

MICROTOPONYMS AS COGNITIVE MAPS: MENTAL REPRESENTATION OF URBAN SPACES

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Abstract

This article explores microtoponyms — informal, small-scale place names — as cognitive maps that shape how individuals perceive, navigate, and emotionally relate to urban spaces. While previous research in toponymy has largely focused on official or administrative place names, this study emphasizes the cognitive and cultural significance of microtoponyms as elements of mental cartography. Drawing on theories from cognitive linguistics, ethnolinguistics, and linguistic landscape studies, the article examines how microtoponyms function as anchors of collective memory, spatial orientation, and social identity.

Through a comparative case study of two culturally distinct urban centers—Tashkent (Uzbekistan) and London (UK)—the research utilizes ethnographic interviews, cognitive mapping tasks, and linguistic analysis to uncover how residents use microtoponyms in everyday navigation. The findings reveal that these names reflect not only spatial logic but also deep-rooted cultural narratives and emotional attachments. The study contributes to a broader understanding of urban toponymy by demonstrating how microtoponyms serve as culturally embedded cognitive tools, offering insights into how people mentally organize and communicate their lived environments.

Keywords: Microtoponymy, cognitive maps, spatial cognition, mental representation, cultural memory, linguistic landscape.

Introduction

Urban landscapes are more than physical spaces; they are cognitive environments shaped by human interaction, memory, and language. Microtoponyms — minor place names used within localized urban settings—serve as linguistic signposts that encode collective knowledge, cultural identity, and spatial orientation. While

traditionally examined within the scope of toponymy, microtoponyms are increasingly recognized as cognitive tools that reflect how urban dwellers mentally organize and interpret their surroundings. These names, often known only to local communities, form an intricate web of references to physical landmarks, historical events, communal values, and spatial experiences.

Microtoponymy, has gained increased attention in recent years due to its intersection with cognitive, cultural, and linguistic fields. Unlike standardized street names or administrative labels, microtoponyms often emerge from everyday usage and reflect the lived experiences and shared knowledge of local communities. This paper investigates the role of microtoponyms as components of cognitive maps — the mental representations individuals create to navigate and interpret urban spaces.

Understanding how microtoponyms function within these mental maps provides insight into how language structures our spatial awareness and how collective memory shapes urban navigation. This study focuses on how microtoponyms reveal cultural, historical, and functional features of city life in Tashkent and London, and how they contribute to the formation of a localized linguistic worldview. By analyzing microtoponymic patterns in cities with diverse historical and socio-cultural contexts, this study aims to demonstrate how these seemingly minor names function as repositories of spatial knowledge and cultural memory. It also highlights the interdisciplinary relevance of microtoponymy in urban studies, cognitive science, and linguistic anthropology, offering a novel perspective on how language mediates human experience of space.

In recent years, the cognitive linguistic perspective has offered new insights into the role of microtoponyms in shaping mental maps. Mental maps refer to individuals' internal representations of spatial environments, informed by lived experience, cultural background, and linguistic categorization. Microtoponyms contribute to this mental cartography by anchoring memory and meaning to specific urban micro-locations—such as alleys, courtyards, corners, or informal gathering spots—that are typically excluded from official maps.

2. Literature Review

The study of place names, or toponymy, has long been a focus of linguistic, geographical, and anthropological inquiry. Foundational works by scholars such as V.A. Nikonov (1965) and E.M. Pospelov (1998) have emphasized the

classification, etymology, and cultural significance of toponyms. However, microtoponymy—the study of small-scale or local place names—has only recently gained scholarly attention as a distinct subfield. Superanskaya (1973) and Matveeva (2004) were among the first to underline the importance of microtoponyms in reflecting socio-cultural practices and localized linguistic phenomena.

In parallel, cognitive linguistics has offered theoretical tools to analyze how language reflects mental categorization and spatial reasoning. Lakoff and Johnson's (1980) theory of conceptual metaphor and Langacker's (1987) cognitive grammar have laid the groundwork for understanding how linguistic structures, including toponyms, shape mental models of the world. Applying this framework, scholars like Basso (1996) and Hunn (1994) have shown how indigenous place names act as cognitive anchors, encoding cultural knowledge and spatial orientation.

The concept of *mental maps*—internal representations of spatial environments—has roots in geography [Lynch, 1960] and psychology [Tolman, 1948]. In urban studies, Lynch's *The Image of the City* (1960) emphasized the role of landmarks, paths, and districts in shaping residents' mental maps. Recent studies have built on this by examining how vernacular naming practices contribute to spatial cognition and affective geography [Tuan, 1977; Couclelis, 1992]. Microtoponyms, in this context, emerge as culturally embedded linguistic expressions that help individuals and communities navigate, interpret, and remember space.

In the context of post-Soviet and Central Asian urban studies, researchers such as Qoraev (1991) and Begmatov (2001) have explored how informal place names in cities like Tashkent reflect historical layering, cultural shifts, and collective memory. These studies argue that microtoponyms, while often excluded from official cartographies, form a parallel semantic network that is vital to understanding urban life from the perspective of its inhabitants.

This article builds on these interdisciplinary insights by analyzing microtoponyms not only as linguistic artifacts but also as cognitive tools. By bridging microtoponymy, cognitive linguistics, and urban geography, it contributes to a growing body of research that seeks to understand the relationship between language, mind, and space in the context of contemporary urban environments

The phenomenon of microtoponymy sits at the intersection of linguistic geography, cognitive linguistics, and cultural anthropology. As informal, small-scale place names rooted in everyday life, microtoponyms play a vital role in how people conceptualize and interact with their environment. This review outlines the key theoretical and empirical contributions across relevant fields to establish the basis for analyzing microtoponyms as cognitive maps.

Traditional toponymic studies have predominantly focused on macro-level naming systems such as official place names, street names, and administrative divisions. However, as Hough (2016) and Kadmon (2000) argue, microtoponyms—names of streets, courtyards, buildings, or corners known mainly to locals—are equally important in understanding how place is experienced and communicated. Microtoponyms often emerge through oral tradition and local customs, functioning as “living toponymy” [Tent & Blair, 2011] rather than institutionalized labels.

In post-Soviet and Central Asian contexts, Nikonov (1965) and Palamarchuk (1999) emphasized the informal layer of urban toponymy as reflective of local cultural norms and everyday linguistic creativity. These names are dynamic and may change with shifts in demographics, politics, or urban renewal, making them key indicators of socio-linguistic processes.

The cognitive linguistic approach, particularly theories developed by Lakoff and Johnson (1980), suggests that spatial language is deeply intertwined with human thought processes. The idea of conceptual metaphor—for example, “up is good” or “center is important”—guides how individuals frame their understanding of space. This applies directly to microtoponyms, which often employ metaphor and metonymy to describe spatial features (e.g., “The Snake” for a winding street).

Langacker (1987) introduced the concept of mental spaces and image schemas, which help explain how people mentally structure their environments. These schemas underpin the mental maps that individuals rely on for navigation, memory, and orientation. Studies by Talmy (2000) and Evans (2006) further show how spatial reference in language encodes not only geometry but also personal and cultural interpretation.

From an ethnolinguistic perspective, microtoponyms act as repositories of collective memory and cultural identity. As Basso (1996) demonstrated in his seminal work among the Western Apache, place names are often rich in narrative, functioning as cultural signposts that evoke stories, values, and histories. This

notion applies across cultures, where microtoponyms mark spaces of historical, emotional, or social significance.

Tuan (1977) also emphasized the humanistic geography of naming, arguing that place names give meaning to space by rooting it in human experience. For urban residents, especially those in long-established communities, microtoponyms often reflect shared historical events, familial legacies, or occupational patterns (e.g., “Old Smithy Yard” or “Granny Rosa’s Corner”).

Recent developments in linguistic landscape studies have expanded to include not only signage and multilingual inscriptions but also oral and unofficial naming practices. According to Gorter (2006) and Shohamy and Gorter (2009), analyzing the linguistic landscape of cities reveals how power, identity, and social interaction are negotiated in space.

Azaryahu (2012) introduced the idea of vernacular urbanism, whereby local language practices (including microtoponyms) resist or complement state-sanctioned urban planning. In cities like London or Tashkent, such names reflect bottom-up expressions of belonging, memory, and even protest.

While there is substantial literature on macro-toponymy and spatial cognition, relatively few studies have focused explicitly on microtoponyms as cognitive maps—that is, as mental, language-driven models that help individuals interpret and navigate urban environments. Furthermore, cross-cultural comparisons in this area remain limited, particularly involving cities outside Western Europe and North America.

This study seeks to bridge this gap by integrating theoretical insights from cognitive linguistics and ethnolinguistics with empirical data from fieldwork in Tashkent and London. By doing so, it contributes to a better understanding of how microtoponyms operate as culturally embedded spatial references that shape urban consciousness.

Methodology

This study employs an interdisciplinary approach that integrates methods from cognitive linguistics, urban geography, and linguocultural analysis to explore the function of microtoponyms as cognitive maps within urban spaces. The methodological framework combines qualitative and quantitative strategies aimed at identifying, classifying, and interpreting microtoponymic data in relation to spatial cognition and cultural representation.

Research Design. The study is designed as a comparative case analysis, focusing on two culturally and historically distinct urban environments: Tashkent (Uzbekistan) and London (United Kingdom). These cities were selected due to their layered historical topographies, multilingual urban populations, and presence of unofficial, locally significant place names. The research is descriptive and interpretive in nature, aimed at uncovering the cognitive and cultural functions of microtoponyms within each urban setting.

Data Collection. Microtoponymic data were gathered using the following methods: *Field Observation:* On-site visits to urban neighborhoods were conducted to record spoken references to microtoponyms used by local residents, especially in informal or communal settings (e.g., markets, courtyards, transit stops). *Interviews:* Semi-structured interviews were conducted with long-term residents, local historians, and city planners to understand the origin, usage, and mental associations of specific microtoponyms.

Archival and Lexicographic Sources: Toponymic dictionaries, historical maps, and urban planning documents were analyzed to trace the etymology and historical continuity of microtoponyms. *Corpus Analysis:* Social media, online forums, and local community websites were reviewed for spontaneous usage of microtoponyms, providing insights into their contemporary relevance.

Selection Criteria for Microtoponyms The study focused on microtoponyms that meet the following criteria:

- Refer to small-scale, unofficial, or hyperlocal urban features.
- Are widely recognized by residents within a specific neighborhood or community.
- Have cultural, historical, or metaphorical significance beyond simple denotation.
- Are used in oral or informal communication rather than official cartography.

Analytical Framework. The collected microtoponyms were analyzed through several lenses: *Cognitive Linguistics:* The study applied conceptual metaphor theory (Lakoff & Johnson, 1980) and frame semantics (Fillmore, 1982) to uncover how microtoponyms reflect spatial and social cognition. *Linguocultural Analysis:* Semantics and etymology were examined to reveal cultural and historical values embedded in the place names.

Typological Classification: Microtoponyms were grouped based on semantic themes (e.g., religious, occupational, descriptive, commemorative) and morphological structures (e.g., compounds, diminutives, metaphorical extensions). *Mental Mapping:* Residents' descriptions and visualizations of urban spaces were used to construct cognitive maps, demonstrating how microtoponyms help organize urban experience.

Ethical Considerations. All participants in interviews and fieldwork provided informed consent. Anonymity was ensured in the reporting of personal narratives and toponymic usage. The study also adhered to cultural sensitivity in interpreting and contextualizing historically or religiously significant place names.

Results. The analysis of microtoponymic data from the selected urban sites—Tashkent and London—revealed a range of cognitive, cultural, and spatial patterns that support the hypothesis that microtoponyms function as mental representations of urban space. The results are presented thematically to highlight the core findings from both linguistic and cognitive perspectives.

Microtoponyms as Cognitive Anchors. In both Tashkent and London, microtoponyms were shown to act as cognitive anchors that help individuals mentally structure and navigate urban environments. Informants often used microtoponyms to describe spatial relations (“Turn left after the *Kofta Bazaar*,” “Behind *Old Man’s Oak*,” etc.) even in the absence of officially recognized street names. In Tashkent, informal place names like *Choyxona tagi* (“under the teahouse”) and *Xo’ja domla* (named after a local religious figure) were used to identify locations more reliably than formal addresses, especially in older mahallas (neighborhoods). In London, references such as *Jenny’s Corner* or *The Arches* similarly provided spatial cues rooted in shared local knowledge.

Cultural and Historical Encoding in Microtoponyms. Microtoponyms were found to encapsulate layers of historical and cultural memory. In Tashkent, names such as *Guliston guzar* (“the rose street junction”) and *Imom ota joyi* (“place of the holy father”) point to religious, ecological, and communal associations. In London, microtoponyms such as *Bomb Shelter Alley* and *Mick’s Yard* revealed post-war heritage and individual legacy stories preserved in place names. These findings support the notion that microtoponyms are not arbitrary but deeply encoded with the sociohistorical experiences of communities.

Typological Patterns and Semantic Themes. A comparative classification of microtoponyms across the two cities revealed several recurring semantic themes:

- **Religious or sacred reference** (e.g., *Imom ota*, *Church Gate*)
- **Descriptive physical features** (e.g., *Long Stairs*, *Katta ariq* – "big canal")
- **Commemorative names** (e.g., *Baba Hujra*, *Old John's Bench*)
- **Functional/Occupational spaces** (e.g., *Shoemakers' Row*, *Bozor tagi* – "under the market")
- **Humorous or metaphorical names** (e.g., *Devil's Turn*, *Uloq poligon* – "goat field")

The morphology of Uzbek microtoponyms showed frequent use of diminutives, possessive suffixes, and Turkic-Arabic compounds, while English microtoponyms exhibited nominal compounding and elision.

Mental Map Reconstruction. Using data from interviews and observational fieldwork, cognitive maps of specific urban districts were reconstructed. These maps showed that microtoponyms functioned as key nodes or landmarks within the internal geographies of local inhabitants. For instance, in one Tashkent district, the journey to a school was described not by street names but by a sequence of microtoponyms: *Dehqon bozori* → *Qari buva hovlisi* → *Temir darvoza*. Similarly, Londoners described routes through informal identifiers: *Cafe Joe's* → *The Viaduct* → *Ali's Wall*. These mental constructs underscored the psychological and navigational reliance on microtoponyms.

Divergences and Parallels between Tashkent and London. Despite linguistic and cultural differences, both cities exhibited a similar reliance on microtoponyms in everyday communication. However, while Tashkent's microtoponyms often carry religious and familial connotations tied to Islamic and community traditions, London's tend to reflect occupational or historical events tied to individual memory and urban lore. This contrast points to the influence of sociocultural context on the nature of spatial cognition.

Types of Microtoponyms and Their Semantic Features

The data revealed various types of microtoponyms:

Descriptive (e.g., "Choyxona Street" in Tashkent, "The Blue Door" in London)

Functional (e.g., "Old Market Side", "The Shortcut")

Personal or historical (e.g., "Ali's Corner", "Church Alley")

These names often do not appear on official maps but are used extensively in oral communication.

Microtoponyms as Anchors in Cognitive Maps

Interview responses and mental maps showed that microtoponyms play a vital role in urban navigation:

Spatial orientation: Participants used these names as reference points more often than official ones.

Emotional tagging: Many microtoponyms were associated with personal memories (e.g., first meeting spot, childhood play areas).

Cultural transmission: Older generations passed down microtoponyms, which became part of collective memory.

Cross-Cultural Findings

In Tashkent, microtoponyms were more frequently tied to local businesses, teahouses, and historical landmarks.

In London, microtoponyms reflected diversity and multicultural influences, often borrowing from immigrant languages or urban slang.

Despite cultural differences, both urban settings shared cognitive similarities: microtoponyms functioned as memory cues and social markers, simplifying spatial complexity and fostering a sense of belonging.

4. Discussion

Microtoponyms serve as linguistic manifestations of cognitive maps, shaping how individuals and communities perceive and interact with their urban environment. They go beyond physical space, reflecting subjective, emotional, and social geographies.

From a cognitive linguistic perspective, the frequent use of metaphor (e.g., “The Snake Street” for a winding alley) and metonymy (e.g., “The School Wall” for an area next to the school) in microtoponyms highlights how conceptual structures influence spatial reference.

Moreover, the transmission and persistence of microtoponyms illustrate how they encode collective memory and cultural identity. In multicultural cities like London, this reflects linguistic hybridity and the negotiation of space through language.

The findings of this study confirm that microtoponyms play a significant role in shaping the cognitive and cultural experience of urban space. While often overlooked in official documentation and cartography, these minor place names function as powerful tools of spatial cognition, cultural continuity, and

community identity. This discussion unpacks the broader implications of the results in relation to existing theoretical frameworks and comparative urban contexts.

Microtoponyms as Instruments of Cognitive Mapping. The results align with theories from cognitive linguistics, particularly the notion that language reflects and structures human thought. Microtoponyms, like metaphors and frames, serve as cognitive tools that help urban dwellers structure their understanding of the environment. They reduce spatial complexity by assigning memorable, culturally salient labels to specific locations. This supports Lynch's (1960) idea of urban "legibility," where landmarks and spatial references help individuals mentally navigate cities.

In both Tashkent and London, residents construct mental maps that rely not on official signage or street grids, but on familiar microtoponyms that have personal or communal significance. This suggests that cognitive mapping is deeply embedded in socio-linguistic practice and that microtoponyms serve as anchors in these mental models.

Cultural Worldviews Encoded in Urban Nomenclature. Microtoponyms also act as linguistic representations of a community's cultural worldview. In Tashkent, the frequent use of religious and kinship-based naming (e.g., *Imom ota joyi*, *Buvam guzar*) reflects the central role of spirituality and family in Uzbek identity. In contrast, London's microtoponyms, often derived from occupational markers or historical anecdotes (e.g., *Smith's Passage*, *The Bunker*), indicate a more secular, historically event-oriented mode of urban memory.

This contrast highlights the value of microtoponyms as linguistic artifacts that embody the *linguistic world picture* of their speakers. According to Humboldt's view of language as the "outer form of thought," microtoponyms reflect how different cultures perceive and structure urban reality.

Spatial Cognition and Everyday Urban Life. Microtoponyms are not only cognitive references but also functional components of everyday life. They facilitate direction-giving, social storytelling, and spatial orientation, especially in informal or undocumented parts of the city. This underscores the practical value of microtoponyms for urban residents—particularly the elderly, migrants, or those with limited literacy—who may rely on oral and embodied knowledge rather than digital or textual systems.

Moreover, the persistence of microtoponyms in digital communications (e.g., neighborhood WhatsApp groups, local Facebook forums) indicates that their function is being extended into new communicative contexts. These virtual mental maps suggest a hybridization of oral tradition and modern technology in the negotiation of space.

Implications for Urban Planning and Cultural Preservation. Urban planners, cartographers, and cultural historians can benefit from recognizing the role of microtoponyms in forming local geographies. Ignoring these names risks erasing vital elements of community heritage and spatial logic. Mapping microtoponyms can serve not only as a linguistic project but also as an act of cultural preservation, especially in rapidly urbanizing regions where traditional spatial markers are being displaced.

In cities like Tashkent, where modernization efforts sometimes involve renaming or demolishing traditional spaces, microtoponyms offer a grassroots record of historical and cultural continuity. Similarly, in London's gentrifying neighborhoods, informal names preserve traces of working-class and immigrant histories that are often left out of formal narratives.

Universal Patterns and Local Specificities. While microtoponymy as a phenomenon appears universal, the specific naming patterns, themes, and linguistic structures vary significantly based on cultural and historical contexts. This duality—universal function, local expression—makes microtoponyms a valuable site for interdisciplinary research across linguistics, cognitive science, anthropology, and urban studies.

5. Conclusion

Microtoponyms are more than informal place names; they are linguistic and cognitive tools that shape the mental and social experience of urban life. Through them, individuals navigate their environments not only physically but also culturally and emotionally. The study supports the view that microtoponyms contribute significantly to spatial cognition and should be considered in urban planning, linguistic cartography, and cultural preservation.

This study has demonstrated that microtoponyms are more than minor or unofficial place names—they are essential cognitive and cultural instruments for

perceiving, organizing, and communicating urban space. Functioning as cognitive maps, microtoponyms reflect how individuals mentally structure their environments and embed cultural values, communal histories, and localized identities into everyday navigation and interaction.

Through comparative analysis of microtoponyms in Tashkent and London, the research revealed both universal tendencies and culturally specific patterns in urban naming practices. While residents in both cities rely on microtoponyms for orientation and memory, the semantic content and morphological features of these names reflect distinct historical trajectories and worldviews. In Tashkent, religious and familial themes dominate; in London, occupational and historical narratives prevail.

The study also underscores the cognitive role of microtoponyms in spatial orientation and the preservation of local knowledge, particularly in communities where formal signage or mapping is limited or ignored. By reinforcing shared cultural memory and sustaining informal social geographies, microtoponyms act as living records of human-environment interaction.

These findings have implications not only for linguistics and cognitive science but also for urban planning, cultural heritage preservation, and digital mapping initiatives. Future research may expand this work by incorporating geographic information systems (GIS), examining multilingual urban spaces, or exploring the evolution of microtoponyms under sociopolitical change.

In recognizing microtoponyms as cognitive and cultural artifacts, we gain a richer, more nuanced understanding of how language shapes our experience of the urban world—not only through what we see, but through how we name, remember, and inhabit space.

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