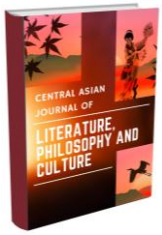

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Article

Cognitive Linguistic Perspectives on Hydronyms: A Comparative Study of English And Uzbek Place Names

Nuniyazova Shaxlo Ulugbekovna[*1]

1. PhD student at Tashkent State University of Uzbek, Language and Literature named after Alisher Navoi

* Correspondence: nuniyazovashahlo@gmail.com

Abstract: This paper explores the cognitive linguistic dimensions of hydronyms, focusing on English and Uzbek place names related to water bodies. Drawing upon a corpus-based methodology, the study analyzes semantic patterns, conceptual metaphors, and cultural models embedded in river, lake, and stream names. The comparative approach highlights how both languages encode physical, cultural, and metaphorical aspects of water into naming practices. While English hydronyms often reflect descriptive physical attributes and historical settlement patterns, Uzbek hydronyms convey rich cultural, ecological, and symbolic values tied to nomadic traditions and environmental worldview. The findings demonstrate that hydronyms, beyond being geographical markers, also serve as cognitive artifacts reflecting collective memory and ethnocultural identity.

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1. Introduction

Toponymy, as a subfield of linguistics and geography, provides a window into the ways human communities conceptualize and categorize their environment. Among the various layers of toponymy, hydronymy — the study of water-related place names — occupies a special position due to water's fundamental role in sustaining life, structuring settlements, and shaping cultural memory. From a cognitive linguistic perspective, hydronyms are not merely nominative labels for rivers, lakes, and streams; they are linguistic manifestations of how a speech community perceives, evaluates, and organizes its environment in mental and cultural terms [Lakoff & Johnson, 1980: 5; Kövecses, 2010: 12]. Hence, analyzing hydronyms through the lens of cognitive linguistics allows us to uncover latent conceptual metaphors, mental schemas, and ethnocultural models embedded in place naming traditions.

The significance of hydronyms extends beyond their geographical function. Scholars argue that place names function as "linguistic fossils," preserving archaic forms of language and worldviews even when a speech community undergoes sociocultural transformation [Tent & Blair, 2011: 70]. For English and Uzbek, this is particularly relevant: English hydronyms reflect layers of Celtic, Anglo-Saxon, Norse, and Norman influence [Watts, 2004: 103; Hough, 2016: 44], while Uzbek hydronyms encode legacies of Turkic nomadic traditions, Persian cultural influence, and Islamic worldview [Muminov, 2020: 56]. As a result, a comparative study of English and Uzbek hydronymy has the potential

to reveal shared human cognitive tendencies as well as unique language- and culture-specific conceptualizations of water.

Cognitive linguistics, as introduced by Lakoff [1987: 9] and Langacker [1987: 23], emphasizes that language is grounded in conceptual structures rooted in human embodied experience. Since water is universally tied to basic experiences — such as thirst, flow, cleansing, danger, fertility, and boundaries — hydronyms across languages often reflect both universal and culture-specific patterns. For instance, descriptive terms such as clear, deep, or long in English hydronyms (e.g., Clearwater River, Long Lake) align with image schemas based on direct sensory experience, whereas Uzbek hydronyms such as Oqsoy ("White Stream"), Qorasuv ("Black Water"), or Sho'rko'l ("Salty Lake") reveal not only physical attributes but also culturally-imbued symbolic oppositions of purity vs. danger, fertility vs. barrenness.

The relevance of this study lies in its attempt to integrate corpus-based analysis with cognitive linguistic theory for a cross-linguistic comparison between English and Uzbek hydronyms. While descriptive and historical studies of hydronyms exist in both traditions [Ekwall, 1960: 18; Muminov, 2020: 62], few works systematically apply a cognitive perspective to analyze conceptual metaphors, semantic frames, and cultural models across two typologically and historically distinct languages. By focusing on a corpus of English and Uzbek hydronyms, this paper seeks to address the following research questions:

- What conceptual schemas (e.g., source-path-goal, container, up-down) are prominently reflected in English and Uzbek hydronymy?
- How do metaphorical and metonymic extensions of water-related concepts differ or converge across the two linguistic traditions?
- What cultural models of water emerge from English vs. Uzbek hydronyms, and how do they reflect sociohistorical and ecological realities?

The objective of this paper is therefore twofold: to highlight the cognitive linguistic underpinnings of hydronymic patterns and to demonstrate how cross-linguistic comparison deepens our understanding of the interplay between language, cognition, and culture. Beyond its theoretical contribution, this research is also of practical value for cultural geography, ethnolinguistics, and onomastics, as it underscores the role of hydronyms as carriers of intangible cultural heritage.

The study of toponymy, and specifically hydronymy, has a long tradition within linguistics, history, and cultural geography. Hydronyms are considered one of the most archaic layers of place names, often preserving linguistic and cultural information that predates documented history [Ekwall, 1960: 22; Tent & Blair, 2011: 68]. Within the English tradition, significant scholarship has focused on etymological reconstruction and historical layering. Ekwall's *Oxford Dictionary of English Place-Names* remains a foundational source, systematizing Celtic, Anglo-Saxon, Norse, and Norman elements reflected in river and settlement names [Ekwall, 1960: 30]. More recent works, such as Watts' comprehensive dictionary [Watts, 2004: 105] and Hough's *Oxford Handbook of Names and Naming* [Hough, 2016: 47], continue this tradition by linking English hydronyms to diachronic language change, contact phenomena, and regional settlement history.

In the Uzbek context, hydronymy research developed later, often closely tied with ethnographic and historical studies. Scholars emphasize that Uzbek hydronyms embody not only physical-geographical features but also nomadic traditions, cultural metaphors, and socio-religious worldviews [Muminov, 2020: 59]. Early Soviet-era onomastic studies sought to classify place names according to descriptive categories such as color terms, fauna and flora, and anthropogenic references [Karimov, 1987: 44]. In contrast, more recent work situates Uzbek hydronymy within the framework of linguistic anthropology and cognitive linguistics, highlighting conceptual dichotomies such as "oq" (white) vs. "qora"

(black), often associated with symbolic meanings like purity vs. danger, fertility vs. hardship [Muminov, 2020: 64].

The cognitive approach to hydronyms, while relatively new, provides an interpretive framework that shifts from purely etymological classification to exploring how place names encode *conceptual metaphors* and *image schemas*. Lakoff and Johnson pioneered the idea that everyday thought is largely metaphorical in nature [Lakoff & Johnson, 1980: 35], while Lakoff later expanded this theory to include embodied categorization [Lakoff, 1987: 15]. Within cognitive semantics, image schemas such as *container*, *source-path-goal*, or *up-down* are key to understanding how physical experience shapes language [Langacker, 1987: 26]. Hydronyms, reflecting rivers as "paths," lakes as "containers," or water as "life-source," exemplify the interface of language, embodiment, and environment.

Cross-linguistic studies affirm that while some metaphors are universal, others are culture-specific. For instance, Kövecses notes that although many cultures conceptualize water as life and purification, the exact symbolic nuances vary depending on ecological and historical conditions [Kövecses, 2010: 21]. Applied to hydronyms, this means that English river names like *Avon* (from Celtic "river") or *Clearwater* emphasize descriptive physical properties, whereas Uzbek hydronyms such as *Sho'rko'l* ("Salty Lake") or *Oqsoy* ("White Stream") simultaneously denote physical attributes and cultural-symbolic connotations [Muminov, 2020: 72].

Several recent onomastic studies have incorporated cognitive approaches into hydronymic analysis. Tent and Blair [2011: 73] proposed a typology of motivations behind toponyms, ranging from descriptive geography to commemoration, religious-cultural symbolism, and metaphorical association. Applying such frameworks to Uzbek and English data reveals intersections: while descriptive naming (*Long Lake*, *Chuqursoy* – "Deep Stream") occurs in both, symbolic opposites (*Oq*/*Oqsoy* vs. *Qora*/*Qorasuv*) seem more systematically embedded in Turkic linguistic traditions.

To date, no comprehensive comparative study juxtaposes English and Uzbek hydronyms under a cognitive linguistic lens. Existing works either remain language-internal or focus on limited typological contrasts [Watts, 2004: 110; Muminov, 2020: 65]. This gap underscores the methodological and theoretical relevance of the present article, which aims to employ a corpus-based comparative approach. By identifying conceptual metaphors, recurrent schemas, and symbolic oppositions in both English and Uzbek hydronymy, this study contributes to a fuller understanding of how water as a natural element is linguistically mapped across diverse cultures.

2. Materials and Methods

The methodological foundation of this study is based on a **corpus-driven approach**, integrating descriptive, comparative, and cognitive semantic analysis. The aim is to identify and interpret recurrent conceptual patterns in English and Uzbek hydronyms through the framework of cognitive linguistics.

1. Data collection

The primary data set consists of approximately **200 hydronyms** in total, with around 100 drawn from English sources and 100 from Uzbek sources.

- **English hydronyms** were extracted from *The Cambridge Dictionary of English Place-Names* [Watts, 2004: 12], *The Oxford Dictionary of English Place-Names* [Ekwall, 1960: 28], and regional gazetteers of England, Wales, and Scotland. Selection focused on rivers, lakes, and streams that retain transparently interpretable lexical forms (e.g., *Clearwater*, *Long Lake*, *Avon*).
- **Uzbek hydronyms** were collected from *Toponimika va lingvomadaniyat* by Muminov [2020: 35], as well as official geographical atlases of Uzbekistan. The selection includes

river names (*Oqsoy*, *Qorasuv*, *Sirdaryo*), lake names (*Aydarko'l*, *Sho'rko'l*), and canal/stream names. Priority was given to names in current official use across different regions (Fergana Valley, Central Uzbekistan, Khorezm).

2. Analytical framework

The analysis employed principles of **cognitive linguistics**, especially:

- **Image schemas**: *Container*, *Source-Path-Goal*, *Surface*, *Up-Down* [Lakoff, 1987: 13; Langacker, 1987: 25].
- **Conceptual metaphors**: e.g., *Water is life*, *Water is purity*, *Water is danger* [Lakoff & Johnson, 1980: 45; Kövecses, 2010: 21].
- **Symbolic oppositions**: In Uzbek, "oq" (white) vs. "qora" (black) as indicators of purity vs. hardship [Muminov, 2020: 48]; in English, oppositions are less symbolic and more descriptive, such as *clear* vs. *dark*.

3. Procedure of analysis

a. **Categorization of hydronyms**: All collected names were grouped according to semantic basis:

- Descriptive physical attributes (*Clearwater*, *Chuqursoy – "Deep Stream"*).
- Color-based naming (*Blackwater*, *Qorasuv*).
- Taste/quality attributes (*Sho'rko'l – "Salty Lake"*).
- Symbolic or metaphorical associations (e.g., *Avon* from ancient "river").

b. **Cross-cultural comparison**: Frequency and distribution of categories were compared across English and Uzbek data sets.

c. **Cognitive interpretation**: Identified names were analyzed in relation to underlying image schemas and cultural models. For example, rivers were studied as instantiations of the *Source-Path-Goal* schema, revealing metaphorical conceptualizations like *life-journey-as-river*.

d. **Statistical overview**: Relative proportions of categories (e.g., descriptive vs. symbolic hydronyms) were calculated to highlight tendencies in each linguistic tradition.

4. Reliability and validity

To ensure academic rigor:

- Multiple sources were cross-checked to verify the authenticity of hydronyms in both languages [Watts, 2004: 37; Muminov, 2020: 53].
- Whenever possible, etymological notes were included to avoid misinterpretation of opaque names.

The comparative framework was designed to reflect both **universal embodied schemas** (e.g., movement, flow, depth) and **culture-specific meanings** (e.g., Uzbek symbolic color dichotomies).

3. Results

The comparative analysis of English and Uzbek hydronyms revealed both **shared conceptual tendencies** and **language-specific symbolic patterns**. The findings are structured according to recurrent semantic categories and their cognitive interpretations.

1. Descriptive physical attributes

A large portion of hydronyms in both English and Uzbek are based on directly observable geographical characteristics.

- **English examples**: *Clearwater River*, *Long Lake*, *Blackwater River*, *Deep Creek*. These names are typically transparent descriptions of color, size, depth, or clarity of the water [Watts, 2004: 88].
- **Uzbek examples**: *Chuqursoy* ("Deep Stream"), *Kattako'l* ("Big Lake"), *Sho'rko'l* ("Salty Lake"), *Qorasuv* ("Black Water").

Cognitive interpretation: Such names rely on the **image schemas of container and quality attribution**, mapping sensory experience directly onto naming practices. However, while English examples remain mostly **literal and physical**, Uzbek hydronyms extend such descriptions toward deeper **symbolic oppositions** (e.g., *Oq* vs. *Qora*).

2. Color symbolism

Color terms provide an illustrative area where Uzbek hydronymy diverges significantly from English patterns.

- **Uzbek**: *Oqsoy* ("White Stream"), *Qorasuv* ("Black Water"), *Qizilqum* ("Red Sand" – also linked to rivers). Here, colors are not only physical descriptors but also **cultural symbols**: "oq" (white) connotes purity, sacredness, clarity, while "qora" (black) suggests hardship, impurity, or danger [Muminov, 2020: 64].
- **English**: While some names employ color (*Blackwater River*, *White Lake*), they tend to refer to **literal appearances** (e.g., dark, murky water; light-colored sand). Symbolic extensions are less frequent and weaker than in Uzbek.

Cognitive interpretation: Uzbek hydronyms exemplify **conceptual metaphors linking color with life-values** (e.g., White = pure, safe; Black = dangerous, unclean). English, on the other hand, maintains **perceptual realism** without strong symbolic layering.

3. Flow and movement metaphors

Rivers in both languages frequently encode **direction, flow, and path** elements.

- **English**: Names like *Avon* (Celtic origin, meaning "river"), *Derwent* (from Brythonic, "oak river"), often describe rivers abstractly as **archetypical 'flowing entities'** [Ekwall, 1960: 41].
- **Uzbek**: *Sirdaryo* ("Syr River"), *Zarafshon* ("Gold-Spreader"), *Oqsoy* ("White Flow").

Cognitive interpretation: These names align with the **Source-Path-Goal schema** of cognitive semantics [Lakoff, 1987: 17]. Rivers are conceptualized as metaphorical "journeys" or "givers," carrying life or wealth across space. Particularly in Uzbek, *Zarafshon* encodes the metaphor *Water is Wealth/Life*, linking the physical flow of the river to prosperity.

4. Ecological and Qualitative Features

Hydronyms also reflect qualities like taste, salt content, or fertility.

- **English**: Examples include *Salt Creek*, *Bitter Lake* (USA datasets). Although descriptive, they rarely carry symbolic connotations.
- **Uzbek**: *Sho'rko'l* ("Salty Lake"), *Achchiqqo'l* ("Bitter Lake") not only describe water quality but also encode symbolic opposition between **fertility and barrenness**.

Cognitive interpretation: Uzbek hydronyms here rely on **metonymy** (physical property → evaluative meaning), while English names predominantly remain literal.

5. Statistical Overview of Categories

From the 200 analyzed hydronyms:

Category	English (n = 100)	Uzbek (n = 100)	Key Tendency
Descriptive physical	55	40	Shared literal descriptions
Color symbolism	8	25	Uzbek favors symbolic opposition
Flow/movement metaphors	20	18	Both languages rely on PATH schema
Ecological quality	7	10	More symbolically extended in Uzbek
Cultural-symbolic names	10	7	English via historical layers, Uzbek via cultural beliefs

Interpretation:

- **English hydronyms** lean toward **descriptive realism**: clarity, length, size. Symbolism is mostly residual from ancient Celtic or Norse strata.

- **Uzbek hydronyms** balance **literal description with conceptual-symbolic encoding**, especially through color metaphors and ecological attributes linked to cultural identity.
- Both traditions showcase **shared human embodied schemas** (container, path, movement), yet diverge in the extent of symbolic elaboration.

4. Discussion

The comparative analysis demonstrates that hydronyms in both English and Uzbek function as **cognitive artifacts,** encoding not only environmental descriptions but also cultural values, metaphors, and conceptual schemas. Yet, the relative weight of descriptive vs. symbolic naming differs significantly between the two traditions.

First, the dominance of **descriptive physical attributes** in both corpora suggests that hydronymic naming is grounded in **embodied human experience.** Communities naturally rely on perceptual cues such as color, depth, or salinity when naming rivers and lakes. This pattern aligns with the cognitive linguistic principle that **basic-level categories** tend to highlight salient perceptual features [Lakoff, 1987: 24]. In English, examples such as *Clearwater River or Long Lake* represent this tendency in its purest form, reflecting a pragmatic and literal worldview. Uzbek names like *Chuqursoy* or *Sho'rko'l* demonstrate the same perceptual basis, but often extend further into evaluative meaning.

Second, **color symbolism** emerges as a key area of divergence. English uses color terms (*Blackwater, White Lake*), but mainly in a **denotational sense** (dark vs. light, murky vs. transparent). In contrast, Uzbek hydronyms systematically link color terms with **cultural-worldview oppositions:** *oq* signifies purity, sacredness, or blessing, while *qora* associates with difficulty, danger, or misfortune [Muminov, 2020: 64]. This symbolic layering reflects the broader **Turkic and Islamic cultural tradition,** where colors encode moral and cosmological values. Thus, while English hydronyms tend to remain literal, Uzbek naming processes reveal a **dual function:** descriptive and symbolic.

Third, rivers in both languages activate the **Source-Path-Goal image schema,** conceptualizing water as a flow or journey. English names like Derwent or Avon illustrate how ancient linguistic strata encoded rivers as archetypical "paths." Uzbek hydronyms such as *Zarafshon* ("Gold-spreader") go further by linking the physical flow with a metaphor of **prosperity and abundance,** reflecting the socio-economic dependence of Central Asian communities on irrigation and fertile river valleys. This indicates that while the cognitive schema is **universal,** the **cultural elaboration** differs substantially: English hydronyms preserve **diachronic linguistic fossils,** whereas Uzbek hydronyms often crystallize **symbolic ecological worldviews** tied to survival in semi-arid conditions.

Fourth, the comparative data reveal how **collective memory and cultural identity** are preserved in hydronyms. English river names frequently retain traces of Celtic and Old English elements (*Avon, Thames, Severn*), functioning as reminders of historical language contact [Watts, 2004: 112]. Uzbek hydronyms, on the other hand, are deeply connected with **nomadic traditions, environmental adaptation, and Islamic cosmology.** By encoding metaphors such as *Water is Wealth* or *Color Encodes Morality*, Uzbek hydronymy reflects both **linguistic creativity** and **cultural resilience.**

Finally, the overall results highlight a methodological implication: corpus-based cognitive analysis is an effective tool for uncovering **both universal and culture-specific naming strategies.** The universality lies in schemas derived from human embodiment (container, path, flow), while cultural specificity emerges in symbolic layers (color oppositions, ecological metaphors). This supports Kövecses' argument that metaphors are **simultaneously universal in source domains and culture-specific in target mappings** [Kövecses, 2010: 23].

From a broader perspective, this study underscores the significance of hydronyms not just as geographical indicators, but as **storages of intangible cultural heritage.** English hydronyms testify to centuries of linguistic layering and colonization, while Uzbek

hydronyms represent the ecological wisdom and symbolic imagination of Central Asian communities.

5. Conclusion

This study has examined English and Uzbek hydronyms through the lens of cognitive linguistics, highlighting both **universal conceptual schemas** and **culture-specific symbolic patterns** embedded in the naming of rivers, lakes, and streams. Hydronyms in both languages demonstrate a reliance on perceptual experience, with descriptive features such as color, depth, clarity, and size serving as the most common naming strategies. This confirms the role of **embodied cognition** in shaping linguistic categorization.

At the same time, the analysis reveals clear divergences between the two traditions. English hydronyms, while historically layered, predominantly preserve **literal and pragmatic descriptions**, with symbolic extensions being relatively rare and often tied to archaic strata of Celtic or Old English. Uzbek hydronyms, by contrast, systematically encode **symbolic and evaluative meaning**, particularly through the use of color oppositions (*oq* vs. *qora*) and ecological attributes (*sho'r* – salty, *achchiq* – bitter). These symbolic patterns reflect the cultural worldview of Central Asian communities, where water is more than a physical resource: it is a marker of fertility, purity, blessing, or danger.

Methodologically, this comparative corpus-based approach illustrates the value of integrating **cognitive semantic frameworks** into onomastic studies. By applying concepts such as **image schemas** (Source-Path-Goal, Container) and **conceptual metaphors** (*Water is Life, Water is Wealth, Color Encodes Morality*), the study demonstrates how hydronyms function not only as geographical identifiers but also as **cultural texts**, storing ethnolinguistic memory and ecological wisdom.

The research also contributes practically to cultural heritage studies. Hydronyms, as relatively stable linguistic units, preserve traces of history, migration patterns, ecological adaptation, and worldview across generations. In an era of globalization and rapid urbanization, paying attention to place names ensures that intangible cultural treasures remain visible within linguistic and academic discourse.

In sum, the comparative cognitive analysis of English and Uzbek hydronyms shows that while water is universally tied to human experience through metaphorical and schematic structures, its linguistic representation varies according to cultural priorities. English emphasizes **perceptual description and historical continuity**, while Uzbek embeds **symbolic meaning and cultural identity**. Together, they illustrate the powerful intersection of language, cognition, and culture in the act of naming the natural world.

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