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COLOR TERMS IN MONGOLIAN PLACE NAMES: A TYPOLOGICAL PERSPECTIVE*

With their implications for human perception and conceptualization of the physical environment, place names have been largely analyzed from a cognitive perspective. This article aims to extend such cross-disciplinary studies by investigating the use of color terms in place names. The authors use a large-scale database of 214,805 toponyms of Mongolia to identify place names that feature color terms, both basic and non-basic, and compare them with previous literature on the toponymy of other countries and languages. Our results can be summed up in three major findings. (1) The most frequently attested color terms in Mongolian toponymy (namely, ‘black,’ ‘white,’ and ‘red’) prove to be identical to the most salient “toponymic colors” in other territories and cultures as can be seen from the analysis of previous research. The phenomenon of similar behavior of color terms in place names across different languages and cultures requires an explanation based on the universal cognitive mechanisms of color perception and development of color terminology. (2) Color terms are more frequently found in the toponymy of desert and steppe areas of Mongolia than in continental climate areas, which can be explained by the topographic properties of these two zones and universal cognitive mechanisms of place naming. Along with that, it was found that all Mongolian place names feature a unified set of color terms regardless of the region and topographic environment.

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(3) Against the typological background, Mongolian toponyms appear to be culture-specific in that they largely feature animal coat colors, as nomadic lifestyle and stock-raising have always been an essential part of the culture and, in the past, had a major impact on the color terminology of Mongolians. Such onomastic investigation into place names with color terms helps broaden our understanding of the cognitive mechanisms of place naming in different cultures and contributes to the color studies in cognitive sciences.

K e y w o r d s: place name; color terms; cognitive linguistics; typology; cultural variation; Mongolia

1. Introduction

Place names tell us not only about properties of the physical environment but also how humans perceive, conceptualize, experience, and interpret them [Thornton, 1997, *209*]. Therefore, toponyms can be investigated from a cognitive perspective [e.g., Reszegi, 2012; Burns et al., 2016; Tüm, 2021]. This paper aims to extend such cross-disciplinary studies. In particular, we aim to investigate the use of color terms as elements of toponyms.

Color naming has been examined by linguists, anthropologists, psychologists, and cognitive and neuroscientists over many years. Researchers have extensively studied the relationship between color naming and human cognition, as well as its relation to culture and environment. However, evidence is inconclusive about whether the color naming is similar or different across languages. Kay and Regier [2003] found that strong universal tendencies exist in color naming systems of both written and unwritten languages, whereas Wierzbicka [2008] observed language-specific idiosyncrasies in Warlpiri, an indigenous Australian language, compared to English. Researchers also debate whether the environment affects color naming systems or not. Some argue that color naming is systematically variable across different climates and environments [Baddeley & Attewell, 2009; Stickles, 2014], while genealogically diverse languages from substantially different environments appear to have similar color naming systems [Roberson et al., 2005]. In this article, we use onomastic data to extend the scope of such studies which have rarely focused on place names as language units that can shed more light on the cognitive aspects of color.

The study of color terms in toponymy is also somewhat neglected in onomastics [Hough, 2006, *181*]. Place name researchers have focused on either the etymology and origins of toponyms or typological patterns of regional toponyms [Tent, 2015]. Descriptive names, such as toponyms featuring color terms, often fall under a single category [Gammeltoft, 2005; Tent & Slatyer, 2009; Tent & Blair, 2011]. Thus, little emphasis is placed on color terms. Most relevant works are limited to one color [Molchanova, 1989; Biggam, 1997; 1998; Hough, 2003; Rätsep, 2012]. Although a few surveys investigated the onomastic use of several color terms in English and Scottish toponyms, they are also not comprehensive in the sense that, on the one hand, only

Old English color terms were analyzed in English toponyms [Hough, 2006, *185*] and on the other, only four parishes of Scotland were considered [Dunlop & Hough, 2014, *308*].[1] Therefore, the question of whether the use of color terms in place names is similar or different in various languages is still open. Our goal here is to conduct a thorough examination of color terms in Mongolian place names based on a large-scale corpus of 214,805 toponyms. We compare our findings with the previous literature to identify if there is any similarity or variation in place naming practices of different cultures.

Regarding the question of whether the environment affects color naming practice, several studies have pointed out that differences in landscape are reflected in meanings of associated toponyms. Gelling and Cole [2014] explained that subtle differences in topography are reflected in Old English place names, from hills to valleys. Old English *beorg*, for example, refers to a continuously rounded hill, while *dūn* is a low hill with a level top. While the main focus of Gelling and Cole's research was generic terms, Dunlop and Hough [2014, *319*] were interested in specific terms in Scottish toponyms. They found that color salience was more prominent in coastal place names than inland place names. They further explained that shape could be a more referring point for inland toponyms while color is a more salient and constant feature in coastland. We also aim to extend this investigation of environmental impacts on place naming practices. The variety of ecoregions (from steppe to desert) in Mongolia makes it possible to examine whether such different environments have effects on the use of color terms in associated toponyms.

After briefly explaining how we extracted and classified the toponyms that feature color terms in Section 2, we present and describe the results in Section 3. Section 4 provides a detailed analysis of how color terms are used in Mongolian toponymy and how these findings align with or contradict the previous literature. In Section 5, we summarize and discuss potential research directions for the future.

2. Database and Methods

For the purpose of this study, we used a large-scale digital database of Mongolian place names containing 214,805 toponyms. The place names in this database were retrieved from [Enkhbayar, 2004] and Mongolian geographical maps made between 1970 and 1980. The database also contains information about the topographical categories of features (e.g. mountains, rivers, hills) and the administrative units in which they are located.

We identified color terms based on Mongolian thesauruses [Dorj et al., 2008; Luvsandorj, 2008] and used PostgreSQL to automatically extract toponyms featuring any of these terms from the database. We found 27 color terms overall, of which

[1] In Dunlop and Hough's study [2014, *313*], the majority of the identified color terms were Scottish English while only two were Scots Gaelic.

11 are basic and 16 are non-basic color terms. The definition of a basic color term was adopted from Berlin and Kay [1991, *5–7*]. Accordingly, the basic color term must satisfy the following criteria:

- it is monolexemic (excluding, e.g., 'blue-green,' 'salmon-colored').
- its meaning is not included in the meaning of any other color terms (excluding, e.g., 'scarlet' as it is a kind of 'red').
- it may not apply to a limited class of objects (excluding, e.g., 'blond' as its application is limited to hair, furniture, and complexion).
- it is psychologically salient across speakers, i.e., it must have a stable range of reference and be actively used by most (if not all) speakers.

The basic color terms in Mongolian are *tsagaan* 'white,' *ulaan* 'red,' *khar* 'black,' *shar* 'yellow,' *nogoon* 'green,' *khökh* 'dark blue,' *tsenkher* 'light blue,' *bor* 'dark brown,' *khüren* 'dark red,' *saaral* 'gray,' and *yagaan* 'pink.' There are three non-basic color terms with mixed meanings: *ereen* or *alag* 'colored, variegated,' and *shargal* 'yellowish mixed with light red,' and 13 color terms explicitly related to animal coat colors: *khaltar* 'dark chestnut mixed with yellowish,' *tsookhor* 'dappled,' *khongor* 'light dun,' *sharga* 'whitish yellow,' *zeerd* 'chestnut,' *buural* 'whitish,' *khul* 'dun,' *ukhaa* 'light red,' *khaliun* 'whitish with a black mane and tail,' *borlog* 'dark brown mixed with whitish,' *orog* 'whitish mixed with black and dark brown,' *zagal* 'whitish mixed with light brown,' and *tsavidar* 'chestnut with a whitish mane and tail.'

In addition, names of precious metals like *altan* or *shijir* 'gold,' *möngön* 'silver,' and *oyu* or *nomin* 'turquoise' are sometimes metaphorically counted as color terms. However, we excluded these terms because it is hard to distinguish if they denote the colors of the landscape or the minerals beneath, unless any field investigation is implemented. The *Oyu Tolgoy* 'turquoise hill,' for example, receives its name not because of its color but for the mineral.

After extracting the toponyms with color terms, we distinguished descriptive names from associative names. Place names often consist of generic (e.g., mountain, hill, river) and specific (e.g., red, crag) elements. As Tent and Blair [2011] defined, descriptive names are features with specific elements "indicating an inherent characteristic of the feature" (e.g., *Ulaan Uul* 'red mountain'), while associative names have specific elements "indicating something which is always or often associated with the feature or its physical context" (e.g., *Ulaan Yamaat Tolgoi* 'hill with red goat'). This distinction is important to ensure color salience in the toponyms we identified. Otherwise, associative names may lead to a false interpretation of how people conceptualize the colors of the landscape.

A general rule we applied here is to consider as descriptive those names in which a color specific element immediately precedes the generic term, e.g., *Ulaan Uul* 'red mountain.' However, even in these names isolated on a formal basis we encounter problems since color terms can be used metaphorically. *Tsagaan* can denote 'without obstacles' other than 'white,' while *khar* can refer to 'something bad' other than 'black.' The *Tsagaan Olom* 'white bridge' in Zavkhan province received its name because

there is no longer an obstacle when crossing the river. Locals in Bayan-Ölgii province named their lake *Khar Nuur* 'black lake' because many people had died by drowning in the lake. Nevertheless, such instances are very few compared to their original color meanings according to the *Etymology of Mongolian Toponyms* [Enkhbayar & Tungaa, 2012]. Therefore, we classified all the toponyms with color elements preceding the generic terms as descriptive names. We have also included toponyms such as *Tsagaan Gozgor Uul* 'white high mountain' since 'high' is another specific element along with the color term 'white.'

During the classification, we identified such cases as *Khar Ulaan Am* 'black, red mountain pass,' where more than one color term modifies the generic element. Such names indicate either a mixture of noticeable colors, as in the preceding example, or provide more specific information about the color as a whole. For example, there is *Khüren Ulaan Uul* 'dark red mountain' in Bayan-Ölgii which can be interpreted as *ulaan* 'red' with more dark hues but redder when compared to *khüren* 'dark red.' We classified this type of names as toponyms featuring "mixed color terms." Additionally, we found inflected color terms used in toponyms such as *Yagaaniy Khöndiy* 'pink's valley' or *Zeerdiyn Am* 'chestnut's mountain pass,' where *yagaan* 'pink' and *zeerd* 'chestnut' are used as metonymic extensions of something that cannot be identified without in-depth investigation. That is, we are unable to define whether *zeerd* 'chestnut' refers to *Zeerd Uul* 'chestnut mountain,' *Zeerd Mori* 'chestnut horse' or something else. Some color terms may even refer to personal names. For example, the *Tsagaany Davaa* 'white hill' in Arkhangai province was named after a monk named *Tsagaan*, who lived beside the hill for years and is well known among locals. Therefore, we limit our dataset by excluding names with these inflected terms.

Descriptive names are further classified into categories according to their generic elements and the administrative units to which they belong. We adopted Enkhbayar's [2008] categorization of generic elements. Accordingly, the generic elements are divided into four groups, namely, oronyms (e.g., mountains, hills), hydronyms (e.g., streams, lakes), agronyms (e.g., fields, plains), and others (e.g., forests, bushes, etc.). Furthermore, to answer the question of whether the environment affects the use of color terms in toponyms, we classified the descriptive names according to the top-level administrative units, the twenty-one provinces of Mongolia, based on the information from the database. The southern part of Mongolia consists mainly of desert, while the northern regions are steppe and, partly, continental climate areas. We divide the provinces according to their topographical significance to identify if there is any similarity or variation in the use of color terms in the associated toponyms.

3. Results

We extracted 44,029 toponyms featuring color terms from the database of 214,805 Mongolian place names. Then we distinguished 24,313 descriptive names.

These results indicate that a large proportion of Mongolian toponyms feature color terms (20.5%), out of which 55.2% (or 11.3% of the entire database) are descriptive. Thus, the use of color terms in Mongolia is relatively higher than those of European cultures, e.g., the Russian (1.0%) and the Lithuanian (4.1%) [Molchanova, 1989, *27*]. The table shows the results with the highest frequency color terms at the top.

Eleven basic color terms were featured in 21,616 toponyms (88.9%). Seventeen non-basic color terms modify 2,439 toponyms (10%), while mixed color terms are found in 258 place names (1.1%). Most of the non-basic color terms constituted animal coat colors (61.8%). The most predominant color terms are the basic ones, namely, *ulaan* 'red,' *khar* 'black,' *tsagaan* 'white,' *khökh* 'dark blue,' and *khüren* 'dark red,' which all represent more than 70% of the descriptive names. In contrast, animal coat colors are the least frequent terms; for instance, in our dataset, there is only one occurrence of the element *tsavidar* 'chestnut with a whitish mane and tail' in a mountain name.

As shown in Table, the use of color terms is dominant in oronyms (83.2%). The second most frequent category of toponyms that feature colors are hydronyms (13.3%), followed by agronyms (3%) and others (0.5%). *Tsagaan* 'white' is the most common term in hydronyms, whereas *ulaan* 'red' is the most dominant color in oronyms and agronyms. We discovered many hill names that feature basic colors, e.g., *Tsagaan Tolgoy* 'white hill' (288 occurrences), *Ulaan Tolgoy* 'red hill' (264), *Bor Tolgoy* 'dark brown hill' (237), *Khar Tolgoy* 'black hill' (232), and *Khökh Tolgoy* 'dark blue hill' (204). Even animal coat colors frequently modify hill names, e.g. *Ukhaa Tolgoy* 'light red hill' (110), *Khongor Tolgoy* 'light-dun hill' (60), *Buural Tolgoy* 'whitish hill' (41), *Sharga Tolgoy* 'whitish-yellow hill' (27), and *Khaltar Tolgoy* 'dark-chestnut-with-yellowish hill' (24). It is worth noting that apart from their original meanings, these animal color terms are only used in toponyms. They are rarely applied to people or inanimate objects. We believe that they are likely to refer to colors of the landscape rather than animals themselves because livestock are not constant objects.

As mentioned above, Mongolian toponyms use mixed color terms. We identified 258 such cases. The longest name that consists of mixed color terms is *Zamiyn Ulaaniy Sharga Ukhaa Tolgoy* 'the whitish-yellow-light-red hill by the red brigade along the road' in Dundgovi province, while there are many short names such as *Khar Ulaan Uul* 'black red mountain,' *Bor Tsookhor Uul* 'dark brown dappled mountain,' and *Shar Ereen Am* 'yellow variegated mountain pass.'

Place names featuring color terms by frequency and generic elements

Color terms	Descriptive names		Name category			
	Frequency	%	Oronyms	Hydronyms	Agronyms	Others
Ulaan 'red'	5,020	20.6	4,133 (82.3%)	696 (13.9%)	165 (3.3%)	26 (0.5%)

Table continuation

Color terms	Descriptive names		Name category			
	Frequency	%	Oronyms	Hydronyms	Agronyms	Others
Khar ‘black’	4,395	18.1	3,814 (86.8%)	453 (10.3%)	109 (2.5%)	19 (0.4%)
Tsagaan ‘white’	4,346	17.9	3,299 (75.9%)	870 (20.0%)	135 (3.1%)	42 (1.0%)
Khökh ‘dark blue’	2,228	9.2	1,878 (84.3%)	299 (13.4%)	44 (2.0%)	7 (0.3%)
Khüren ‘dark red’	1,752	7.2	1,606 (91.7%)	106 (6.1%)	40 (2.3%)	
Shar ‘yellow’	1,682	6.9	1,190 (70.7%)	326 (19.4%)	154 (9.2%)	12 (0.7%)
Bor ‘dark brown’	1,521	6.3	1,400 (92.0%)	85 (5.6%)	31 (2.0%)	5 (0.3%)
Ukhaa ‘light red’	591	2.4	530 (89.7%)	59 (10.0%)	2 (0.3%)	
Ereen ‘variegated’	542	2.2	497 (91.7%)	37 (6.8%)	5 (0.9%)	3 (0.6%)
Nogoon ‘green’	423	1.7	262 (61.9%)	142 (33.6%)	17 (4.0%)	2 (0.5%)
Alag ‘variegated’	385	1.6	356 (92.5%)	25 (6.5%)	3 (0.8%)	1 (0.3%)
Khongor ‘light dun’	281	1.2	243 (86.5%)	37 (13.2%)	1 (0.4%)	
Buural ‘whitish’	275	1.1	259 (94.2%)	14 (5.1%)	2 (0.7%)	
Mixed color terms	258	1.1	237 (91.9%)	17 (6.6%)	4 (1.6%)	
Yagaan ‘pink’	216	0.9	197 (91.2%)	15 (6.9%)	4 (1.9%)	
Sharga ‘whitish yellow’	136	0.6	118 (86.8%)	16 (11.8%)	2 (1.5%)	
Khaltar ‘dark chestnut with yellowish’	94	0.4	86 (91.5%)	8 (8.5%)		
Tsookhor ‘dappled’	57	0.2	44 (77.2%)	12 (21.1%)		1 (1.8%)

End of the table

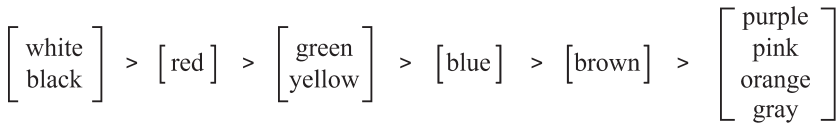
Color terms	Descriptive names		Name category			
	Frequency	%	Oronyms	Hydronyms	Agronyms	Others
Khaliun 'whitish with a black mane and tail'	27	0.1	23 (85.2%)	4 (14.8%)		
Zagal 'whitish mixed with light brown'	24	0.1	22 (91.7%)		2 (8.3%)	
Tsenkher 'light blue'	20	0.1	10 (50.0%)	10 (50.0%)		
Saaral 'gray'	13	0.1	10 (76.9%)	2 (15.4%)	1 (7.7%)	
Borlog 'dark brown with whitish'	7	0.0	7 (100.0%)			
Khul 'dun'	6	0.0	4 (66.7%)	1 (16.7%)	1 (16.7%)	
Zeerd 'chestnut'	5	0.0	5 (100.0%)			
Shargal 'yellowish with light red'	4	0.0	4 (100.0%)			
Orog 'whitish with black and dark brown'	4	0.0	1 (25.0%)	3 (75.0%)		
Tsavidar 'chestnut with a whitish mane and tail'	1	0.0	1 (100.0%)			
Total	24,313	100.0	20,236 (83.2%)	3,237 (13.3%)	722 (3.0%)	118 (0.5%)

4. Discussion

4.1. On similarity and variation

The most frequent color terms in Mongolian toponyms are 'red,' 'black,' and 'white,' accounting for more than a half of all toponyms. Why are these basic color terms dominant? As part of an effort to find a plausible explanation, we have reviewed related works on color terms in cognitive sciences. A particular study that we want to bring attention to is a seminal work by cognitive anthropologists Berlin and Kay [1991, *17–23*] on the universal sequence of color term development. Their hypothesis posits that if a language has two color terms, it would be 'black' and 'white,' i.e., the whole spectrum of colors is roughly divided into two groups: black with all dark

hues and white with all light hues. If a language has three color terms, the third would be 'red,' i.e., another group of color hues that includes all reds, oranges, yellows, browns, pinks, and purples. The fourth would be either 'green' or 'yellow,' and the sequence goes on. Although Berlin and Kay's study was based on only 20 languages, a more recent study based on 2,491 languages found evidence of a presumed evolutionary sequence [McCarthy et al., 2019]. It generally aligns with Berlin and Kay's finding in that the first six color terms are the same and almost identical in order. Complete lists of sequences are shown in Fig. 1.



white > black > red > green > yellow > blue > gray > gold > brown > pink

Fig. 1. The evolutionary sequence of color terms development.
The upper sequence is by Berlin and Kay [1991]
and the lower follows McCarthy et al. [2019]

Is it just a coincidence that the first color terms of the evolutionary sequence are pervasive in Mongolian toponyms? We believe it is not, as there are other cultures that seem to have similar place naming patterns in which 'white,' 'black,' and 'red' are more frequently used than other color terms. For instance, Drummond [2007] notes that 'white,' 'black,' and 'red' are the most common color specifics in oronyms of Scotland. Rätsep [2012, *132–133*] also mentions that the most prevalent color term in the western area of Estonia is 'black,' followed by 'red' and 'white.' Old English toponyms in England [Hough, 2006] and the toponyms of four parishes of Scotland studied by Dunlop and Hough [2014] appear to use the first four color terms of the evolutionary sequence more frequently than other color terms as well. We therefore believe that there is a relation between the most frequent color terms in toponyms and the universal sequence of color term development. Since toponyms are claimed to originate in spoken language [Hough, 2006, *181*], the first color terms that are bestowed could have been used to name places, which made those terms more frequent than other color terms that were coined later. This could explain similarities that various cultures display as to the quantitative dominance of some color terms as elements of place names.

Such cognitive perspective may also help interpret place names more accurately. For example, Mongolian toponyms with the element *khökh* 'dark blue' likely refer to a green landscape rather than blue in alignment with the universal sequence that 'green' emerges before 'blue.' This is confirmed by one of the earliest written records of classical Mongolian, *the Secret History of the Mongols* (1228), where *khökh* indeed denoted 'green' [Luvsangonchig, 2000]. *Nogoon* 'green' is not found in this book, which suggests that place names with this term are most likely of later origin.

Apart from the use of the basic color terms, Mongolian toponyms seem to feature animal coat colors as distinctive properties. As nomadic lifestyle is an essential part of Mongolian culture, place names containing animal coat color terms are common in the countryside. We identified 1,508 (6.2%) toponyms that feature animal coat colors, as presented in Table, in all Mongolian provinces, e.g. *Ikh Buural Uul* 'big whitish mountain' and *Baga Buural Uul* 'little whitish mountain' in Tov Province, and *Tsavidar Uul* 'chestnut with a whitish mane and tail mountain' in Zavkhan Province. Some place names refer to specific markings of animals in addition to their coat colors. For instance, there are *Khalzan Buural Tolgoy* 'bold whitish hill' in Sukhbaatar, where *khalzan* denotes 'a small white spot on the forehead of livestock,' and *Övchüü Tsagaan Khoshuu* 'white breast mountain muzzle' in Ovorkhangai, where *övchüü tsagaan* means 'white hair on the breast.'

A typical Mongolian herder has about a thousand livestock that may include sheep, goats, cows, horses, and camels. The main motivation for Mongolian herders to name their animals is the need to identify each individual animal. Animals in Mongolia are freely herded across the steppes; therefore, two groups of sheep, for example, owned by two different people, often get mixed up. For this reason, it is necessary for the herdsmen to be able to distinguish each animal so they can identify their own. As a result, there is a very fine-grained categorization of animal names by their appearance, such as coat colors and markings.

Similar practices have been discovered in Scandinavian animal names. Leibring [2016, *666*] reports that more than 1,500 different proper names used for cows and 300 different names for bulls and oxen were found in Scandinavian languages. These animal names are similar to those of Mongolia in that they consist of specific and generic elements. Although the terms 'cow' and 'horse' are examples of generic elements, specific elements often refer to the physical characteristics of the name-bearers. However, we were unable to find any relevant studies that suggest evidence of the use of animal colors in place names in Scandinavia. Molchanova [1989, *27*] mentions the use of livestock colors in Turkic toponyms in the Altai Republic, Russia, which may reflect a similar behavior that we observe in Mongolian toponymy. These results may signal a connection between people's cultural experience and place naming behavior. In the cases of Mongolian and Altay toponyms, nomadic communities appear to name their places using animal coat colors.

4.2. The relation between environment and place naming

We investigated our data more closely to identify whether the environment affects place naming practices. The southern part of Mongolia primarily consists of deserts, while the northern parts are steppe and continental areas according to the Köppen-Geiger classification system. In fact, names of the provinces indicate their topographical features, such as *Omnogovi* 'south desert,' *Dornogovi* 'east desert,' *Dundgovi* 'middle desert,' *Govi-Altai* 'desert-Altai' as illustrated in Fig. 2, where *govi* means 'desert.'

It would be interesting to see how people living in such different topographical areas use color terms to name their places. We analyzed two types of measure in relation to the use of color terms across provinces: the percentage of color terms occurrences in all toponyms and the number of different color terms identified per province.

Based on the classification of the toponym locations, we calculated the percentage of color terms occurrences by dividing the number of toponyms with color terms by all toponyms for each province (see Fig. 2). Provinces appear to have different degrees of color term frequency in their toponymy. Fig. 2 illustrates a clear distinction between the north-eastern part of Mongolia and the rest of the region. People in desert and steppe regions use color terms relatively more frequently than those living in provinces with continental climate where their use is approximately 4% lower on average. Dunlop and Hough [2014, *319*] observed a similar phenomenon in Scottish English toponyms. They claimed that the shape is more prominent in the inland features than those of coastal; therefore, the color is less prominent in the former. A similar reason may explain the higher number of color terms in the toponymy of Mongolian desert and steppe as compared to the toponymy of continental climate areas. The slopes of hills and valleys are more pronounced in continental climate areas, whereas the landscape of the desert and steppe is flatter. For this reason, the shape is more prominent in continental provinces, while the color is more prominent in deserts and the steppes.

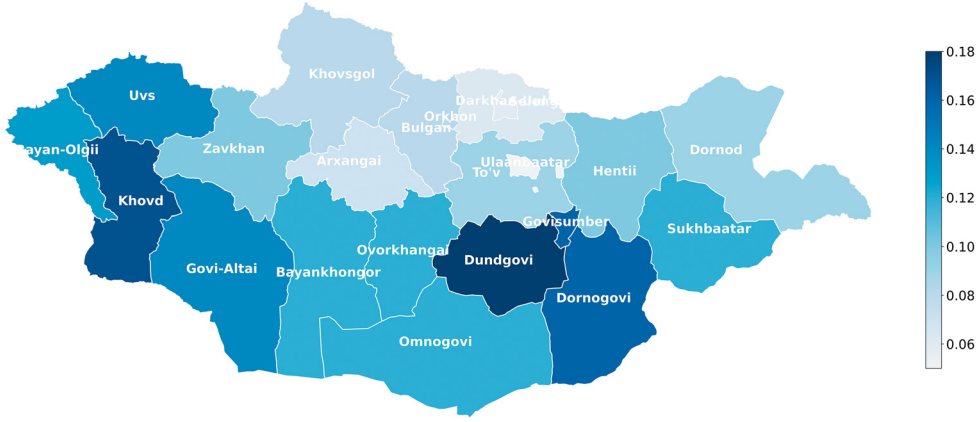


Fig. 2. Percentage of use of color terms in place names of each province

Next, we determined the number of different color terms used in the toponymy of each province (see Fig. 3). The number of different color terms found in toponyms is similar in desert areas (e.g., Dornogovi, Govi-Altai provinces), continental climate regions (e.g., Khovsgol, Arkhangai provinces), as well as in steppe (e.g., Dornod, Sukhbaatar provinces). The average number of different color terms in desert (20 color terms) is similar to that of the rest of the country (19 color terms). What we see in Fig. 3

is that Mongolians appear to use a diverse set of color terms which surprisingly turns out to be more or less unified despite variety of topographic environments.

Fig. 3. Number of different color terms identified in the place names of each province

In overall, different environments appear to affect place naming practices. Although our study is limited to Mongolian toponyms that feature color terms, we found that people tend to frequently use color terms to name their places which are located in areas where the shape is less pronounced.

5. Conclusion

We used a large-scale database consisting of 214,805 Mongolian toponyms to identify the usage of color terms and compare it with previous literature [Molchanova, 1989; Hough, 2003; 2006; Drummond, 2007; Rätsep, 2012; Dunlop & Hough, 2014]. Our study resulted in the following key findings: (1) in Mongolia, there is a similar place naming practice of widespread use of color terms, namely, 'black,' 'white,' and 'red,' when non-cognate languages with various cultural and environmental backgrounds are considered; (2) Mongolian toponyms appear to use animal coat colors, which can be explained by the long-lasting cultural experience of interaction with livestock; and (3) Mongolians living in desert and steppe regions make greater use of color terms when naming their places than those living in continental climate areas, although toponyms of all regions similarly feature a diverse set of different color terms.

This study shows how onomastics and cognitive linguistics can complement each other to interpret place naming practices and the properties of human cognition in general. In particular, we observed an apparent connection between the frequency of color terms in place names and the universal sequence of color term development, as evidenced in previous literature in cognitive sciences [Berlin & Kay, 1991; McCarthy

et al., 2019]. This relation may help explain why certain color terms are predominantly used in different cultures and how to deal with dating issues of some place names. If our claim of the connection between the universal sequence and the frequency of color terms in place names is conclusive, we may expect to find similar place naming patterns in other cultures. Further studies are needed to verify this claim.

We also believe that the study of the relationship between place names and environment deserves much more attention from onomatologists and cognitive scientists. In this sense, descriptive names are an important starting point. Our study was limited to different topographical regions of Mongolia and color elements. Therefore, future studies may investigate other cultures, topographical areas, and other specific elements related to different features such as shape. We also feel this study highlights the importance of toponymic data for color studies in cognitive sciences where debates around universality and diversity persist.

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ЦВЕТОВЫЕ ОБОЗНАЧЕНИЯ В ТОПОНИМИИ МОНГОЛИИ: ТИПОЛОГИЧЕСКИЙ АСПЕКТ

Топонимия является важным источником информации о восприятии и концептуализации человеком физического пространства, что делает топонимы исключительно важным материалом для когнитивных наук. Данная статья стремится расширить междисциплинарные исследования в области топономастики путем изучения закономерностей использования цветообозначений как составных элементов географических названий. Материал исследования извлечен из базы данных, включающей 214 805 топонимов, относящихся к территории Монголии. Из этого массива по определенному алгоритму были отобраны топонимы, содержащие цветовые обозначения — как основные, так и дополнительные, после чего результаты сопоставлялись с предшествующими работами по топонимии других стран и регионов. Основные результаты исследования можно свести к следующим трем наблюдениям. 1. Наиболее частотные указания на цвета, встречающиеся в монгольской топонимии (а именно ‘черный’, ‘белый’ и ‘красный’), идентичны цветовым обозначениям, которые чаще всего встречаются в топонимии других территорий, если судить по имеющимся в научной литературе данным. Этот феномен требует объяснения, основывающегося на универсальных когнитивных механизмах цветового восприятия и, соответственно, развития цветовой терминологии. 2. Цветообозначения чаще встречаются в топонимии степных и пустынных районов Монголии, а не в топонимии областей с континентальным климатом, что может быть объяснено особенностями ландшафта этих двух географических зон и универсальными когнитивными механизмами топономинации. Вместе с тем было выяснено, что независимо от региона и ландшафтно-климатических особенностей местности в топонимии Монголии используется единый набор цветовых терминов. 3. В типологическом отношении топонимия Монголии обнаруживает культурно-специфическую особенность, связанную с широким использованием цветовых терминов, изначально предназначенных для описания оттенков шерсти животных, что может объясняться влиянием кочевого образа жизни и скотоводства на культуру монголов и на систему цветовой терминологии. Изучение цветообозначений как элементов географических названий расширяет наше понимание когнитивных механизмов номинации географических объектов и по-своему дополняет когнитивные исследования в области восприятия и концептуализации цвета.

К л ю ч е в ы е с л о в а: топонимы; цветовые обозначения; когнитивная лингвистика; типология; межкультурное варьирование; Монголия

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