

THE ROLE OF THE MENTAL MAP IN SOCIO-ONOMASTIC RESEARCH¹

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Abstract: This paper aims to introduce a new method to examine the variations and the use of toponyms. This method is mental mapping. The mental or cognitive map is an interdisciplinary notion used in, e.g., psychology and geography, and refers to the representation of space in the mind. During mental mapping (especially when the process is made with more than one person at the same time), the subjects do not focus on the toponyms, so the scholar can observe their use in a nearly spontaneous situation. In my paper I represent the results of my experiment carried out in the name community of the settlement of Tépe, Hungary.

Keywords: socio-onomastics, mental mapping, cognitive map, toponyms.

1. The usage of names and variations constitutes the core of socio-onomastics, and their study cannot disregard the social, cultural and situational aspects of names. Developing Tolcsvai Nagy's views on proper names (2008), István Hoffmann (2010) went as far as to complete the classical, multi-factor concept of meaning structure devised by Katalin J. Soltész (1979; a name has denotation, connotation, common name meaning and etymological meaning) with a fifth element, i.e. cultural meaning. Without this aspect toponyms remain mere linguistic signs, whereas from the viewpoint of the usage of names, that is to say, looking at them through their socio-cultural rootedness, we may be able to grasp their role in communication.

The meticulous study of toponymic competence, which primarily applies the method of interviewing with the help of questionnaires, looks back on the longest and richest history within socio-onomastics. Although this method is neither particularly time consuming nor difficult to apply, it cannot be considered thorough, because it fails to grasp differences between individuals. Furthermore, while during the study of toponymic competence we need not only examine whether the interviewees are familiar with the toponym but also if they can localize the name, during interviews with questionnaires differences of this kind are more difficult to tackle. Therefore, in my paper I aim to direct attention to the possibility of the use of another method, namely mental mapping.

2. Although at first the concept of the cognitive or mental map emerged in

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psychology, nowadays it is widely used in geography, cultural anthropology and applied sciences (such as urban development), which shows well the inter-disciplinary nature of the notion.

The concept of *cognitive map* was first used by the American psychologist Tolman (1948) for the description of his experiments on the process of how rats learn about places. The next milestone in the study of the nature of the mental map came with Kevin Lynch's work, published in 1960 under the title *The Image of the City*. As an urban planner, Lynch approaches the question of the conscious representation of space from a practical point of view: through the examples of Boston, New Jersey and Los Angeles, he examines how to construct an "easily legible" settlement, a city whose spatial structure is easily understandable for its inhabitants. In his work Lynch does not use the term *cognitive map*. Instead, he uses the notion of *image* to denote the representation of space in the mind.

Lynch believes that our mental notion of space is a composite of five pieces of information: paths, edges, districts, nodes and symbolic landmarks. One of the most prominent organising elements of settlements is the network of roads in a wider sense: this includes channels, railroads, underground lines and promenades. Similarly important are edges from the aspect of linearity, which separate different areas of the settlements (e.g. seashores, city walls). When it comes to districts, it is important to note that it is especially city dwellers who think in terms of regions, districts and quarters. Nodes also facilitate orientation: among these we can mention the busiest crossings, for instance, Times Square in New York or Moscow Square (today known as Széll Kálmán Square) and Nyugati Square in Budapest. Lynch's landmarks are buildings that have become symbols, such as the Eiffel Tower of Paris or the Big Ben of London.

The general mental image of the external environment emerges from momentary perception and memories of experiences from the past. Thus, the mental map results from a two-way interactive process which emerges between the observer and the environment. This implies also that the mental image will differ from individual to individual, yet Lynch assumes that there exists a collective (spatial) image that is formed based on consensus. Individuals belonging to each homogenous group are similar with respect to their sex, age, occupation, temperament and familiarity.

After these first initiatives, the following decades witness the rise of behaviourist geography, which culminates in the programmatic writing of Downs (1970) and followed by his volume with Stea (1977). In the introduction to their work, they emphasise that the knowledge related to places is innate and we are faced with its functioning, or rather the lack of it, when we get lost.

In their work *Maps in Minds*, Downs and Stea introduce the concepts of *cognitive map* and *cognitive mapping*, which is an abstraction covering those cognitive and mental abilities that enable us to collect, organize, store, recall, and manipulate information about the spatial environment. These abilities change with age (or development) and use (or learning) (1977). Therefore, the cognitive map is an organised representation of the individual's spatial environment. When interpreting this concept, Cséfalvy

(1990: 17) points out that the mind should not be thought about as some kind of inventory of maps, but rather, the representation of space in the mind takes on the form of “conceptions and misconceptions, illusions and prejudices, desires and real data”.

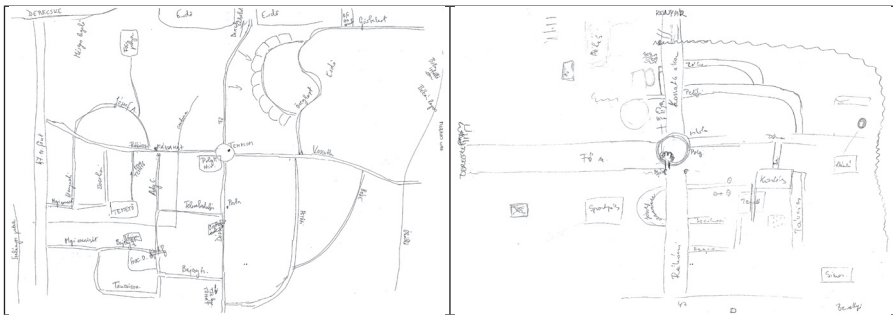
It is noteworthy that for the authors the notion of *environment* refers to the individual's life space, that is, the space where they live their lives day by day. This space has special significance for the individual – therefore, it is also represented in the mind. However, cognitive mapping should be thought about rather flexibly: it is not only a visual representation of the world, but for some people even sounds, smells or metaphors may serve as representations. Although the ability of cognitive mapping is innate, it undergoes a qualitative development. The emergence of the cognitive map is equally influenced by individuals' perceptive abilities, age, life experiences, attitude and personal inclinations.

While earlier works focused mainly on cognitive mapping, in the last decade of the 20th century the question of modelling shifted into the foreground. In her 1993 study, Barbara Tversky articulated her dissatisfaction with the term *cognitive map* (which, according to her, fails to reflect the complexity and richness of our knowledge related to space), and instead proposed using the terms *cognitive collage* and *spatial mental models*. Tversky treats the question of mental representation of space with a constructivist approach. In several cases, this representation is not map-like at all. Moreover, it does not even form a coherent cognitive structure. It rather resembles a collage: you should think about it as different overlays of multimedia from different points of view. Our information on space may even be faulty, not to mention that a part of the pieces of information may not be integrated at all. When we need to make decisions or recollections about space, we rely merely on relevant pieces of information. In some cases, however, when the environment is simple or familiar to the individual, a fairly accurate mental representation may emerge: this is what Tversky calls a *spatial mental model*. These models are produced from basic spatial relations: the relation of different elements to each other from a given perspective or the relation between elements and the reference frame. Such models are easily comprehended from language, because language is rich in expressions that reflect categorical spatial relations. Furthermore, language plays a prominent role also because during orientation in addition to personal experiences pieces of information gained from verbal instructions also shape our spatial mental models (see e.g. Taylor and Tversky 1992: 290).

3. For experimental purposes, I prepared mental maps with five individuals: I interviewed a man and a woman in their 40's, and two women and a man from the age group above 61. Nevertheless, only two of the five interviewees were able to prepare mental maps, as the three older subjects could not render a map-like representation. This fact reveals that making a cognitive map explicit through drawing is not at all self-evident and is also influenced by other factors: on the one hand, by the interviewee's drawing skills (although this factor may be eliminated if we make the drawing ourselves) and, on the other hand, by their previous cartographic knowledge. In any case, the drawing expresses the cognitive map only in a certain respect, since the

map integrates several other kinds of knowledge. Even though some of the subjects had not been able to create a map, I also used the interviews where no drawing had been produced, because these interviewees wandered across the cognitive map in their thoughts, which provided important pieces of information about their mental maps.

First, let us look at the two completed mental maps. We can observe that, in spite of my request to sketch the whole settlement, the subjects focused almost exclusively on the intra-urban area. Extra-urban areas, if represented at all, appeared on the maps with rather distorted proportions which do not correspond to their real size. The female interviewee articulated the reason for this: “For me this is the village. This is where we used to play.”



Figures 1 and 2. The mental maps

Both subjects started the drawing by depicting the main node, the bus stop, which is the centre of the settlement, as all of the important “institutions” are located right there or in its vicinity. This point also has a distinguished place on the mental map of these interviewees. They depicted the four large streets of the village in relation to this node, which in their rendering gave a characteristic cross-like shape to the intra-urban areas. After this, both of them proceeded with depicting the network of streets, marking the points of orientation and landmarks known to all of the villagers (e.g. the church, the school and the post office).



Figures 3 and 4. A mental map and the Google map

Comparing these mental maps with the actual view of Tépe, in this case its Google satellite map, we can see that the above-mentioned cross shape is not at all as prominent as emphasized by the drawers. The proportions are completely different: significant parts are depicted as much larger, whereas unfamiliar or insignificant areas are mere white spots. The mental maps feature no clear edges and the borders of the settlement are only symbolic.

4. From the perspective of socio-onomastic research, the communication emerging during the creation of mental maps is particularly important, because it provides useful material also for the study of names. Even interviews with a single subject may provide rich material on the usage of names, but if the pool of interviewees is larger, we can also examine the strategies used for the harmonisation of mental maps. During my research, I carried out such interviews with a couple. Below follows a summary of the conclusions drawn from these interviews.

The onomastic corpus of Tépe – like all other onomastic corpora – includes some denotata with several names. In Tépe, there are a few places that bear both an official and a vernacular name. However, one of these names belongs to the main brook of the village, called *Kálló*. Although the inhabitants of Tépe do use this official name, they prefer to call this stream *Szalányos*. In addition, when preparing their mental maps, they mentioned it also under the name *Nagy-kubik*. I find it noteworthy that the latter is not a denomination, but merely an expression. When I asked if the formation is a name, my interviewees denied it, still the expression appeared during several interviews in connection with the brook. In her research, Andrea Heinrich (2000) has already raised the question of names that are on the border between proper names and common names. We are facing the same question in the case of the name *Nagy-kubik*. The name users of Tépe also applied the geographical common name *kubik* ('trench') during the preparation of their mental maps. This linguistic element can make a distinction when talking about parts of the village beyond Road 47, since the area has only one larger channel. Nevertheless, we cannot consider it a toponym, nor do the inhabitants of Tépe themselves look upon it as a name, as in other parts of the village the same word, *kubik*, is used to denote other channels of the settlement. However, *Nagy-kubik* ('big trench') has its counterpart in the correlating name *Kis-kubik* ('small trench'). In my view, this linguistic element can be considered a name, even if users of the toponym do not consciously attach such status to it. If we accept the assumption that names emerge gradually, in this very case of different names used to refer to the brook we are facing different phases of the process of the emergence of names.

At this point, I would like to underline that for lay users of names the status of the name is also linked to the question of prestige. Whatever is mentioned in an official document is considered a name; in other cases they add the following comment when mentioning the name: "we call it AC", "we call it *Csendőr-cikkely*". However, this is exactly the focal point of our research: the way locals talk about something.

Nevertheless, the co-existence of several names is also manifested in other

aspects. In the extra-urban areas of Tépé, the naming of different plots of land is often determined by who the owner is. The ownership of lands has undergone fundamental changes over the decades, yet the names seem to have remained conservative and they did not always follow the changes, resulting in a situation where old and new names co-exist so that there is no difference in status between the old and the new names: A: “There you can find the *Pedagógus-föld* (‘educator’s land’).” B: “Yes, that is *Eklézsia* (‘ecclesia’).” The example reveals that on the couple’s mental maps different names are associated with the marked land. While the man uses the more recent name, the woman names the same land referring to the earlier owner. Yet since both of them are familiar with both names, the difference in the usage of names causes no confusion. However, according to the content of the mental map, in other cases the speaker may require some complementary information: A: “The land that belongs to Laci Gál?” B: “Yes, that one. It used to belong to the wife of Mihály Szénási.” A: “Then call it like that, after him who is its owner now.” In other situations, the co-existence of names appears naturally in other speakers’ usage – the following answer was given spontaneously when talking about a plot of land: “It is called *Rektor-föld* or *Kelemen-föld*”.

Thus, we can observe that the mental map consists of different layers overlapping in time and space. For my elderly interviewees, who have a rich knowledge of toponyms, names are often linked to the past: “We still call every piece of land as it used to be called.” Wandering across one’s mental map can be considered a stroll in the past, as mentioning certain names triggered names denoting specific eras: “Once, there was a well, we called it *László-kút*, we, who worked with the tobacco, in the 1960s”; “[this land] was called *Tanknyomás* in the 50s and 60s”; “*Pótlékok*, they were plots in the self-employed era”.

According to my observations, wandering across the mental map distracts the interviewee from the use of toponyms. This and the fact that during my prior studies I had become well acquainted with the toponyms of Tépé, which was obvious to my interviewees as well, generated a situation that, from our perspective, was very close to spontaneous communication. This special situation also drew my attention to the phenomenon that under such circumstances the names that during the collecting of toponyms had been identified to have both short and long variants (e.g. *Dallasz* ~ *Dallasz-tanya* (‘Dallas’ ~ ‘Dallas farm’), *Békás* ~ *Békás-föld* (‘froggy’ ~ ‘froggy plot’), *Szerfás* ~ *Szerfás-erdő* (‘timber’ ~ ‘timber forest’]) appeared predominantly in their shorter form. Consequently, it seems that longer variants are used when a name user strives at giving more exact information by mentioning the type of place. When I was at the beginning of my work, the inhabitants of Tépé believed that using geographical common names would facilitate the categorisation activity, making it easier to comprehend and anchor the names. However, after I had become familiar with the names and the denoted places – apparently –, these pieces of information came to be considered superfluous, just like it would in a name community.

Nevertheless, in addition to the mentioned dimensions, other types of information are also triggered during the preparation of a mental map. A sub-discipline of

socio-onomastics, namely folk onomastics, may benefit from the study of name etymologies. The following are good examples in this respect: “It is called AC, because in the times of the collectives pipes were installed there. ... in Hungarian it means pumping station.”

The circumstances of the coinage may be revealed through the explanations as well: “In the early times of collectivisation this plot of land was called *Kapás* [*kapa* ‘hoe’, meaning ‘a piece of land cultivated by hoeing’], they were trying to sow it with alfalfa, so that later on they would cultivate it by hoeing, because seeding is easier like that, and then the name *Kapás-dűlő* (‘hoe land’) was kept.”

The stylistic value of the name is also integrated into a mental map. This is obvious in the case of the toponym *Dallasz*, for which the name users asked me not to register the name, fearing that the owners might disapprove of it: obviously, the name users consider the toponym offensive, even though it is widely used and is not meant to insult the owners. However, at the moment of the coinage it might have had such connotation, as the farm was built in the 1990s, when the television series *Dallas* was broadcast in Hungary and the reference to the series is clear to many even nowadays.

The size and shape of the land, as well as its form of cultivation are also naturally linked to particular elements of the mental map: (about *Legény-dűlő*) “thirteen point something hectares”, (about *Görbe-kert*) “grain is sown here, it is not a garden anymore”, (about *Csonka-Horgas*) “it goes up till *Hármashatár*, in a strange zigzag shape”.

The names also evoke significant events that took place in the designated areas. These make the mentioned places comprehensible to others as well. The toponym *Liliomos* (‘lilies’) triggers tragic associations because of a fatal incident: “*Liliomos* ... do you remember? it is where *Imre Szóke* hanged himself”. A memorable dispute is evoked in this example: “at the *Öreg-kert* where they quarrelled over the pasture”. The following toponym reveals strong family bonds: “My father was a herdsman there, at the *Kovács-tanya*”.

Furthermore, creating a mental map also enables us to examine attitudes related to the names. The settlement of *Tépe* can be considered ethnically homogeneous; therefore, its places and toponyms do not reflect positive or negative biases. Nevertheless, personal ties can be identified in statements like “Now we have arrived home, we are in *Legény-dűlő*”.

5. Of course, the pieces of information presented above may also be triggered by or abstracted with other methods, for example, even during a simple chat. Yet the creation of mental maps focuses on places and their names, which encourages the speaker to talk about these in the most natural way.

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