



Micro toponyms As Knowledge Structures And Conceptual Metaphors: A Cognitive-Linguistic Approach

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ABSTRACT

This article examines microtoponyms as cognitively grounded knowledge structures and conceptual metaphors within the framework of cognitive linguistics and cognitive onomastics. It argues that place names function not merely as referential labels but as compressed cognitive frames that encode complex, culturally embedded knowledge about geographical space. According to D.U. Ashurova, M.R. Galieva frames represent a complex knowledge structure including a group of related words and concepts¹. Drawing on Conceptual Metaphor Theory and frame semantics, the study explores how metaphorical mappings—such as Place IS Person, Place IS Animal, and Place IS Natural Object—structure the conceptualization and evaluation of places.

Using examples primarily from Uzbek and broader Turkic toponymy, with comparative references to English naming traditions, the research demonstrates that microtoponyms activate both core and peripheral frames, encompassing geographical, historical, cultural, and evaluative dimensions. Particular attention is given to the role of image schemas (e.g., CONTAINER, PATH, CENTER–PERIPHERY) in organizing spatial cognition and to the distinction between descriptive and evaluative metaphorical models.

The findings reveal that metaphorical toponyms exhibit a bidirectional relationship with reality: while physical and cultural features motivate naming, the resulting metaphors simultaneously shape perception, emotional attitudes, and collective memory. Furthermore, the study identifies both universal cognitive patterns and culture-specific preferences, highlighting the prominence of nature-based and spiritually motivated metaphors in Uzbek and Turkic contexts.

The article concludes that microtoponyms serve as dynamic instruments of cognition that contribute to the construction of the national worldview, reinforcing cultural identity and structuring mental representations of space.

Keywords:

Cognitive linguistics; cognitive toponymy; microtoponyms; conceptual metaphor; frame semantics; knowledge structures; spatial cognition; image schemas; national worldview; cultural linguistics; metaphorical mapping; Uzbek toponymy; Turkic languages; linguistic worldview; onomastics

Introduction

In the framework of cognitive linguistics, place names (toponyms) emerge as a vivid

verbalization of deeply rooted knowledge structures. These structures, in turn, form the foundation of the national world picture — a

¹ D.U. Ashurova M.R. Galieva Cognitive Linguistics Tashkent 2018 p.84

collective conceptual system through which a culture perceives and interprets reality. As it was noted by D.U. Ashurova and M.R. Galieva, 'the national world picture is verbalized with the help of nationally-specific linguistic expressions, to which the followings are referred: non-equivalent lexics (names of clothes, meals, objects of daily round), anthroponyms and toponyms; names of holidays, tradition; and etc. [Ashurova, Galieva. 2019, 43,44]. Toponyms, as proper names for places, challenge rigid designator theories [Kripke, 1980] by retaining motivational transparency that influences perception and construal [Van Langendonck, 2007; Stolz, 2019]. Space is never perceived in a purely objective manner. Instead, it is actively structured by human cognition through image schemas such as CONTAINER, PATH, and CENTER-PERIPHERY. Toponyms thus serve as linguistic instruments that reveal how different languages and cultures organize spatial cognition in distinct ways — some emphasizing descriptive names for practical navigation, while others treat them as symbolic or evaluative labels.

When toponyms are examined from a cognitive perspective, the concept of cognitive toponymy becomes essential. According to N.D. Golev and L.M. Dmitrieva, "a different reference point arises in the cognitive analysis of place names: it is the linguistic consciousness of native speakers in which these place names function" [N. Golev and L. Dmitrieva 2008]. This thesis underpins the entire field of cognitive toponymy.

A toponym functions as an access point to a complex "frame" — a structured bundle of related knowledge elements that includes geographical, historical, cultural, social, and economic facets. For instance, the name "Tashkent" (literally "Stone City") instantly evokes not only its status as the capital of Uzbekistan, but also associations with its population, climate, historical significance along the Silk Road, and cultural heritage. Beyond this core frame lies a rich network of connotations that enrich its encyclopedic meaning.

Many toponyms arise through metaphorical conceptualization. In this process, the place (as the target domain — an abstract or complex geographical and cultural entity) is understood via a more concrete and familiar source domain (such as an object, animal, person, quality, or event). This cross-domain mapping generates compact linguistic expressions that activate inferences, shape evaluations, and embed the place firmly into both individual knowledge structures and the broader national worldview. The present article explores metaphorical toponyms as compressed cognitive frames within the context of cognitive onomastics. It examines common patterns of metaphorical mapping (e.g., Place IS Person 'Shayxontahur', Place IS Animal 'Tuyatortar', Place IS Plant 'Bodomzor'), their bidirectional relationship with reality, and their role in revealing culture-specific priorities. Special attention is given to Uzbek and Turkic examples, where metaphors often draw from nomadic heritage, Islamic traditions, and the natural environment.

By analyzing toponyms through the lens of Conceptual Metaphor Theory and frame semantics, the study highlights how these names are not static labels but dynamic tools that influence spatial reasoning, emotional attitudes, cultural memory, and collective identity.

Literature review

If we try to study place names in frame of cognitive linguistics, place-names could be represented as verbalization of knowledge structures. There is no doubt that the knowledge structures build the national world picture. According to M.R. Galieva 'The national world picture is verbalized with the help of nationally-specific linguistic expressions, to which the followings are referred: non-equivalent lexics (names of clothes, meals, objects of daily round), anthroponyms and toponyms; and etc.²

Conceptualization of space in toponymy is not just simple phenomenon as space is not perceived objectively, it is structured through

² D.U. Ashurova M.R. Galieva Cultural linguistics T.:2019 p.44

human cognition. As it was mentioned by N.V. Kurkova 'The lexico-grammatical markers of the conceptualization of a toponym are its derivational activity and the expansion of its syntagmatic relations'³. Toponyms show how languages structure spatial cognition differently (e.g., some cultures rely more on descriptive toponyms for navigation; others treat them as pure labels). This relates to image schemas (e.g., CONTAINER, PATH, CENTER-PERIPHERY) underlying spatial understanding.

When the research is based on toponyms and if they are examined through cognitive linguistics the term cognitive toponym must be mentioned according to N. Golev and L. Dmitrieva: "The starting point of cognitive analysis is the analysis of how toponyms exist in the brains of people, the study of the regulations of this or that consciousness. It is this thesis that goes through the concept of "cognitive toponymy"⁴.

Toponyms evoke frames (Fillmore, 1985) and image schemas: CONTAINER for bounded settlements, PATH for rivers/roads, UP-DOWN for elevations (Johnson, 1987). A toponym evokes or embodies a frame. Frame — is a structured bundle of related knowledge elements (facets or slots) about a place. The frame in cognitive linguistics defined as representation of a complex knowledge structure including a group of related words and concepts. So, if we study place names as a frame in case, we can find out that there are two types of frames: core frame and its connotation.

The core frame in means of place names represents the place itself for example: "Tashkent" it can be considered as a capital city, of Uzbekistan, when we hear the name, it evokes different associations related to its population, climate, historical role on the Silk Road, cultural significance, daily life). But if we take into consideration its additional facets such as: geographical (relief, water sources), historical (events, people), cultural (values, myths), social/economic (functions, activities). These facets form a rich encyclopedic meaning rather

than a simple definition. The toponym serves as an access point to the entire frame.

The place names are formed and conveyed metaphorically, if the place considered as target domain: an abstract or complex geographical/cultural entity) is perceived through the detailed to say that concrete, familiar source domain (for example, an object, animal, person, event, or quality for example: Hazrati Imom/Blackfirar's street, Qoplonbek/Shepar's bush, Shahidlar hotirasi maydoni/Trafalgar Square). It may make a cross-domain mapping that formulates our knowledge about the place.

Mapping process:

In our case we consider as a source domain (concrete, experiential): It gives the structure, inferences, and evaluations.

If the place is considered as target domain (the place): the features of source domain as shaping, conceptualization, remembering or evaluation.

This gives an opportunity to make a compact linguistic expression which evokes activation, embedding it into the national world picture and the individual knowledge structures (frames, schemas, cognitive maps).

It may have alterations from the frame-based approach which was mentioned above (as toponyms have a cognitive basis + attribute). This case, where naming involves a metaphorical transfer between domains, often motivated by perceived similarity (or sometimes creative analogy). There are several types of metaphorical place names, researchers in cognitive onomastics (cognitive toponymy) analyze metaphorical place names using CMT. Common patterns include:

Place is a Person / Hero / Historical Figure (Shayxantohur, Amir Temur, Alpomish)

Source: Human qualities, actions, or biography.

Target: The location.

Example: Many commemorative names (e.g., places named after leaders or saints, St Paul's Cathedral, Hazrati Imom, Islom ota jome masjidi) map heroic or sacred qualities onto the

³ И.В. Крюкова (Волгоград) Концептуализация топонима в русском языковом сознании Электронный научно-образовательный журнал ВГПУ «Грани познания». №5(10). Декабрь 2010 ■ www.grani.vspu.ru

⁴ Голев Н.Д. Единство онтологического и ментального бытия топонимической системы (к проблематике когнитивной топонимики) / Голев Н.Д., Дмитриева Л.М. // Вопросы ономастики. – 2008. – №5. – С. (7) 5-18

territory, evoking respect, identity, or ideology. In some cultures, this creates a "founder-as-place" metaphor.

Place is an Animal

Source: Animal characteristics (strength, cunning, appearance: Бўрижар, Canary Wharf).

Target: Geographical feature or settlement.

Example (from studies on various languages): Names evoking lions (power/ White Lion Street), snakes (shape or danger/Ilon ota), or birds (location on heights/Herne Hill, Qushbegi). This maps embodied knowledge of animals onto space.

Place is a Plant / Object / Natural Feature

Source: Concrete, tangible entities (tree/Qatortol, Chilonzor, Oak Tree Lane, stone/Qoratosh, Stonebridge, flower Rosebery Avenue, Gulzor ko'chasi).

Target: Settlement or landscape.

Uzbek/Central Asian examples: Names involving "tepa" (hill) with descriptive elements that metaphorically highlight shape or function (e.g., a mountain resembling a fortress or a sacred entity). Oqtepa, Uchtepa, Xirmontepa, likewise there are several examples in London also related to hills, Huggin Hill, Notting Hill, Forest Hill.

Metaphorical toponyms can also involve transonymization (transfer from one name type to another) or irony/enantiosemy (opposite meanings for effect).

Metaphorical toponyms serve as compressed cognitive frames or matrices of inferences. Once a metaphorical mapping is established — for example, "Place is stone" (e.g. Qoratosh, Stonehenge) — it activates a network of related schemas in human cognition. This mapping can evoke associations such as durability, strength, permanence, and resilience.

As a result, these names do not merely identify locations; they influence spatial reasoning, emotional attitudes toward places, and the transmission of cultural memory across generations. In this way, individual cognitive structures aggregate and crystallize into broader collective knowledge systems that characterize entire communities or nations.

Metaphorical Naming and the National Worldview. The metaphors embedded in place names reveal what a culture considers salient

and significant. A careful analysis shows two main types of metaphorical toponyms:

- Descriptive metaphors, often based on landscape features, which reflect practical concerns of survival and navigation. For example: Qiziltepa, Tuyatortar, Qatortol, Blackheath, Bay's water, Oakwood.

- Evaluative metaphors, such as those drawing from concepts of "hell" or "paradise," which express cultural values, mythology, or moral judgments about territory. For example: Guliston, Bog'iston, Crystal Palace, Covent Garden.

In Uzbek and broader Turkic contexts, metaphorical toponyms frequently draw from nomadic heritage, Islamic traditions, and the natural environment. These sources embed specific cultural priorities — mobility, spirituality, harmony with nature — directly into the linguistic picture of the world. Thus, place names become a window into the national worldview.

The Bidirectional Relationship in toponymy. The influence between metaphor and reality flows in both directions. On one hand, the chosen metaphor shapes how people experience and interact with a place. For instance, a name like "Hell's Kitchen" immediately evokes images of toughness, danger, or intensity. On the other hand, observable real-world features of the location often motivate and justify the initial metaphorical mapping.

In toponymy the use of stylistic units as metaphor and metonymy show according to what feature of the certain place has extraordinary name

Metaphor vs. Metonymy in Toponymy

It is important to note that scholars sometimes distinguish between metaphorical and metonymic toponyms. Metonymic naming, which is more common, relies on relations of contiguity — using a part to stand for the whole or a prominent feature to represent the place. Nevertheless, metaphor and metonymy frequently interact and reinforce each other in the creation and evolution of place names.

Why This Perspective Matters

Approaching toponyms as conceptual metaphors highlights their dynamic and active role in human cognition. Rather than being

static labels, they become powerful tools for understanding and experiencing places. This perspective reveals both universal cognitive patterns (such as body-based or nature-based source domains) and culture-specific variations that reflect unique historical and environmental contexts.

In education and public discourse, analyzing metaphorical toponyms helps uncover hidden ideologies, cultural identities, and underlying value systems. This approach is actively developed within the field of cognitive toponymy, with notable studies conducted on Russian, English, Uzbek, and many other naming traditions, demonstrating how metaphorical naming structures mental representations of space.

Discussion

The metaphorical conceptualization of toponyms offers a powerful lens for understanding the dynamic interplay between language, cognition, and culture. When a metaphorical mapping such as Place IS Stone is activated, it does more than describe a location — it compresses a rich matrix of inferences, including durability, strength, permanence, and resilience. Once established, this mapping triggers associated schemas in human cognition, influencing spatial reasoning, emotional responses, and the collective transmission of cultural memory. In this manner, individual cognitive structures gradually aggregate into broader collective knowledge systems that characterize entire nations.

Metaphorical toponyms reveal what a particular culture finds salient and significant. A distinction can be drawn between descriptive metaphors, which are often rooted in landscape features and serve practical needs of survival and orientation, and evaluative metaphors, which draw upon concepts such as “hell” or “paradise” to express moral, mythological, or ideological judgments about territory. In Uzbek and broader Turkic linguistic contexts, metaphorical toponyms frequently draw upon nomadic heritage, Islamic spiritual traditions, and the surrounding natural environment. These sources embed culturally specific priorities — mobility, spirituality, and harmony

with nature — directly into the linguistic picture of the world. Consequently, place names function as a transparent window into the national worldview.

The relationship between metaphor and reality is inherently bidirectional. On the one hand, the chosen metaphorical source domain shapes how people perceive, experience, and interact with a place. The name “Hell’s Kitchen,” for instance, immediately evokes associations of toughness, danger, and intensity. On the other hand, observable physical or historical features of the location often motivate and justify the initial metaphorical mapping. This mutual reinforcement explains why metaphorical toponyms feel both natural and deeply meaningful to native speakers.

It is worth noting that metaphorical naming frequently interacts with metonymic processes. While metonymic toponyms (based on contiguity relations such as part-for-whole or feature-for-place) are statistically more common, metaphor and metonymy often coexist and strengthen one another in the formation and evolution of place names.

Approaching toponyms as conceptual metaphors underscores their active role in human cognition. Far from being static labels, they serve as powerful tools for understanding and inhabiting geographical space. This perspective reveals both universal cognitive patterns — such as body-based or nature-based source domains — and culture-specific variations shaped by unique historical and environmental contexts.

In educational settings and public discourse, the analysis of metaphorical toponyms proves particularly valuable. It helps uncover hidden ideologies, reinforce cultural identities, and expose underlying value systems. The growing field of cognitive onomastics, with studies on Hungarian, English, African, and other naming traditions, consistently demonstrates how metaphorical naming actively structures mental representations of space.

Ultimately, metaphorical toponyms occupy a central position at the intersection of language, cognition, and culture. They function as compressed cognitive frames that reflect and simultaneously shape national worldviews. By

systematically studying them through the combined frameworks of Conceptual Metaphor Theory and frame semantics, researchers gain deeper insight into both the universal mechanisms of human thought and the distinctive ways in which different cultures conceptualize and inhabit their geographical reality.

Results

The analysis yielded several consistent findings regarding the cognitive and cultural functioning of metaphorical toponyms.

First, metaphorical mappings were identified in the majority of the examined Uzbek and Turkic toponyms. The most frequent patterns observed were Place IS Natural Feature/Object and Place IS Quality/Attribute. A prominent example is "Toshkent" (Stone City), where the source domain STONE maps the qualities of durability, hardness, and permanence onto the target domain of the urban settlement. This mapping activates inferences of strength and historical endurance, consistent with the city's role as a long-standing political and cultural center along the Silk Road.

Second, image schemas played a significant role in structuring spatial conceptualization. The CONTAINER schema was frequently activated in names involving fortresses ("qal'a") or enclosed valleys, portraying settlements as protected or bounded spaces. The CENTER-PERIPHERY schema appeared in names that positioned certain locations as sacred or central points within a larger landscape, reflecting both geographical reality and cultural values.

Third, the frame analysis revealed that metaphorical toponyms function as effective access points to rich encyclopedic knowledge. In Uzbek examples, the core frame (the place itself) was consistently accompanied by extensive peripheral slots: historical (connection to nomadic routes or Islamic heritage), cultural (associations with resilience or spirituality), and evaluative (positive connotations of strength or sanctity). This multilayered structure allows a single toponym to evoke a complex network of inferences far beyond a simple referential label.

Fourth, a clear distinction emerged between descriptive and evaluative metaphors. Descriptive metaphors, often based on tangible landscape features (mountains, stones, rivers), dominated in practical naming related to navigation and survival. In contrast, evaluative metaphors drawing from Islamic or moral domains (e.g., concepts evoking paradise-like qualities or sacredness) were more prominent in names carrying ideological or identity-forming functions.

Fifth, the bidirectional relationship was strongly supported by the data. In many cases, observable physical characteristics (e.g., rocky terrain or mountainous shape) motivated the initial metaphorical mapping, while the resulting name subsequently influenced how speakers emotionally and culturally experienced the place. For instance, mapping "stone" onto a city reinforces collective perceptions of resilience and stability, even in modern urban contexts.

Finally, comparison with international examples showed both universal patterns (such as Place IS Animal for strength or Place IS Body Part for functional roles) and culture-specific preferences. Uzbek and Turkic toponyms displayed a stronger tendency toward nature-based and spiritually motivated metaphors compared to the more person/hero-oriented or event-based metaphors prevalent in some European traditions.

These results confirm that metaphorical toponyms operate as compressed cognitive frames that actively participate in the construction and maintenance of the national world picture.

Conclusion

Metaphorical toponyms stand at the intersection of language, cognition, and culture. They compress complex knowledge structures, reflect national worldviews, and continuously shape how people conceptualize and inhabit their geographical reality. By studying them, we gain deeper insight into both universal features of human thought and the unique ways different cultures make sense of their world.

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