THE POSSIBLE MEANINGS OF THE LEXEMES
ALSÓ 'LOWER' AND FELSŐ 'UPPER' IN HUNGARIAN TOPONYMS
The use of toponyms and space perception
in the Transylvanian town Négyfalu[1]

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Abstract

When the users of the toponyms discussed in my paper talk about familiar places, they rely on the complex system of a mental map based on their collective spatial knowledge. However, they do not orient themselves on this map according to the points of the compass, but rather in a particular way: they take a so called „standard position" and correlate everything to this position. Since the settlement I have examined is located in a mountainous region, the standard point of reference here is always the forest. Wherever they are, the users of these local names locate the places on their mental map through going straight upwards, towards the forest, and they stick to this orientation as regards denomination as well. This assumption is supported by the fact that the branches of the rivers are not referred to within the settlement in conformity with the standard geographical norms: the one that would be the right branch according to geographical norms is called left branch in this area, whereas the actual left branch is called right branch. For it is not the course of the water that determines denomination, but the position of the person going towards the forest, straight forward.

Keywords: bipolar names, DOWN-places, human-centered orientation, mental map, spatial knowledge, spatial orientation, spatial-relational elements, standard point of reference, space perception model, UP-places

1. Introduction

The present paper focuses on the analysis of spatial-relational elements occurring frequently in toponyms, an undeservedly neglected area of onomatology. It will concentrate particularly on place names containing the lexical elements *alsó-* and *felső-*.[2] I will seek to answer some questions concerning the relationship between the use of toponyms and space perception

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[1] Négyfalu (Săcele in Romanian, Vierdörfer in German) is a town of mixed population situated in the Burzenland, a southeast Transylvanian region. Besides the official Romanian name, the traditional Hungarian and German names are also in use, as in the case of most multi-ethnic settlements in Transylvania.

[2] The topic of the present paper is closely related to that of my doctoral thesis. The fragments used as exemplifying material are from my master's thesis, which may be considered a preliminary study to my doctoral research, and which has been published in a shortened form under the title *Helyzetviszonyító elemek a barcasági Négyfalu helynévrendszerében* (*Spatial-relational Elements in the Toponymic System of Négyfalu*) in the volume comprising the papers presented at the 4th Conference of Onomastics, entitled *Név és valóság* (*Name and Reality*).

through the study of the spatial-relational elements occurring explicitly in place names: when, and in what situation the people of Négyfalu feel the need to code the segmentation of space through toponymy in their linguistic practice; what makes this space perception unique, and how this uniqueness is reflected in the semantics of spatial-relational elements.

The site of investigation is the town of Négyfalu, which may nowadays be considered a suburb of the city of Brassó.[3] An interesting aspect of the chosen site from the perspective of this investigation is that the toponymy used by locals has been influenced not only by the special geographical location of the settlement, but also by the process of forced urbanisation that took place in the second half of the 20th century.

One of the most exciting questions raised by the present paper is how toponyms encode spatial relationships: to what extent the spatial relations encoded in place names reflect the spatial structures existing in the mind of the users of these toponyms, and to what extent these correspond to physical reality. This question justifies the setting of this topic, conventionally approached from an onomasiological point of view, in a cognitive linguistic framework.

2. An experimental method

The approach of the material from this perspective requires a new method of investigation. Although onomastics offers a wide range of methods for the analysis of the available toponymical data, the cognitive approach may broaden our perspective. It puts the language user into the centre of analysis, and seeks to find out who uses the given toponym, how and in what context he/she uses it, precisely why he/she chooses to use it, and precisely why in that specific way. The monitoring and analysis of toponyms from this point of view are only possible if toponyms are not treated as isolated linguistic data, but rather studied in their own written or spoken context. Taking this into consideration, I decided to base my study on a series of structured interviews while also relying on the local toponymical set of data, which basically concentrates on the way toponyms are used.

I do not claim that either the method or the approach is my own, since they have been applied already by others. The first experiments in this regard took place independently from each other, but at about the same time, in 1999 and 2000, at the Babeş-Bolyai University of Cluj under the leadership of Sándor Szilágyi N., as well as in Nijmegen, the Netherlands, at the Max Planck Institute for Psycholinguistics led by Stephen C. Levinson.

At the Department of Hungarian and General Linguistics of the Babeş–Bolyai University of Cluj, fourteen BA and MA theses have been written in the cognitive workshop led by Szilágyi N. Sándor since the mid-1990s, all of which study the semantics of various spatial relations, and are based on original research.[4] The BA thesis written in 2000 by Andrea

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[3]   Braşov in Romanian, Kronstadt in German.
[4]   Árpád Galaczi discussed the semantics of the relational element RAJTA (1995), László Páll – the lexeme BEN-NE (1998), and the relations expressed by the verbal particle KI (1999), Enikő Andor – the relations expressed by the particle EL (1999) Hajnal Dénes – the possessive relation (1999), Hajnalka Epli – the lexemes ÖSSZE/SZÉT (1999), Attila Imre – the lexeme ÁT (1999), Noémi Kuti – the lexeme BENNE/IN in Hungarian and English (1999), József Somkereki – the lexemes ALATT/FÖLÖTT (1999), Ibolya Zsombori – the English ON (1999), Csilla Sza-bó – the lexeme ÖSSZES/SZÉT in Hungarian and German (2000), Réka Orsolya Kún – the lexemes ELŐTT/UTÁN/MÖGÖTT (2004), Emőke Pál – the verbal particle MEG (2004), Zita Székely – the suffix -VAL/-VEL (2006). Some of these theses are available on the internet, too, and may be downloaded from: *http://mnytud.arts.klte.hu/szilagyi.*

Heinrich, entitled *The Toponyms of Szaniszló. A Cognitive Approach* was also closely related to this field of research. A great merit of this thesis was that, by applying the cognitive point of view, it opened up new perspectives and possibilities for toponymy.

It should be emphasised, however, that this new approach offers only a possible additional aspect in the study of place names by investigating them in practice. The data collection method used here may form the basis of studies of the same type and purpose, but it cannot be used for mapping the whole toponymic material of the settlement**.** Nor can it serve as a basis for onomatophysiological research. It may facilitate the exploration of name usage habits in a given community, but it is not suitable for investigating the name usage tradition of larger regions or of a whole language area. This is due not only to the fact that the creation and processing of recordings is extremely time consuming and would be feasible only by involving a substantial amount of human resources, but also to the fact that it is impossible to draw up such a uniform questionnaire or form of interview which could be evaluated according to certain criteria so that the results would be comparable. These interviews are of a mixed type and only partially structured, that is, some questions may be omitted, some of them merged together, depending on the situation. Moreover, if the situation requires so, they may always be completed by additional questions. Planning and conducting interviews necessitates a certain level of local knowledge, which should be reflected in the questions posed. This is part of the reason why the method becomes inapplicable for a more comprehensive study, as each interview may only be used in the case of the settlement for which it has been devised. Since sampling occurs in a certain time interval at a certain place, involving randomly chosen informants, it cannot be representative. The data produced are not comparable, and results gained cannot be considered of general importance, only hypothetical. It is also important to emphasise that these hypothetical conclusions are only valid for the studied settlement, no general conclusions concerning the name usage habits or the space perception of a whole region or language area can be drawn from them.

Research using a similar approach in the study of natural languages was carried out at the Max Planck Institute for Psycholinguistics based in Nijmegen within the framework of the Space-project in the first half of the 2000s. The annual reports downloadable from the website of the Institute (Max Planck Institut für Psycholinguistik, *Annual Report*, 2001–2006) offer a most comprehensive review of their research work. One of the main topics their studies focused on was the linguistic representation of space conceptualised through the human body. Special attention was given to the linguistic and conceptual categorisation of the environment directly surrounding people, too. Although these studies were much broader in scope (regarding both their topics and their sites of investigation) than the attempts of the Cluj school, the results still proved to be mutually reinforcing.

In the present paper, following the traditions of the Cluj school, I will analyse in more detail a point of intersection between these studies, rethinking and continuing some earlier results and the findings of my field research. These findings suggest that human space perception and the linguistic representation of the space surrounding people, including place-name usage, are strongly influenced by the geographical environment.

3. The place and circumstances of data collection

The spoken language data that forms the basis of the present study are the result of my two field trips. These two complementary collection trips took place in the autumn of 2004 and the spring of 2005 in the town of Négyfalu (Săcele, Vierdörfer) situated in the southeastern corner of Transylvania, next to the town of Brassó (Braşov, Kronstadt) in the Carpathian bend area.

This urban settlement has come into being by the unification of four former villages of the Burzenland[5]: Bácsfalu (Baciu in Romanian, Batschendorf in German), Türkös (Turcheş, Türkeschdorf), Csernátfalu (Cernatu, Zerndorf) and Hosszúfalu (Satulung, Langendorf). Although these four settlements had already met by the 19th century, it was not until 1950 that they were officially unified under the name of Szecseleváros (Săcele, Vierdörfer). Négyfalu, the earlier popular name version became the official Hungarian name of the unified settlement in 2004. The former villages separated from each other by small creeks are still considered separate quarters of the settlement, but the visible boundaries of the villages disappeared after the covering of the streams by concrete slabs.

The area is characterised by diverse topographical forms. According to the cadastral data at the mayor's office, the most typical topographical form of this area of about 32,000 hectares is mountainous terrain, with 21,000 hectares of wooded area. A portion of the area, registered as 3,500 hectares of pasture and 3,070 hectares of hay meadow, lies on hillsides, but most of it consists of alpine pastures and meadows. A further 2,881 hectares of arable land is not located on hillsides but in the interior plains of the Braşov basin. The town lies in a curve at the foot of the mountains inclining towards the Burzenland basin. The town bordered by the streams Tömös (Timiş), Tatrang (Tărlung) and Garcsin (Gârcin) is surrounded by the Nagykőhavas (Piatra Mare, Hohenstein) in the south, and by the rugged mountain range of the Csukás (the Ciucaş Mountains) in the east. The other three villages situated in the north-east at about a 5 km distance from Négyfalu – Tatrang (Tărlung, Tatrangen), Zajzon (Zizin, Zaisendorf) and Pürkerec (Purcăreni, Purchuressen) – administratively form part of the rural municipality of Tatrang. These three villages grown almost together form the cluster called Háromfalu (Trei Sate)[6]. Négyfalu and Háromfalu together form the group of settlements called Hétfalu (Şapte sate, Siebendörfer)[7].

Négyfalu has always been a settlement of mixed population with an ethnic composition that has been varying in proportions. According to the data of the census conducted in 2002, 71% of the total population of 29,915 inhabitants are Romanian (21,364 people), 23.94% Hungarian (7,164 people), 4.31% Roma (1,291 people), and a small proportion of the population claimed to be of other nationality. Ethnicity roughly predicts the mother tongue distribution, too, a significant difference can only be perceived in the case of the Roma ethnicity, a substantial number of whom being Romanian-speaking. Local Hungarians call themselves Csangos of the Burzenland,[8] and most of them are Lutheran, whereas those

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[5]   The already mentioned multi-ethnic region in southeastern Transylvania called Barcaság in Hungarian and Ţara Bârsei in Romanian.
[6]   Literally: three villages. Non-official name used in Hungarian.
[7]   Literally: seven villages.
[8]   In Hungarian: barcasági csángók.

coming from other regions are evenly divided between the Reformed and Roman Catholic denominations. The majority of Romanians are Orthodox, but there are some Roman Catholics as well among newer settlers. The native Romanians of Négyfalu call themselves Mokans[9].

In the first stage of the collection process I worked with fourteen middle-aged and elderly informants. Most of them were old or middle-aged men who were well acquainted with the topography of the region due to their occupation, so they may be considered local specialists in geographic names. The data collection method was interviewing in order to record toponyms by types of places. The second stage of the data collection process complemented the first data-focused interview with spoken language data. Since among the place names collected at the first stage there were many so-called bipolar name pairs, I focused on these in the second phase of collection. The discussions were tape-recorded, the non-verbal signs accompanying speech (facial expressions, gestures) were recorded in writing.

This paper presents the results of the second phase of my collection work, focusing on the so-called bipolar name pairs, which always occur in pairs within the given microtoponymic system, and their prefixes contain a spatial-relational element (*Alsó Kecskeláb* meaning *Lower Goat Leg* in English*, Felső Kecskeláb*, meaning U*pper Goat Leg*).

4. The theoretical framework

This topic that would traditionally call for an onomastic approach is put into new light by the cognitive linguistic perspective. The basic hypothesis has as a starting point one of the best-known theories of the holistic trend in cognitive linguistics, the metaphor theory of G. Lakoff and M. Johnson. This theory assumes that behind metaphorical structures there stand conceptual metaphors[10], which organise our understanding of the world, and by which the information about the surrounding world is conceptualised by us. Lakoff and Johnson sharply differentiate between structural metaphors, orientational metaphors and ontological metaphors. We may speak of structural metaphors if a specific concept of the source domain structures, in other words, organises, constructs the other abstract concept in the target domain, while orientational metaphors form an independent conceptual system, the elements of which may be determined depending on one another (Lakoff–Johnson 1980: 16). According to Lakoff and Johnson, the spatiality of orientational metaphors originates primarily from the structure of the human body and from the way the human body manifests itself in the physical environment. "Orientational metaphors give a concept a spatial orientation […] Such metaphorical orientations are not arbitrary. They have a basis in our physical and cultural experience" (Lakoff–Johnson 1980: 16). They are based on elementary spatial directions, and usually contain a judgment of value: upward orientation is, for example, positive, while downward orientation is negative. In the case of orientational metaphors there are not necessarily actual metaphorical images involved, but rather image schemas, which are usually much more schematic than metaphors, but may often form their

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[9]   In Hungarian: mokán.

[10]   Lakoff and Johnson (1980) distinguish between *conceptual metaphors* and *metaphoric expression*s. While metaphoric expressions are basically linguistic constructions, conceptual metaphors connect two semantic domains: a concrete source domain and an abstract target domain which is difficult to grasp.

basis. Image schemas, according to Lakoff's definition (1987: 267) are "relatively simple structures that constantly recur in our bodily experience": containers, paths, directions and relations (up–down, front–back, part–whole, center–periphery, etc.).

Most languages distinguish among five basic spatial relations (see Heine 1995: 120, Kövecses 2010: 99). They are as follows: on, under, front, back and in. These five basic spatial relations are conceptualised through human bodily experience: the starting point of the orientation model based on parts of the body is the body position of the standing person, in which case UP means the direction of the head, and DOWN the direction of the feet (Heine 1995: 121, Szilágyi N. 1996: 15). The primary status of the VERTICALITY schema involving the relation UP/DOWN among the schemas expressing spatial directions and relations may be partly due to this. Although the linguistic and cultural elements associated with UP and DOWN may differ according to languages and cultures (Heine 1995: 126, 128, Szilágyi N. 1996: 15), the basic direction determined by the direction of gravity is universal. The human body and its position form the basis for three-dimensional spatial orientation.

5. The UPPER/LOWER relation in the complementary place names of Négyfalu

This paper aims to examine how spatial signifying structures are organised within a microtoponymic system in the name usage of a community. The semantic analysis I conducted covers only the complex toponyms that contain some kind of spatial-relational element. These names always occur in pairs, never alone, that is why they are known as *bipolar* names in onomastics (Pesti 1969: 230). There is usually a complementary (either/ or) relationship, that is, they form a unified couple while being mutually exclusive (e.g. *Alsó-Kecskeláb* and *Felső Kecskeláb*, meaning *Lower* and *Upper Goat Leg* in English, *Kicsi-Paláj* and *Nagy-Paláj* meaning *Little* and *Great Paláj*, *Tészla bal ága* and *Tészla jobb ága* meaning the *left* and *right branch [of the valley] of Tészla*). We will see that the spatial relations expressed by the relational elements of complex toponyms are perceived, in contrast with other earlier assumptions (for example: Pesti 1969: 231, J. Soltész 1959: 25–26, 125), not in relation to the points of the compass, but rather according to a human-centered approach, relative to the position of the standing human body.

Unsurprisingly, the most important and most numerous group of names in this system of toponyms is the group of place names containing the spatial-relational element upper/lower, since, as I have already mentioned, the up/down relation is the most important one among spatial relations. These complementary lexemes appear in names designating almost every kind of place[11] (hydronyms – only river names; names of terrain configurations – mountains, valleys, parts of mountains and valleys; border names – field names, names of gardens, pastures, hayfields; names of populated areas – parts of the village, streets, parts of streets, roads, lanes). Although these geographic locations are perceived either as horizontally or as vertically divided in the empirical world, we do not implement this distinction in the linguistic dimension. Geographical objects bearing names that contain the complementary spatial-relational element upper/lower belong to the same category, in other words, horizontal fragmentation also appears as vertical.

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[11] On possible perspectives in the differentiation of place types see the typology of Hoffmann István (Hoffmann 1993, 36–41).

It is perfectly normal that different norms are applied during the naming process in the case of each type of name, this being rooted in the differences among denotates as different entities, and in the different categories of perception working in each case (Hoffman 1993, 33). In the following I will try to find out and analyze how and according to what norms naming happened in the case of the different types of names.

As a starting point, I assume that the meaning of the lexemes *upper/lower* differ depending on the type of toponym, as follows:

1) In the case of **oronyms,** the lexemes mark primarily **level difference** (more exactly **difference in hight**), and secondly **difference of dimension**. The two meanings are directly connected due to the question of size: lower means smaller, or taking up less space at the same time. The name containing the lexeme *alsó-* means the lower and thus smaller mountain or the lower, smaller part of the same mountain, whereas names containing the lexeme *felső-* mean the higher and larger mountains, as well as the higher, larger part of the same mountain.

2) In the case of **valley names**, similarly**,** the lexemes *alsó-/felső-* mean primarily level difference, but in this case the difference in level is not in altitude, but **in depth**[12]. The name containing the lexeme *alsó-* will denote the valley lying lower, as well as the lower part of the same valley, whereas names containing the lexeme *felső-* will mean the valley lying higher, as well as the higher part of the same valley.

3) In the **names of living waters** the lexemes *alsó-/felső-* refer primarily to the **source** place and the source branch of the river, retaining in the meantime the original meaning marking **level difference**. If the source region of the stream branch lies (a bit) higher, then the lexeme *felső-* will appear in its name, if it lies at a lower level, then the lexeme *alsó-* is used.

4) In the **names of parts of villages**, the pair *alsó-/felső-* refers again primarily to level difference, to variation in altitude, as in oronyms: the name containing the lexeme *felső-, fel-* (*upper, up*) refers to the part of the settlement closer to the forest (therefore lying higher), which is the *outer* (*külső*) part also, whereas the name containing the lexeme *alsó-, al-* (*lower, low*) refers to the *inner* (*belső*), central part, situated closer to the town.

5) The **names of streets** follow roughly the same logic, the names containing the spatial-relational element *alsó-* will refer to streets located in the lower part or lower end of the village, whereas the name containing the spatial-relational element *felső-* lies at the upper end, in the upper part of the settlement.

6) In the **names of lanes** the meaning of the complementary pair *alsó-/felső-* is completed with an additional semantic aspect of *inner/outer*: *alsó-* meaning the section of the lane that is closer to the village center, *felső-* meaning the part stretching outward, situated further away from the village, closer to the outer border of the village.

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[12]   If we consider the position relative to sea level, then we are speaking of altitude here, too, but in comparison with mountains this is negative height, that is, depth. Let us just think about how one goes **up** the mountain and goes **down** into the valley.

When the lexemes ALSÓ- and FELSŐ- are used in place names, one usually refers to two geographical objects (or sometimes one object, perceived as double, divided into two or bipolar) of the same type, denoting the same kind of place, one of them being considered by default the lower or bottom part, and the other the high-lying or upper part. We may find that in the case of several place names containing the lexemes ALSÓ-/FELSŐ-, the geographical object they denote is perceived as horizontally divided or bipolar, however, the linguistic articulation of their names still suggests a vertical division. (These are mainly names of village areas, streets, gardens and lanes.) The data referring to the semantic history of these words reflect the same.

According to the Historical-Etyimological Dictionary of Hungarian (abbr.: TESz.) the lexeme *alsó* is a derivative. It has been derived from the noun *al* meaning 'low-lying area, lower part' by the addition of the complex derivational suffix *-só* meaning location, being somewhere (TESz. 1. 143), *felső-*, on the other hand, being derived from the noun *fel* meaning 'high-lying area, upper part' by the addition of the complex derivational suffix *–ső* (TESz. 1. 878).

In this sense, the prototypical place names containing the relational elements ALSÓ-/FELSŐ- are the complementary name pairs denoting **mountains**, since the reference to the vertical division of the earth's surface appears in these in its most evident form: *Alsó-Lovak havasa* (*Lower Horse-Mountain*) meaning 'the lower part of the *Lovak havasa* (*Horse-Mountain*)', while *Felső-Lovak havasa* (*Upper Horse-Mountain*) means 'the higher part of the *Lovak havasa* (*Horse-Mountain*)'.

5.1. The types of the UPPER/LOWER relation in oronyms

The name pairs in which the relational elements ALSÓ-/FELSŐ- appear in their basic meaning denote places situated at two different poles of the same geographic object, as parts of the same unit having different geographic locations. There is a pronounced difference in altitude between the two parts: the FELSŐ is higher (larger) and lies also higher than the ALSÓ. They lie relatively close to each other, thus these relational elements refer to a certain, less pronounced but actually existing specific spatial relation, which is not vertical, but not completely horizontal either: the NEAR/FAR relation. *Alsó-* will denote the more accessible part situated closer to the village, while FELSŐ- the upper part lying further away, which takes more time to reach.

These places may be categorised into two groups according to whether they refer two a double or triple division. The names following the pattern *Alsó-Lovak havasa/Felső-Lovak havasa, Alsó-Vidás-bérc/Felső-Vidás-bérc* (*bérc* meaning 'crag, peak') refer to a double division, the name referring to them jointly suggesting that the users of these toponyms perceive the two opposite poles of the place as belonging to one geographic unit (*Lovak havasa*, *Vidás-bérc*).

The only evidence of the existence of a possible triple division may be found in the names: *Alsó-Kecskeláb, Felső-Kecskeláb, Középső-Kecskeláb* (meaning *Lower, Upper* and *Middle Goat Leg*), the collective denomination (*Kecskelábak* meaning *Goat legs*) showing most clearly that these places are perceived as three separate but contiguous units. It is likely, in my opinion, that the explanation for this division is to be found in the difference

in size of the above mentioned geographic units, the area of the *Kecskelábak* being much larger and having a more fragmented geographic structure than the *Vidás-bérc* or the *Lovak havasa* mountain. Another fact that supports this theory is the only aspect in which the members of this group differ from the members of the former group: the difference in size of the three *Kecskeláb* mountains, the *Felső-Kecskeláb* being not only higher, but also much larger and more massive than the *Alsó-Kecskeláb*. Another evidence of this naming principle could be the synonymous name pairs of the mentioned name variants: *Kicsi-Kecskeláb* and *Nagy-Kecskeláb* meaning *Little* and respectively *Big Goat Leg*, as well as the Romanian counterparts: *Capra-Mică*, *Capra-Mare* meaning similarly *Little* and *Big (Goat)*. The middle part, *Középső-Kecskeláb*, lies between the *Alsó-Kecskeláb* and *Felső-Kecskeláb*, but interestingly, I have not been able to identify the Romanian name referring to it, neither with the aid of the informants, nor using the available maps.

> *"A Kecskeláb az a Babarunkátuól jobbra, elüöre. Ott van kettüő... egy kicsike s a nagy. A kicsike eltiér jobbra az elágazásnál, a bal megy egyenesen elüőre, Regát felié. [...] Ott fenn eltiér jobbra a Kicsi-Kecskeláb, s megy elüőre a nagy. [...] Nagyobb a legelüője... az egyik... hosszabb... Na... a másik visszatiér ide egiész a Markosán alá, ugyhogy küssebb annak a területe mint a nagynak... Itt van neki a különbsiége..."* [13] (A. J., Hosszúfalu)

Not only do these few sentences confirm what has been said above, but they also reveal much about the speaker's cognitive map, as well as about the main lines of orientation according to which this cognitive map is drawn. Thus, the locations referred to as FENT-, that is, UP-places, are situated in front of the person going upwards[14], whereas those referred to as LENT-, that is, DOWN-places are those that are located below the UP places, usually not horizontally, but obliquely (in a different angle). UP-places, LARGE-places are far away, they are considered strange, unfamiliar to us (it is no accident that the point of reference used by the informant is the *Regát*, meaning the *Romanian Old Kingdom*, that is, the part of Romania beyond the Carpathians, meaning thus *not Transylvania*), while DOWN-places, LOW-places are close, familiar to us, ours (the *Kicsi-Kecskeláb* "*comes back **here**, under the Markosán*"). From the point of view of orientation the horizontal directions are also important, the lexemes *bal* (*left*) and *jobb* (*right*) are used by the speaker to indicate these. However, these directions are used only as a support system, additionally. The main, more accurate indicators of directions

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[13] In standard language translation: "*The Kecskeláb, that is to the right, ahead from the Babarunka. There are two of them...a little one and that big one. The little one turns right at the fork, the left side one goes ahead towards the Regát[...] Up there the Little Goat Leg turns to the right, and the big one goes ahead. [...] It has a larger pasture... one of them... it's longer... Right... the other one comes all the way back here under the Markosán, so it has a smaller territory than the big one... Here lies the difference...*"

[14] It may be observed not only here, but in the case of all the toponyms in the onomastic corpus that the position of the person going straight upwards is considered the standard position. This rule also applies in the case of waterways, since the standard scientific method would be to divide the stream into a lower and upper part with respect to an observer looking in the flow direction, the people of Négyfalu, however, will not name the different branches from top to bottom, going downwards. On the contrary, they advance in the opposite direction, against the flow direction of the stream, when naming the branches.

refer to the vertical axis even when speaking about these horizontal[15] imaginary directions. The point of reference remains the person advancing straight upward: what is located on his/her right side, is considered right side place, what is on the left will be referred to as left side place.

The UPPER/LOWER relation, prototypically meaning a vertical division, has a third type, too, which differs from the two previous meanings in the sense that the places the spatial relation refers to are two separate geographic objects lying in close proximity to each other. Although there is no direct contact between them, this differentiation is justified by the fact that they denote the same kind of geographic object lying on the two sides of a different kind of a geographic formation (in our case: a valley, the valley named *Markosán völgye*). The toponyms *Markosán alsó éle* (*the lower edge of the Markosán*) referring to the mountain ridge stretching along the northern, left side of the valley and *Markosán felső éle* (*upper edge of Markosán*) to the mountain ridge rising along the southern, right side of the valley.

The oronyms belonging to the following, fourth type of names including the elements ALSÓ-/FELSŐ- are the mountain names in which the modifiers are complex toponyms, and their function is the clear indication of a place in relation to a different geographic name, therefore, they refer to a spatial relation indicating a horizontal division only indirectly, in the modifiers of their names: *Alsó-Csóra éle/Felső-Csóra éle/Középső-Csóra éle* (*the edge of Lower Csóra/ the edge of Upper Csóra/ the edge of Middle Csóra*)*, Alsó-Hideg-völgy éle/ Felső-Hideg-völgy éle* (*the edge of Lower Cold valley/ the edge of Upper Cold valley*)*, Alsó-Sötét-völgy éle/Felső-Sötét-völgy éle* (*the edge of Lower Dark valley/ the edge of Upper Dark valley*)*, Alsó-Fűrész éle/Felső-Fűrész éle* (*the edge of Lower Saw / the edge of Upper Saw*). In these names the common geographic noun *él* has the meaning of 'mountain ridge', and appears as the head element of already complementary name pairs, unlike in the former case, where the spatial-relational element was part of the common geographic noun forming the head of the toponym: the name *Alsó-Csóra éle* refers to the mountain ridge stretching along the southern side of the stream named *Alsó-Csóra*. The common condition of this kind of perception in the case of these places is the vertically perceivable height difference between the two poles, as well as the fact that these are located close to each other, in each other's projection,[16] on the two opposite (north or south) sides of a geographic object (stream, valley) different from them.

5.2. The types of UPPER/LOWER relation in valley names

In valley names we may find other types of UPPER/LOWER relations. Although there may be found many similarities between these and the actual spatial relations expressed in mountain names, these are not discussed in the same subsection because verticality in this case is of a different nature than in the previous one. It is of a different nature in the sense that mountains and valleys are perceived differently in terms of verticality. While mountains

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[15]   It has already been mentioned that these horizontal directions are mostly not completely horizontal, but shifted in an angle with respect to the horizontal. They are called so only for the sake of simplicity. It is not a geometrically correct horizontal and vertical coordinate system we are speaking about here, but the horizontal and vertical division of the terrain.

[16]   The plane of projection is the horizontal section of the object with the largest surface area, and this is projected in the direction of gravity, up and down. On the notion of projection see: Somkereki 1999, 10–11.

are characterised by height, valleys are characterised by depth, thus, as regards the UPPER/LOWER relation, mountains are determined by their UPPER extreme, whereas valleys by their LOWER extreme. Another feature of this relation is that in addition to the still strong vertical division, the horizontal fragmentation, the dimension NEAR/FAR is stronger in comparison with mountains.

The first type of these relations includes those valley pairs that are perceived in the following way: one of them lies at a lower altitude than the other, the lower and the upper parts have no direct contact with each other, they lie parallelly, one above the other, on the same side of a geographic formation of the same kind (valley that is larger than them). This category of valleys includes the *Alsó-Pap-völgy* (meaning *Lower Priest Valley*), the left side tributary valley of the Tatrang Valley, and the *Felső-Pap-völgy* (*Upper Priest Valley*) the left side tributary valley of the Tatrang Valley lying to the south from the *Alsó-Pap-völgy*; the *Alsó-Hideg-völgy* (*Lower Cold Valley*), which is the right side tributary valley of the Döjtöne Valley, and the *Felső-Hideg-völgy* (*Upper Cold Valley*), the right side tributary valley of the Döjtöne Valley lying to the south from the *Alsó-Hideg-völgy*; the *Alsó-Geván árka* (*Lower Geván Trench*), the northernmost of the three small valleys stretching down the side of the Geván mountain toward the valley of the Kis-ág (Little Branch), the *Felső-Geván árka* (*Upper Geván Trench*), the sourthernmost of the three small valleys stretching down the side of the Geván toward the valley of the Kis-ág and the *Közép-Geván árka* (*Middle Geván Trench*), the small valley lying between the above mentioned two small valleys.

The last of these groups of names is different from the other two only because of its triple division. It includes three valleys, not two, which are not seen as tributary, but as three smaller, separate valleys leading into a larger valley.

There is a slight difference between how the two *Hideg-völgy* valleys and the two *Pap-völgy* valleys are perceived: while there is no spectacular difference in size between the lower and upper *Pap-völgy* valleys, informants mention that the lower *Hideg-völgy* valley is noticeably shorter than the upper *Hideg-völgy*.

> *"Az [Hideg-völgy] is van kettüő: az alsuó s a felsüö... me'ott egy kicsit huzatosabb, s azér' mondják, Hideg-vüölgy. [...] Hol? Itt az Ósánctol eltiérni jobbra, erről a Főutról felmenni mig elágazik az ut. Egy megy a Tigájnak, a másik megy elüőre... s attól az elágazástól körölbelül egy kilomëterre vann... egy vüölgy ki balra, ami az Alsó-Hideg völgye... s akkor onnat még megy egy kilometret, meginn kitiér balra, az a... Fesső-Hideg-vüölgy. [...] Az [az alsó] közelebb vann... na... s a kettő között ugy egy kilometer távolság van. Csak aztán a... na... a Felsüő-Hideg-vüölgy az elágazik, kimegy a havasokra egiészen... Ez is kimegy, de ide a Vajda havasára... a rövidebb..."[17]* (A. J., Hosszúfalu)

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[17] In standard language translation: "*There are two of that [Hideg-völgy valley], two: the lower and the upper... 'cause it is a bit more draughty there, that's why they call it Cold Valley. [...] Where? Here you turn to the right at the Ósánc, then you go upwards from the main road until the road forks. One way goes up the Tigáj, the other one forward... and at a distance of about one km there is... a valley out to the left, that is the Alsó-Hideg völgye (Lower Cold Valley)... and from there you go on for another km, again you turn out, to the left, and that is the... Fesső-Hideg-vüölgy (Upper Cold Valley). [...] That [the lower valley] is closer... well... and there is one km distance between the two. Only that the... whatsit... the Felsüő-Hideg-vüölgy valley forks into two, goes all the way out to the mountains... This also goes out, but here, onto the Vajda havasa mountain... that is shorter...* "

On the cognitive map of the informant the UP/DOWN and the CLOSE/FAR dimensions are completed by or shifting towards an IN/OUT dimension. What is outside the village, towards the forest, is regarded as an OUT-place, but, concluding from the above fragment, the OUT -places situated on the outer boundary of the village may be of two kinds, too: there are OUT- and "OUTER" places. OUT -places are those situated nearer to the village, that is, they are OUT HERE: "*This also goes **out, but here**, onto the Vajda havasa mountain*", whereas OUTER -places are OUT THERE, that is, *very out*, far away, from the point of view of the speaker. The informant says at the same time, that it *goes **out onto** the Vajda havasa mountain*, which means the valley leads upwards, onto the mountains, according to this linguistic imagery.

Another type of UPPER/LOWER relation appears in the names of the valleys perceived by locals as the opposite poles of a geographic formation with the same name and of the same kind, and these poles are ON the geographic entity observed by the speakers as one, but divided by them in two sections in order to specify the place in question more accurately. The complementary pair *Alsó-Lapjas/Felső-Lapjas* (*Lower Lapjas/Upper Lapjas*), the name *Alsó-Lapjas* referring to the northern, lower-lying part of the valley, the *Felső-Lapjas*, on the other hand, its southern, high-lying part.

I classified in a different category the valleys, in which the same UPPER/LOWER relation appears, but the linguistic expression of this spatial relation is incomplete. What I mean here is that while one of the opposite poles is specified by the aid of a spatial relational lexeme, the specific linguistic reference is missing from its complementary name pair. The pairs *Alsó-Medvés-völgy/Medvés-völgy* (*Lower Bear Valley/Bear valley*) and *Alsó-Erős-árok/ Erős-árok* (*Lower Steep Trench/Steep Trench*). The first name pair refers to valleys that lie in close proximity to each other so that they are not directly connected, but still, they are situated on the same side of the same valley, being its parallel tributary valleys: the *Medvés-völgy* valley is the right side tributary valley of the Garcsin valley, while *Alsó-Medvés-völgy* is the name of the small valley lying to the north of the Medvés völgy valley. The perceptual conditions in the case of the other name pair have only one different aspect, namely that the *Alsó-Erős-árok* valley is part of the *Erős-árok* valley, which is the left side tributary valley of the Döjtöne valley lying between the Felső-Mély-árok (Upper Deep Trench) and the Alsó-Bejer-völgy (Lower Bejer Valley), and the *Alsó-Erős-árok* is the northern, low-lying part of the Erős-árok valley.

The group of names containing the common geographical noun *árok* (*trench*) is a transitional type of toponyms in which the appellative head element of the toponym does not mean *valley*, as in the case of the *Erős-árok,* but has the meaning of *valley and its stream* (eg. *Alsó-Mély-árok/Felső-Mély-árok*). In the case of these places there are two types of verticality present in the empirical world, but we observe a single vertical plane linguistically. The places on the two extreme poles of the vertical plane are not directly in contact with each other in the empirical world, but they have a common element of contact: they are the tributaries of the same valley.

Before moving on to the discussion of the vertical spatial relation UPPER/LOWER characteristic of rivers, we should mention the group of valleys that are conceived of as two separate branches of the same valley. These two geographic objects perceived as different have a direct surface of contact, and vertical division is emphatic in their case. The pair of toponyms *Hideg-völgy alsó ága/Hideg-völgy felső ága* (*lower branch of the Cold Valley/*

upper branch of the Cold Valley) belongs to this type, the *Hideg-völgy alsó ága* being the northern, right side branch of the Felső-Hideg-völgy valley[18], while the *Hideg-völgy felső ága* is the southern, left side branch of the Felső-Hideg-völgy valley. Another name pair belonging to this group is: *Len-földek alsó ága/Len-földek felső ága* (*lower branch of the Flax fields/upper branch of the Flax fields*), the *Len-földek alsó ága* being the small valley lying in the north of the Len-földek meadow, while the *Len-földek felső ága* is the name of the small valley lying in the south of the Len-földek.

5.3. The types of UPPER/LOWER relation in river names

The UPPER/LOWER relation in river names represents a third type of spatial division, which differs from the previous two types primarily because of its emphatic horizontality in physical orientation at the expense of verticality. The vertical height difference is still important, but the NEAR/FAR dimension grows stronger. The village as a point of reference becomes increasingly important, since some of the streams and rivers flow near or through the settlement. In fact, liguistic orientation is characterised by the relation UPPER/LOWER, that is, verticality. In reality, however, this appears at the horizontal level. In other words, despite the fact that waters seem to belong to the horizontal dimension, and there is little level difference between the two different sections, the two branches, they are still structured on a vertical plane in linguistic expression.The upper part of a stream course is always 'upper' relative to the flow direction.

The UPPER/LOWER relations in river names seem to be less differentiated than the different types of this spatial relation in the complementary name pairs of mountains and valleys.

The **first type** of this UPPER/LOWER relation differing from those previously discussed, is characterised by a structuring in which the geographic objects forming this relation, located at the poles of the vertical axis in the imaginary coordinate system, are the tributaries located on the same side of a geographic object (in our case the river) of the same kind, but bearing another name. These affluents are located below one another, if seen on a vertical plane, but the fact that they are almost parallel shifts this kind of verticality towards horizontality. These geographic objects do not have direct contact with one another. For example, such pairs include *Alsó-Bejer-patak/Felső-Bejer-patak* (*Lower Bejer Stream/Upper Bejer Stream*) and *Alsó-Havas-patak/Felső-Havas-patak* (*Lower Havas Stream/Upper Havas Stream*), *Alsó-Bejer-patak* being a left side tributary stream of the Döjtöne, while *Felső-Bejer-patak* a left side tributary of the Döjtöne located north of the Alsó-Bejer stream. The *Alsó-Havas-patak* is the name of the stream flowing along the foot of the Alsó-Kecskeláb mountain, north of the Felső-Havas stream, and flowing into the Kecske-Tatrang, while the *Felső-Havas-patak* is the stream located south of the Alsó-Havas stream, flowing parallelly with it into the Kecske-Tatrang.

The **second group** includes the places in the name of which the relational elements LOWER/UPPER/MIDDLE mark a type of triple division that has not been discussed yet: these

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[18]   In these specifications concerning toponyms the right and left sides are always understood in the geographic sense rather than from the perspective of the standard speaker. From the point of view of local speakers, the part that we call the right side is in fact the left side part, and the part considered the left side is actually the right side part.

objects are also in direct contact with one another, two of them (the lower and middle) are connected at one end, the third one (the upper) at both ends. If we try to think in terms of an extremely simplified geometric space, as before, then this means that if the geographic objects belonging to the former group could be imagined as located along two parallel lines in the vertical dimension, then those belonging to this group are located along lines running together. There is only one example in our corpus for this kind of relation (at least in the category of hydronyms): *Alsó-Kecske-Tatrang/Felső-Kecske-Tatrang/Középső-Kecske-Tatrang*, the *Alsó-Kecske-Tatrang* being the name of the stream springing from the Alsó-Kecskeláb mountain, the *Felső-Kecske-Tatrang* being the left side tributary of the Alsó-Kecske-Tatrang, and the *Középső-Kecske-Tatrang* the right side tributary of the Felső-Kecske-Tatrang stream, on the side of the Kecske-Tatrang.

The **third group** includes the following type of names: *Alsó-Hideg-völgy vize* (*water of the Lower Cold Valley)*, the name of the stream flowing in the Alsó-Hideg-völgy valley, as well as the *Felső-Hideg-völgy vize* (*water of the Upper Cold Valley)*, referring to the stream flowing in the *Felső*-Hideg-völgy valley. These sites are not directly connected with each other, neither do they have a common contact surface. The relational lexemes appearing in complex modifiers are, in fact, the modifiers of the modifier. This means that the function of the modifier (*Alsó-Hideg-völgy* and *Felső-Hideg-völgy* in the present case) is, from a functional semantic perspective, to express the relation of a geographic formation to another formation (in the present case the relation of a waterway to a valley), namely its exact location, relative to the other. Since relational lexemes appear as the modifiers of modifiers, an UPPER/LOWER relation exists not between the places these names denote, but between the places the complex modifiers refer to (eg. between the *Alsó-Hideg-völgy* and *Felső-Hideg-völgy*). Bearing in mind that the two geographic objects in this relation have a direct contact area of a similar kind (the Döjtöne valley), the watercourses of *Alsó-Hideg-völgy vize* and the *Felső-Hideg-völgy vize* have an indirect, secondary contact area. The hydronyms *Len-földek alsó ága vize* and *Len-földek felső ága vize* may be classified into this category, too, the former meaning the stream flowing in the *Len-földek alsó ága* valley, the latter referring to the stream flowing in the *Len-földek felső ága* valley. The valleys named *Len-földek alsó ága* and *Len-földek felső ága* lie on the two sides of the meadow named Len-földek (Flax fields) so that the two do not meet, but they both have contact with a third geographic formation, and are determined in relation to that common point of reference.

The bipolar geographic names belonging to the **fourth group** refer to places that are structured according to the following conditions: the two geographic objects of the same kind lie along two imaginary oblique lines, which meet each other at some point, and continue their course together from then on. Consequently, this type of UPPER/LOWER relation cannot be seen as conceivable wholly on a vertical plane, but neither as on a horizontal plane. If it has to be categorised, then a third dimension should be invented to fit the scheme: a dimension which might be called **quasi-vertical**, that is, a bit more vertical than horizontal. In this quasi-vertical dimension the lower-lying branch of the watercourse, which is nearer the village, could be positioned to the LOWER end, whereas the branch referred to as UPPER would be the higher-lying branch to be found farther away from the village. The UPPER/LOWER relation expressed by the lexemes ALSÓ-/FELSŐ- appear in this sense in names like: *Horvátka alsó ága/Horvátka felső ága* (*lower branch of Horvátka/upper branch of Horvátka*), the

former meaning the right branch of the Horvátka stream, which is closer to the village of Türkös, the latter referring to the left branch of the Horvátka stream, which is further away from Türkös. In fact these branches are the lower and the upper source branches of the Horvátka stream, which are perceived by locals as lying closer or further from the village, respectively, and as stretching on the right and left side of the larger stream formed from the interflow of the two branches.

In the following, I will distinguish between two terrain configurations. The first type is perceived along the vertical (or quasi-vertical) dimension in the empirical world (such as mountains and valleys, as well as forest roads and forest trails), whereas the second type profiles horizontal (or quasi-horizontal) dimensions (such as streets, parts of streets, settlements, parts of settlements, country lanes, country roads).[19] Waterways, in my view, form a separate category, classifiable in both groups depending on whether it is the quasi-vertical or quasi-horizontal dimension that dominates in perception.

It must be emphasised again here that the (imaginary) coordinate system along which we visualise spatial dimensions is not a geometric coordinate system. Neither are horizontal and vertical dimensions spatial parameters measured with mathematical precision, but mostly rather distorted. This means that the axes we call horizontal and vertical are in most cases quasi-vertical and quasi-horizontal, somewhere between horizontality and verticality. Depending on whether these imaginary axes are seen to be closer to the horizontal or the vertical axis we call them quasi-horizontal or quasi-vertical axes.

In the following we will briefly survey the semantics of the geographic names in the case of which the denoted place lies along the horizontal or quasi-horizontal dimension. We are going to see that in the case of these names the aspects NEAR/FAR, FRONT/BACK, INNER/OUTER will be prevalent in the semantic field of the relation UPPER/LOWER discussed here, so that these become of prior importance while the original and specific meaning of the lexemes alsó-/felső- (lying at the bottom/at the top) fades into the background. Thus, beyond their specific meaning which makes reference to a vertical division, new, more abstract connotations may appear, which refer to a horizontal division of the earth's surface: *lower* – **1.** closer, inner place, **2.** the front part of something; *upper* – **1.** lying farther, outer, **2.** the back, rear part of something. These meanings associated with a horizontal division may all be found among the types of UPPER/LOWER relations discussed in the previous section, too, but only secondarily, implicitly, since the primary sense of the lexemes is their specific vertical meaning there.

If instead of the relational lexemes themselves, we put their concrete and abstract meanings to the four poles of an imaginary coordinate system in which vertical spatial relations are visualised along the vertical axis and horizontal spatial relations along the horizontal axis, then we turn the axis representing the horizontal dimension to the right by 90 degrees, we will see that these meanings are grouped into two arrays (according to the affinity principle of solidary values[20]). See Figure 1.

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[19]   The word "rather" must be emphasized here, since the streets and parts of streets may be seen along the vertical dimension, too, depending on the geographical location of the settlement.

[20]   Sándor Szilágyi N. speaks of the attraction of solidary values in connection with value meanings suggesting that words with a positive value will attract positive words, while negative values attract negative ones. Szilágyi defines value meaning as the evaluating attitude of the speaker toward the subject. In this sense the web of significance formed through the affinity of values is the contact network of value meanings (Szilágyi 1996: 11-12).
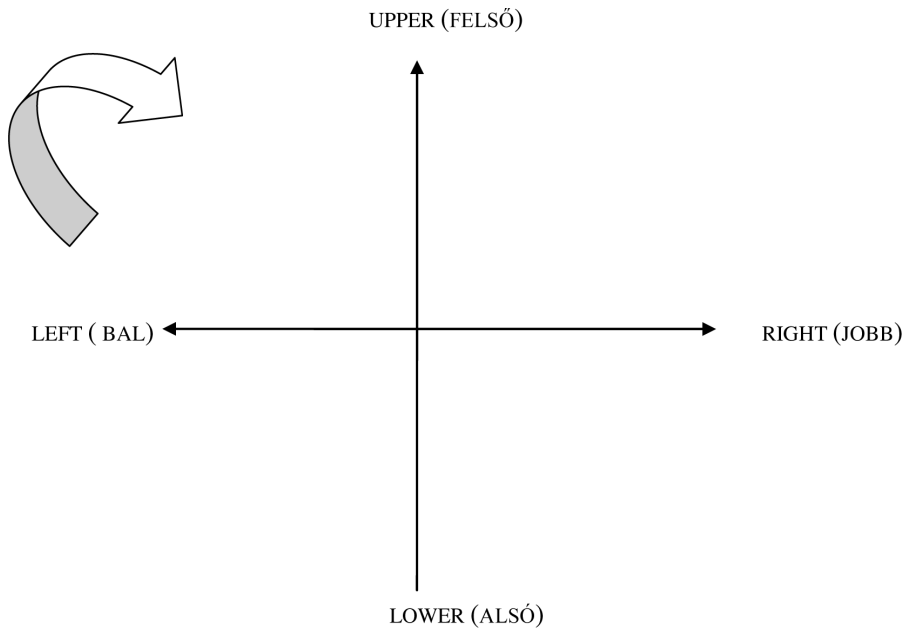
UPPER (FELSŐ)

LEFT (BAL)   RIGHT (JOBB)

LOWER (ALSÓ)

Figure 1: The coordinate system of spatial relations

In the linguistic world there is thus only one "coordinate axis", and it marks the vertical dimension: all we perceive in the empirical world as horizontal is converted by a mental rotation of 90 degrees into vertical in the linguistic world. Meanings are thus grouped into two arrays, and the central organising element of these arrays is the UPPER/LOWER relation. LOWER means all those places that are closer to us (NEAR-places), that are more easily accessible (FRONT-/THIS SIDE-places), that are familiar IN-places. The connotations of UPPER include all those meanings that are further away from us, out there (FAR-places), that are difficult to reach (BACK/OTHER SIDE-places), unknown OUT-places. The DOWN- places are generally lower, SMALL-places, while the UP-places are usually LARGE-places.

LOWER	UPPER
RIGHT	LEFT
FRONT	BACK
NEAR	FAR
INNER	OUTER
SMALL	LARGE
(KNOWN)	(UNKNOWN)

Figure 2: The space perception model

This space perception model partly corresponds to what Lakoff and Johnson call ME-first orientation (1980:132), according to which positive values are associated with UP, negative values with DOWN, since "... people typically function in an upright position, see and move forward, spend most of their time performing actions, and view themselves as being basically good, we have a basis in our experience for viewing ourselves as more UP than DOWN, more FRONT than BACK, more ACTIVE than PASSIVE, more GOOD than BAD." The interesting phenomenon that local toponymy in Négyfalu reflects that positive values are associated with DOWN rather than UP, follows probably from the fact that people always determine their spatial positions in relation to the surrounding mountains, and the centre of their universe, their own home is perceived as a DOWN-place.

6. Conclusions

In the present paper I tried to analyze the lexemes referring to specific spatial relations in the toponyms used by the inhabitants of the southeast Transylvanian town of Négyfalu, using a cognitive linguistic approach. I started from the assumption that the relations reflected by the names can very simply be mapped if grouped around the four poles of a two-dimensional coordinate system, forming four different semantic arrays, in which the elements of every array are correlated with each other semantically. This assumption has partly been confirmed. Only partly, because the spatial dimensions of the empirical world are mapped a little differently in the linguistic world. What is perceived in the empirical world as two different dimensions, overlaps in linguistic expression, and thus semantic correlations are actually grouped around two poles, in two large arrays and every element in these arrays has a pair with opposite meaning in the other array, and the relation between them is complementary. This does not mean, however that the two dimensions are not differentiated in the linguistic world. It only means that one is projected onto the other, or more precisely, one of them is rotated towards the other by 90 degrees.

It has also been observed that the vertical and horizontal dimensions do not always mean complete verticality or horizontality, since these parameters are almost always conceivable only as quasi-vertical and quasi-horizontal. However, these diverse quasi-vertical and quasi-horizontal relations are always expressed linguistically by the same means.

When listening to the recorded spoken language corpus I noticed that the same particular perspective prevails in all complementary name pairs irrespective of the type of place denoted by them: if locals speak of toponyms "they take a standard position" in imagination and from there they go straight forward, upwards, towards the forest.[21] I assumed that, the starting point being their village, they move outward straight ahead, but this theory was disproved by the names of lanes. According to this logic, if moving outward from the village, LOWER should refer to the part of the lane that is closer to the populated areas, and UPPER should modify the name of the part situated farther from the village. However, since this is not the

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[21] Judging from the small amount of data in Romanian language it may be assumed that the standard position of Romanian-speaking informants differs greatly from the position of the Hungarian-speaking population. They choose a high position (top of a mountain or cliff), a position they take imaginarily, facing the village, and they advance downwards starting from there. This observation, however, is only hypothetical in the absence of enough data.

case, and actually the opposite is true, I came to the conclusion that the standard (absolute?) point of reference is not the village, but the forest. Wherever one stands, in imagination he/she always starts straight ahead upwards, towards the forest. This would explain also the fact that the names of rivers and valley branches are not named as expected (see Figure 1), and the horizontal line of the LEFT-RIGHT relation needs a rotation of 270 degrees instead of 90, the RIGHT branch corresponding to the UPPER branch and the LEFT to the LOWER, thus the semantic arrays are restructured (see Figure 3).

LOWER	UPPER
RIGHT SIDE	LEFT SIDE
(LEFT)!	(RIGHT)!
FRONT	BACK
NEAR	FAR
INNER	OUTER
SMALL	LARGE
(KNOWN)	(UNKNOWN)

Figure 3: The space perception model of Hungarian speakers of Négyfalu

From all this it follows clearly that local people perceive spatial relations primarily not according to the cardinal points but rather from a human-centered perspective. The question is how much this spatial perception corresponding to an anthropocentric approach is influenced by the geographic location of one's home or by the topographical features of the environment. Considering that the cognitive map the residents of Négyfalu have in mind of their own hometown resembles much more an inclined plane sloping downward than a knobby crescent shape (as it appears for instance on the aerial map shown by the Google Maps satellite), we must conclude that it is definitely influenced by the former.

Penelope Brown, the researcher of MPI in Nijmegen, has observed something similar while studying the space perception of the Tzeltal community: the mountain represents the absolute point of reference for the speakers of the Tzeltal language, all spatial relations are grouped along the vertical UPHILL/DOWNHILL coordinate (Brown 2008). It is no accident either that the speakers of the Tzeltal language perceive the space around them in the form of an inclined plane, and speak of it in these terms, just like the inhabitants of Négyfalu.

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