Creissels 2009, on Karata, Pasquereau 2010.

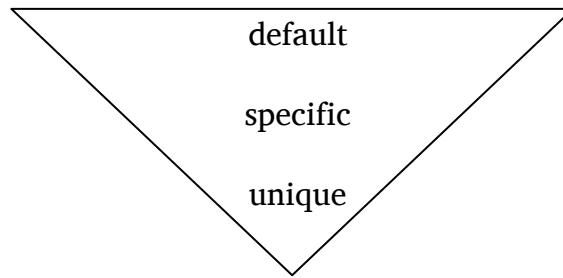


Table 6. *Semantics of topological markers in Daghestanian languages.*

In this presentation we will deal with both the default markers (TOPO₁ -g- in Akhvakh and TOPO₃ -a- in Karata) and the unique markers (TOPO₄ -l̄'- in Akhvakh and TOPO₈ -l̄'i- in Karata) which will thus be illustrated later. As for markers with specific (but not unique) meanings, they represent the bulk of the topological markers in both languages. For instance, TOPO₃ -q̄- in Akhvakh is used to encode localisation in a narrow space on the one hand (3), and in a distributed or diffuse orienter on the other hand (4).

(3) *miʕa-q̄-une hini b-eq'-ere g-o-di.* Akhvakh
 nose-TOPO₃-ABL blood N-come-PROG COP-N-POS
 'The nose is bleeding.' (lit. Blood is coming from the nose)

(4) *kʷādala-q̄-a k̄'uža-di r-eq'-ere g-e-di.*
 light₀-TOPO₃-ALL butterfly-PL nH'-come-PROG COP-nH'-POS
 'Light attracts butterflies.' (lit. Butterflies come to the light)

Likewise, in Karata, TOPO₇ -l̄i- encodes among others the localisation in a filled portion of space inside an orienter (5) or within an aggregate of similar elements (6).

(5) *l̄orl̄a-l̄i b-is-ã maʔa* Karata
 butter₀-TOPO₇[LOC] N-find-PF twig
 'A twig was found in the butter.'

(6) *w-oʔ-ĩmiše men roxo-l̄i-r*
 M-go-PROH 2SG forest-TOPO₇-ALL
 'Don't go into the forest!'

3. The default topological marker

Akhvakh and Karata both have one topological marker whose semantic value is synchronically unspecific and merely encodes the existence of a spatial relationship between two elements. In Akhvakh, this marker is TOPO₁ -g- and in Karata it is TOPO₃ -a-. Each of these markers is reconstructed to have encoded the SUPER topological relation (i.e. 'on, above'). They have no evident cognate in other Andi languages but both seem to come from the reanalysis of ancient directionality markers (Alekseev 2003, 147), respectively the ablative and allative markers.

yielding a ‘more-likely’ interpretation. Example (10b) illustrates the strategy Turkish resorts to so as to specify the topological parameter: in this case, the noun *üst* ‘upper part’ is the head of *masa* ‘table’ in a genitive construction and the directionality parameter is specified by means of the same locative suffix *-da/-de* but on the syntactic head *üst* ‘upper part’.

- (10) a. *masa-da* Turkish
 table-LOC
 ‘on the table’
- b. *masa-nin üst-ün-de*
 table-GEN upper_part-POSS-LOC
 ‘on top of the table’

3.2. The functional characteristics of the orienter are more important than its spatial characteristics.

In addition to encoding spatial relationships that are predictable from the context (i.e. figure, orienter and verb), this morpheme is used to code a type of spatial relations which is better characterised as putting the emphasis on the functional properties of the orienter, thus rendering any attempt at giving topological precisions irrelevant.

With the Akhvakh example (11) the speaker does not seek to indicate where exactly the children are with respect to the school building. The aim is to indicate that the children are at school, that is, in the activity of studying, the school being conceived as a primarily functional entity.

- (11) *ušku-ĭ-g-e mik’e-li kocel-ēd-i.* Akhvakh
 school-N_o-TOPO₁-LOC child-PL educate-IPF₂-H⁺
 ‘Children are being educated at school.’

Example (12) from Karata illustrates the same use. The marker *-a-* indicates that people are going to a place where something happens rather than just into a building.

- (12) *ĭĭi serk’u b-aʔ-āṣ kinow-a-r* Karata
 1PL together H⁺-go-FUT cinema-TOPO₃-ALL
 ‘We will go to the movies together.’

4. Arbitrary use of specific markers.

In this part we want to bring evidence that memorisation plays a role in the use of topological markers in these languages too. In other words, show that (arbitrary) memorisation may prevail over semantic predictability even with specific markers.

For instance, in the Karata example (14), the use of the unique topological marker *-ĭ’i-* ‘under’ to characterise the spatial relationship between the apples and the garden is clearly not motivated semantically. The motivation for the use of the

‘under’ concept is to be found at an earlier stage of the language. Comparative data suggests that, originally this word used to mean ‘garden arch’, hence the motivation to use ‘under’ to qualify the spatial relation of someone with respect to an arch. In any case, the meaning of this word has shifted and now means garden, but the topological marker has not been replaced.

- (13) *di-b* *č'ek'o-Ī'i-r* *b-eĕ-u* *anča* Karata
 1sg_o[GEN]-N foot-TOPO₈-ALL N-end_up-PF stone
 ‘A stone was under my foot.’

- (14) *mak'-i-lo-l* *axi-Ī'i-gal* *ŕeče* *b-eq'eš-e*
 child-PL-H⁺-ERG garden_o-TOPO₈-ABL apple N-steal-PF
 ‘The children pilfered apples from the garden.’

In Akhvakh too, this phenomenon is present. For instance the word *aq̄e* ‘hearth’ is used with the same topological marker, TOPO₃ -*q̄*- in both its meanings ‘hearth’ (15) and ‘place around the hearth’ (16). While the use of this marker is motivated for the first meaning of the word (TOPO₃ = a. localisation in a narrow space), the second meaning is not compatible with the meaning of TOPO₃. The most reasonable explanation is that the meaning ‘place around the hearth’ is an extension of the meaning ‘hearth’ and the topological marker has not been replaced.

- (15) *aq̄elo-q̄-e* *ħuda* *b-iġ-a* Akhvakh
 hearth_o-TOPO₃-LOC wood N-put-IMP
 ‘Put wood into the hearth.’

- (16) *aq̄elo-q̄-e* *k'us-a*
 hearth_o-TOPO₃-LOC sit-IMP
 ‘Sit down near the hearth.’

4. Conclusion

The spatial case system of the two languages we have analysed seems at first sight to work on purely semantic motivations: first a kind of topological relation is encoded, then the directionality specification. However, we have shown that these languages have developed ways not to have to specify a precise type of topological relation: the drift from the SUPER meaning to the default meaning. In addition, the maintenance of an originally-motivated topological marker, when a noun has changed meaning, proves that these systems may have many formal means of specifying topological relations, but they also rely on memorisation.

From a cognitive standpoint, Akhvakh and Karata are interesting in that they show that languages that do have formal ways of working on purely semantic bases, do in fact resort to strategies that are common to unidimensional systems for instance. Our hypothesis is that the conceptual domain of topological relations is particularly complex in comparison with the other domain of directionality for instance. Indeed the domain of directionality can be conceptualised as static location Vs dynamic location, the latter subdomain then usually distinguishing destination from source

and sometimes from path. On the contrary, topological relations are much more diverse, can hardly be broken down into a limited number of discrete categories and are not always really relevant. Therefore, if for some reason such a system emerges in the history of a language, it seems to us that it will tend to undergo evolutions making it functionally more similar to systems in which the expression of topological relations are not grammaticalised to such a degree.

So why do Daghestanian spatial case systems leak? They leak because, even though they are equipped with all the morphological material necessary to work on purely semantic grounds (i.e. distribute the topological continuum among their topological markers), there is one marker which collects all the spatial situations for which either there is no need to specify a topological relation or for which its specification is irrelevant. In addition, even with specific and unique topological markers, semantic specificity sometimes gushes out from them and only leaves room for arbitrariness.

Abbreviations

∅: oblique stem / ABL: ablative / ADD: additive particle / ALL: allative / CAUS: causative / COM: comitative / COMP: complementizer / COP : copula / CVB: converb / DAT: dative/ DIR: directionality marker / ERG: ergative / ESS: essive / F: feminine / GEN: genitive / HORT: hortative / H: human plural / IMP: imperative / INCL: inclusive / INF: infinitive / INT: intensive / IPF: imperfective / LOC: locative / M: masculine / MDT: mediative / MSD: masdar / N: non-human / nH: non-human plural / NEG: negation / ORD: ordinal / POS: positive / PF: perfective / PL: plural / SG: singular / TOPO: topological marker

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