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Places in Mind: Investigating the Link Between Language and Spatial Concepts

Abstract

The paper raises the question of culturally determined differences in the conceptualization of place and space. Several models have already been developed that can be used to study cognitive maps. However, they either targeted a specific type of environment or were not specific enough in terms of the type of places studied. The model developed by Katalin Reszegi, on the other hand, makes it possible to study all kinds of spatial concepts and their corresponding linguistic expressions, paying special attention to the role of toponyms. In the first part of the article, she presents her model and points out the elements and aspects that are particularly important for the cognitive map. In the second part, co-author Marie Rieger discusses two specific examples (from Tanzania) of differences in the conceptualization of space. In the first case, the example of Dar es Salaam shows that the concept of street names, introduced in colonial times, still plays a minor role in orientation in urban space. In the second case, the example of the Usambara Mountains is used to hypothesize that the utilitarian aspect can lead to different naming practices in terms of which types of places are given a name and which are not.

1. Introduction

The human mind creates representations of the spatial environment. The dynamic and subjective cognitive map[1] that facilitates orientation is built by means of the organization of these representations. The mental model of space, however, does not only include and operate the knowledge acquired by means of direct experience but also embraces knowledge from secondary sources about far-away regions. Thus, the cognitive map helps us orientate in completely different spatial dimensions, spatial sizes, as well as spatial levels and scales.

Toponyms also have a key role in spatial cognition as they greatly facilitate the recall of places and communication about them. We need to also consider the role of toponyms in organizing knowledge, since these name forms are suitable for associating knowledge deriving from different sources with the representation of particular elements of space. Some of the knowledge related to a place also appears in the name. Thus, by examining toponyms one can infer the spatial conceptualization of name givers. However, language is not a pure objective reflection of such concepts; due to linguistic categories (words i.e. what kind of geographical nouns there are in the given language, morphemes, etc.) language use is always a conceptualization – so the words of a language inherently convey a particular perspective and maybe also have an effect on spatial concepts, that is, the toponyms themselves may shape the processing of the space that might cause cultural differences in the conceptualization of the spatial environment. This was the common basic assumption when three years ago the authors of this paper started to plan a common research project. To do so, they first needed a descriptive framework that could be used universally to describe spatial concepts and spatial language, and the relationship between them. To find out more about cultural differences in the relationship between cognitive maps and toponyms, besides knowledge and

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[1] In this paper, following the practice of cognitive psychology *cognitive map* and *mental map* are used as synonyms to refer to the spatial representations of the outside world that is kept within the mind. In geography, however, *mental map* is often determined as an actual manifestation (usually a drawing) of this perceived knowledge (for the terminological issues see Kitchin, 1994, pp. 1–5).

research data about Western societies, they knew they should also consider investigations into non-Western societies regarding spatial conceptualization.

This paper gives an overview about the current results. The first section provides a brief overview about the descriptive model of the cognitive map and name giving that was worked out basically by Katalin Reszegi. In the second part, Marie Rieger will illustrate some aspects of the model with examples from Tanzania.

2. The model of the cognitive map and toponyms

To describe the cognitive map and related onomastic corpus and name awareness, onomasticians mostly use the model of urban planner Kevin Lynch (1960). According to this model, the elements of the cognitive map include paths, nodes, landmarks, districts, and edges.[2] Although Lynch's model was created in order to characterize the urban environment, according to recent studies in onomastics, it can also be used for smaller settlements and serves as a solid foundation also in studies of the onomastic corpus and name awareness (cf. Győrffy, 2018; Varga, 2020). It is, however, less useful in the case of studies concerning more extensive geographical space and natural geographical objects as well. The psychological model of Siegel and White (1975) might be more suitable in this case, which considers three components, three levels of the cognitive map: the most basic landmarks, the roads built along them, and larger scale surveys (for other models, see Down & Stea, 2011). But because it works only with three types of place categories, it is not specific enough for our purposes. Therefore, based on former models, a descriptive framework has been developed that may be used universally and that can describe the bidirectional relationship between spatial concepts and spatial language (Reszegi, 2019). The model pays special attention to toponyms in this process.

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[2] In the city people move along paths, these organize urban mobility. Edges separate different areas, districts. Districts are character areas perceived as thematic units. According to Lynch (1960), the nodes are the strategic foci of the city which can be entered, while landmarks are external features that act as reference points in wayfinding.

This paper cannot provide a detailed introduction to this model, but only give a very brief overview of the framework referring to the most important aspects that need to be examined.

2.1. Elements of the Cognitive Map

Space is made up of different **places** and their relationship. And these become represented on the cognitive map. Based on their **size** and **spatial extension**, we can distinguish between point-like or larger two- or three-dimensional places (settlements, districts, hills, hilltops, plow-lands, forests, lakes, etc.). Moreover, we can also talk about line-like places, such as roads, borders, or rivers. The **function** of places is also important in their representation and in discussion about them. From this perspective, landmarks as points of orientation may be distinguished from other elements in the spatial environment. We can also distinguish between artificial and natural places, while we may also introduce additional subcategories within these groups. These are obviously not exclusive categories, in fact, their distinction is not easy, as in many cases it depends on the scale how the given place is perceived. In the cognitive map these aspects are represented simultaneously as different knowledge elements of the same network. To get closer to the organization of the cognitive map we focus primarily on the function of places, acknowledging that this is not independent of the place's type.

Basically, the following elements and their linguistic expressions need to be examined:

(a) **Landmarks (orientation points).** Landmarks play a special role in the organization of the cognitive map; the complexity of spatial representations is built around them. A landmark is a unique arrangement of patterns of perception that identifies a geographical location. Such strategic focus points are used as references when interpreting our movement in space (Siegel & White, 1975, p. 23). Landmarks direct orientation mostly due to their nature that differs, stands out from the environment, and they may be completely different and may be both artificial and natural places and objects alike. Moreover, landmarks may be interpreted on different levels and in different contexts: a landmark may be a sign, a house, a tree or on a higher level, a settlement or country.

From the perspective of human communities, landmarks divide into two major groups. Some of them are known by the majority of those living there, these are venues of shared use of space, thus they are high in the hierarchy of places for such residents. At the same time, there are also individual landmarks on the mental map of individuals, such as their own residence, the residence of relatives, etc. All may serve as points of reference in the process of acquiring spatial knowledge. The cognitive map of children begins to be constructed exactly around these and they have a similar role later on as well (cf. Reszegi, 2016; Varga, 2020).

References to landmarks is of central importance also in discussions about space. Comparisons to these points are frequent also in speech about the surrounding area. Moreover, it is typical that people refer to nearby landmarks when describing pathways even in the case of places designated by their own name. Due to their prominent position, landmarks may be preserved on the cognitive map and featured in route descriptions in cases when in reality the place has already disappeared. At the same time, landmarks are not necessarily designated with a proper name (cf. e.g. Heinrich, 2000, pp. 19–21). In many cases, in connection with the narrower spatial environment speakers refer to them only with a common noun. This is partly because these are objects that do not necessarily have to be named based on the name model of speakers. The denomination and name-giving practice of landmarks, however, requires further studies in onomastics. It would also be worth examining when a point of reference has a name, how often it serves as the basis of names of nearby places, that is, how often it appears in other names and if there are cultural differences in this respect.

(b) **Mental spaces.** The perceptually processed other elements of the geographical environment are also represented on the cognitive map, practically, the points of reference may be interpreted in relation to these places as background. Another important feature of mental spaces is that they are places perceived as a unit, for example, settlements, districts; and a large number of natural objects, hills, plow-lands, forests, lakes, etc. Depending on how well we know the given environment the details of the mental representation of these places may vary greatly.

To describe the relationship between a cognitive map and toponyms, the categorization of places perceived as units also becomes important. The conceptual categories of place types gradually become more nuanced

in the process of getting to know the world and acquiring the first language. The perception of the categories of places and which geographical common noun is used to talk about them may be different in different cultures, which is influenced by numerous factors, for example, the geographical environment itself, the categories of the given language and so forth. Which types of places receive a name also varies from culture to culture. The categorization and conceptualization of space appears in name giving as well. In the case of toponyms, it becomes important to reveal how changes in the denoted place bring about changes in the relationship of the name and the denoted object.

Researchers have to bear in mind that the representations of places are associated with values, and therefore places considered important are typically perceived to be larger, while the less important areas are blurred. But the question again arises: how does place influence name giving and name usage?

(c) **Paths**. The main function of the cognitive map is to allow us to move around in our environment. The representation of paths and pathways is essential to this. Paths are quasi-one-dimensional places. At the same time, they may also be interpreted as spatial representations that include more complex information on the order of landmarks as well as metric data along the landmarks, while they can also be seen as the operation of this information, as a form of procedural knowledge (Buchner & Jansen, 2008).

Paths, streets, roads are especially important in the organization of the cognitive map of the urban areas in modern societies. On most residents' mental maps these are the most dominant elements. Movement, transportation take place along the paths, these are the framework elements of the urban image. Being socialized in an urban lifestyle as well as based on the names of roads found in the medieval onomastic corpus (cf. Hoffmann et al., 2018, pp. 455–457), we might suppose that the organization of settlements according to streets and roads and their naming represent general practice elsewhere as well. However, as the example of Tanzanian practice shows – detailed in Section 3.1 – it is not necessary at all.

Rivers can be described as places on the border of the categories of mental spaces and paths since they can be conceptualized as spatial units as well as places of movement and transportation.

(d) **Boundaries.** Boundaries can be interpreted in relation to two or more places, embody the end and the beginning at the same time; they can be

physical or immaterial borders. Natural objects, however, typically have no exact boundary. The places (even areas designated by toponyms) follow each other in patches on the mental map of the speakers (Heinrich, 2000, pp. 28–29), thus we can consider mostly blurred, uncertain boundaries and sometimes overlapping place representations. At the same time, boundaries are present on the mental map on a larger scale as well.

The boundaries mostly have no names. At the same time, despite their uncertain nature they might play an important role in the organization of discussion about space, directing the operation of the INSIDE-OUTSIDE dimension.

When a boundary is made up of an artificial or natural object, it is present on the cognitive map of people in a much more definite way, and they are typically also named, thus when talking about the boundary, this is how they also refer to the boundary itself. This may also be seen in the case of rivers functioning as boundaries.

2.2. Linguistic designations of places

Several issues come up in connection with the linguistic **designations** of places:

(a) Which places, which types of places typically receive names? (To be discussed in more detail regarding Usambara toponyms in Section 3.2)
(b) Which names are known more widely?
(c) What kind of name-giving traditions are connected to various places?
(d) Under what circumstances do speakers use names and when do they refer to the place with appellatives instead?

2.3. Relations Between Places

The cognitive map includes information not only on the different types of places but also **their relation** to one another and to the people moving in space.

(a) **Center–periphery organization.** One of the fundamental features of human cognition is that conceptual categories are built based on the prototype principle, some examples may be considered typical elements of the category, while others are less so or are only barely recognized. The center–periphery organization typical of conceptual categories may

also be identified in the representation of space. This approach influences the perception of the size of places: central places are bigger on cognitive maps as they are in real life, while the peripheral places are represented by smaller, blurred images or they do not even appear on mental maps (cf. Letenyei, 1993). The center–periphery approach is an important component also in the relations of name-giving and name usage as well as name awareness.

(b) **Directions.** Places are located at certain directions from each other, which is also represented on cognitive maps and references to direction also often appear in communication. The representation of directions is affected by the frame of reference (ego-centric, intrinsic or absolute, cf. Levinson, 2003) preferred in a given community.

   The linguistic elements indicating directions may also appear in toponyms. When analyzing them, however, we may notice that the spatial dimensions of the experienced world might be represented somewhat differently in the linguistic world. According to cognitive linguistic studies, the UP–DOWN, INSIDE–OUTSIDE, and NEAR–FAR relations are not necessarily organized according to verticality or horizontality but might reflect the center–periphery approach (the center is ours, the familiar, the one closest to us).

(c) **Distances of places.** Individuals also represent the distance of places relative to each other in their mental system at different scales. Distances may be interpreted on multiple levels. Beyond the environment known from people's own experience, information from other sources is also integrated into the cognitive map. The sense of distance, however, is influenced by several factors, such as, for example, the number of bends, the values associated with the place, the stereotypes of those living there (cf. McCormack et al., 2007), and as a result, distances are often represented on the cognitive map with distortions compared to objective measures (subjective distance or cognitive distance).[3] The subjective nature of the perception of distance relations is present also in communication and the interpretation of the CLOSE–FAR AWAY relations is also determined by associated values based on which they often become interwoven with the words indicating direction.

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[3] The perception of distances, the estimation of distance may take place not only based on the metric system, but might also be based on traveling time or converted into costs.

(d) **Part–whole, part–part, and spatial contact relations.** The cognitive
    map includes some additional relations of places since people structure
    local relations in a very rich way as the larger areas may be subdivided
    into smaller parts, and this will also appear on the cognitive map. Thus,
    the representations of places have special subordinate or juxtaposed rela-
    tionships. At the same time, the recognized local relations are also repre-
    sented, that is, spatial objects located next to each other are represented
    close to each other in conceptual space. In the background of the realiza-
    tion and operation of these relations there is a general cognitive ability
    called *metonymy*. As a result, we are capable of establishing associations
    between things, concepts that are in some way contiguous to each other
    and we may make deductions from one to the other (cf. Lakoff & Johnson,
    1980, p. 37).

2.4. Linguistic designations of relations of places

From the perspective of language, it has to be investigated:
(a) how these relationships appear in the discussion about space and in top-
    onyms,
(b) to what extent the name-giving and name-usage traditions seen in some
    areas may be considered as universal or typical only of the given com-
    munity.

3. Data from Tanzania

The idea of a joint paper arose when we discussed some peculiarities that had
come up during toponymic research in Tanzania in 2019. Originally, we had
planned to use Katalin Reszegi's model to investigate the relationship between
the cognitive map and the related onomastic corpus and name awareness using
the example of Tanzania. In doing so, the questions listed in Section 2.2 should
have structured the field study to be conducted in June 2020. In this way, we
wanted to contribute to answering the question raised in Section 2.4: to what

extent may the name-giving and name-usage traditions seen in some areas be considered either as universal or typical only of the given community?

As one might imagine, the study could not be conducted due to the COVID-19 pandemic. Therefore, in the following part, we will only take up some of the points explained in the first part, namely the different weighting that can be attributed to the elements that make up our cognitive map of urban spaces, as already mentioned in Section 2.1. Thus, using Dar es Salaam as an example, we will show that the pathways (streets, roads) – so important in the cognitive maps of Western societies – are not dominant everywhere. On the other hand, we will use the example of the Usambara Mountains to show that the question "Which places, which types of places do typically receive names?" (see Section 2.2) can be answered quite differently depending on one's cultural background.

3.1. Urban space

The beginnings of Dar es Salaam, Tanzania's longtime political and still economic and cultural center, date back to the 1860s, when Sayyid Majid, the then Sultan of Zanzibar, decided to build a city on the mainland.[4] An early sketch map of Dar dates back to 1867 and shows the Sultan's palace, the barracks, the Sultan's coconut plantations, and a number of wells (DARCH, 2017, p. 20). Because of Majid's unexpected death in 1870, the plan of building an "artificial boom-town" (Sutton, 1970, p. 7) around the natural deep-water port was abandoned. Instead, "a more natural and viable economic system developed" (Sutton, 1970, p. 7) until the second half of the 1880s when German colonizers occupied the site and, in 1891, made it the capital of German East Africa. The colonizers' ideas of urban planning were codified in the building regulations for Dar es Salaam in the form of uniform street frontages along predetermined street lines (DKB, 1891, pp. 336–338). Examining streets and street names on a map dated 1891 (DARCH, 2017, p. 32) suggests that at least the main street of the city center dates back to the Zanzibari period, for the map indicates two names, the German name *Hauptstraße* ('Main Street'), which is prefixed

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[4] On the city's history see Sutton, 1970; Becher, 1997; Kohlert, 2005, pp. 45–115; Brennan & Burton, 2007; DARCH, 2017.

in brackets to the original name *Barra-rasta* [sic].[5] Finally, a city map from the late German period (DARCH, 2017, p. 43) shows a well-developed city center where nearly all streets are named.[6] After World War I, when German East Africa became a British protectorate, and after Independence in 1961, the existing street names were retained, some simply in translated form, while others were adapted to the new political situation.

But although street names had existed since the city's founding and Dar es Salaam could have set an example as the country's longtime capital and cultural center, the idea of organizing settlements based on street names and house numbers remained foreign to Tanzanian culture:

> FINDING YOUR WAY AROUND TANZANIA's capital city of Dar es Salaam can be a nightmare. Most of the suburbs, planned or otherwise developed in the late 1960s, may have streets but these are not named and the houses are not numbered. Traditionally, in this city of three million people spread over 1,300 km square, you are given directions using landmarks such as mosques, trees, schools, bars, hotels and churches.[7]

As already addressed in the first part, according to Kevin Lynch (1960) there

> seems to be a public image of any given city which is the overlap of many individual images. (…) Such group images are necessary if an individual is to operate successfully within his environment and to cooperate with his fellows. (p. 46)

Based on texts such as Kironde's[8] and on personal experience, it seems that the public image of Tanzanian cities is dominated by two of the five elements that Lynch argues are characteristic of mental cityscapes, namely "districts" and "landmarks" (Lynch, 1960, 46 et seq.), or according to our model landmarks

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[5] According to Burton, *Barra Rasta* was a Hindi name meaning 'big road' (2005, p. 45).

[6] On multicultural aspects of street naming in Dar see Rieger, 2021.

[7] The article "Dar's lightless, nameless maze" by Lusugga Kironde was published by the Kenyan weekly newspaper "The EastAfrican" on Monday August 1, 2005. The author can provide a copy upon request.

[8] A similar text, entitled "Postcode System to Ease Communication", was published by the Tanzanian newspaper "Daily News" on September 11, 2012. The author can provide a copy upon request.

and mental spaces.[9] Urban space is perceived as consisting of neighbourhoods, orientation is based on landmarks including houses of known people, while PO boxes are used for postal services.

The technological needs of globalization, such as delivery services and GPS-based systems, prompted the Tanzanian government to begin implementing a nationwide postal address system about 10 years ago, which in turn requires street names throughout the country. In Dar es Salaam, progress in project implementation can be seen in the systematic installation of street signs. These bright yellow signs with black writing not only facilitate orientation – at least for Westerners – but also give a linguistic indication both of the colonial origin of the concept and of the traditional district-oriented organization of urban space, for on one side of the sign the generic element is written in English, on the other side in Kiswahili, for example, *India St.* and *Mt. India* where *Mt.* stands for *mtaa*. Looking up the Swahili noun *mtaa* in colonial dictionaries, it is uniformly translated by the concept of 'town quarter',[10] while the corresponding entry in the contemporary dictionary edited by the "Institute of Kiswahili Research at the University of Dar es Salaam (TUKI)" reads: *mtaa* 'town quarter; street/avenue' (TUKI, 2001, p. 224). Thus, the meaning of *mtaa* now includes two types of places, that is, "district" and "path".

3.2. Landscape

As in the case of urban space, it was the comparison between colonial and contemporary data that suggested possible differences in the perception of landscape, specifically in the perception of the Usambara Mountains, a mountain range in north-eastern Tanzania. Due to their inaccessibility and exceptionally stable climate that reliably provides sufficient rainfall, the Usambaras have been a safe haven for people in search of better living conditions for thousands of years.[11] Thus, there were a considerable number of settlements when the Austrian cartographer Oskar Baumann explored the area in 1888

[9] On Lynch's elements see Section 2.
[10] See Seidel, 1902, p. 113; Velten, 1910, p. 283; Steere, 1919, p. 346; Cavicchioni, 1923, p. 165.
[11] On the environmental and human history of the Usambara Mountains see Conte, 2004.

and a second time in 1890. His two travelogues, published in 1890 and 1891, contain countless details about people and nature as well as more than 140 toponyms referring to some 240 geo-objects in the Usambaras and their immediate surroundings.[12]

In 2019, a field study was conducted to determine if the place names recorded by Baumann are still in use, or at least still remembered. In this way, the reliability of the toponymic information contained in the two travelogues should be evaluated.[13] Baumann himself was well aware of some of the problems involved in asking for toponyms. A first difficulty arose from the fact that the people living in the Usambaras, the Shambaa, spoke their language, Sambaa, while Baumann and his native companions communicated in Kiswahili (Baumann, 1890, p. 71). Baumann was also convinced that place names were considered a kind of secret knowledge among many peoples and were therefore not revealed to strangers. He tried to circumvent this obstacle by always having his servants – who, as mentioned, did not speak Sambaa – ask for place names (Baumann, 1890, p. 71). It may be that some people were reluctant to share toponymic information, but in other cases the difficulty may have arisen simply because there were different ways of perceiving and mentally organizing the environment. According to Gräbel (2015), for example, when the German geographer Jäger asked his guide for the name of an inconspicuous stream, he received no answer because the question simply seemed absurd to his guide (p. 206).

Through on-site interviews and by consulting modern maps and texts, it was possible to determine that a good 100 of the approximately 140 toponyms recorded by Baumann are still existing place names in Shambaai, 'the land where the Shambaa live', as the Usambaras are called in Sambaa. This rather unusual stability of the toponymy is quite plausible, because the

> borders of the chiefdoms at the edges of Shambaai were stable over long periods of time. Each chiefdom had a permanent town as its capital, as well as a number of permanent villages. A great many Shambaa villages have existed in their present locations for the past hundred to two hundred years, perhaps

[12] On the Usambara toponymy recorded by Baumann see Rieger, 2020.
[13] The findings of that study were presented at the "Fifth International Symposium on Place Names (ISPN)", 18–20 September 2019 in Clarens, South Africa.

longer. (...) In many African societies, a village moves each time the soil near it is exhausted. The Shambaa villages were permanent because they were residences, and not the actual locations of most economic activities. (Feierman, 1974, p. 29)

However, a closer look reveals that there are significant differences in terms of the geo-objects to which the names refer, two of which are particularly striking.[14] First, as can already be guessed from this quotation, today a much larger number of the still existing names refer to settlements. Related to this is the fact that only three of the 25 names Baumann considered oronyms denote high ground, while the rest are settlement names. But that is not all: although the Usambaras consist of a succession of hilltops and ridges, my informants generally knew very few oronyms.

In our opinion, these differences are too striking to be purely coincidental. Rather, they seem to point to fundamental differences in the conceptualization of mountain landscapes. In her study of the conceptualization of landscape in Mbukushu, a language spoken in the border region of Namibia, Botswana, and Angola, Birte Kathage (2004) points out that cognitive maps are created from the point of view of the usability of the natural environment and that primarily those units are mapped that serve livelihoods (p. 51). This confirms the assumption made in Section 2.1 that the function of places is also important in their representation and in the discussion about them. With regard to mountain landscapes in Europe, Drummond states:

Historically, high ground was economically marginal, although it may have been used for pasture (especially of a transhumant nature), hunting, or mining. However, over the last century and a half, the human activity of climbing mountains simply for pleasure has led to a greater focus on their names, with in some cases new names being coined, either to replace an older extant name, or to fill a gap where no name existed. (Drummond, 2016, p. 115)

In fact, Baumann – like other European travellers – was quite impressed by the mountainous environment which reminded him of the European Alps

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[14] It is important to note that these names refer to geo-objects located in the same micro-areas.

(1890, p. 84; 1891, p. 102).[15] At the same time, as a cartographer, it was, of course, essential for him to know the names of elevations.[16] For the Shambaa, on the other hand, the ridges and hilltops have always been primarily places to build sheltered villages: "Among the older Shambaa population the basic political unit was the single village, built on a hilltop or along the crest of a ridge" (Feierman, 1974, p. 78). It is therefore quite conceivable that Baumann – not only because of the considerable language problems, but also because of different conceptual worlds – received settlement names instead of the expected oronyms in a number of instances. The case of the sacred mountain *Kwa Mongo* '(the place) belonging to God', supports this thesis, for the mountain is still used for life-sustaining rainmaking rituals.[17] It is therefore, in Kathage's sense, a "useful place" and all my informants were familiar with the oronym.[18]

In other contexts, too, a certain difficulty in assigning toponym and referent is revealed by the fact that Baumann refers the same name to different geo-objects, which in turn explains the large numerical difference between toponymic tokens and types. A good example is the toponym *Hundu*, which according to Baumann refers to both a village (1890, pp. 61, 64; 1891, p. 191) and a district (1891, pp. 189, 190, 191). Furthermore, there are *Hunduberg* 'Mount Hundu' (1890, p. 63), *Hunduthal* 'Hundu valley' (1890, p. 63), *Hunduflüsschen* 'Hundu rivulet' (1890, p. 63), and *Dörfchen Unter-Hundu* 'hamlet of Under-Hundu' (1890, p. 64).

Some uncertainty regarding the referent of a toponym may also have arisen in connection with the Sambaa noun *shi*. In early dictionaries, it was translated simply as 'country'.[19] However, it referred to and still refers to not only the concept of 'country', but also to territorial units such as 'part of a country', 'kingdom', 'subkingdom', 'district'. Thus, the land where the Shambaa live, is of course *shi ya Shambaai*. However, certain districts within Shambaai are also referred to as *shi*, for example *shi ya Vuga* and *shi ya Mlalo*. Here, the designation *shi* underscores the importance of the two towns, for Vuga was the capital of the Shambaa kingdom, of which Mlalo, in turn, was a prominent sub-kingdom and village.[20]

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[15] On this point see also Conte, 2004, p. 11.
[16] We owe this important hint to Wojciech Włoskowicz.
[17] Personal information by anthropologist and Sambaa native speaker Dickson Shekivuli.
[18] Baumann also mentions the mountain in both travelogues (1890, p. 100; 1891, p. 175).
[19] See Steere, 1867, p. 16; Seidel, 1895, p. 98; Sachau, 1912, p. 92.
[20] Personal communication by Dickson Shekivuli.

4. Conclusion

In this paper, Katalin Reszegi first presented her model of the cognitive map and toponyms (Section 2). In contrast to earlier models, this model is not limited to specific environments, but represents a universal descriptive framework that can be used to capture the bidirectional relationship that exists between spatial concepts and language. In the present context, it is particularly interesting that this framework can be used to identify differences that exist between different cultural groups with respect to the conceptualization of space and the linguistic processing of these concepts. In the second part, Marie Rieger (Section 3) used two examples from Tanzania to show which differences the practical application of the model could bring to light.

We would like to conduct the originally planned field study as soon as it becomes possible again. From the data available to us so far, extremely interesting fields of investigation are emerging: given the transitional situation in Dar es Salaam, a future field study would allow us to assess if/to what extent the recent systematic introduction of street names and addresses is affecting the way residents see their city and orient themselves in it. Residents were also asked to choose a name for streets that are still unnamed.[21] An on-site survey could not only collect these names, but also investigate the process of naming and the respective naming motives. With regard to Usambara, the focus is also on the question of how people orient themselves in space. The focus here, however, would be on the spatial language in Sambaa as well as on the linguistic structure of toponyms.

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[21] Personal communication by Benjamin Kinyamasongo, my Kiswahili teacher in Dar.

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