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The fluidity of geographic terminology and conceptualisation of space among Ewenki

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Abstract: This paper analyses landscape terminology in Ewenki, one of the Tungusic languages spoken by indigenous hunters and reindeer herders in Siberia, using examples of three key conceptual categories: 'mountain' / elevation, flat terrain and river terms. Based on linguistic data obtained from 14 Ewenki communities across a large, diverse geographic terrain, semantic analysis suggests that the system of landscape terminology in Ewenki is heterogeneous with significant variations in the meaning of landscape terms and categories one can observe across the dialect continuum. The uniqueness of the Ewenki landscape terminology lies in the fact that the same term can reference completely different landscape features, remaining semantically linked to all of these objects. This variation in meaning is especially evident in terms for 'plains', as this type of landscape is particularly prone to transformations in their Siberia homeland. These changes reflect the Ewenki people's unique nomadic engagement with the land, their flexible adaptation to new ecosystems and their perception of landscapes as being constantly changing or fluid. The relationships between the meanings of the terms across the dialect continuum are considered within ethnophysiography and ontology of the geographic domain.

1. Introduction: landscape and fluidity

Landscape terminology has long been a focus of research on indigenous peoples, with most of the published works coming from studies focusing on native peoples of North America (Kroeber 1916; Boas 1934, 1940; Hunn 1996; Aporta 2004, 2005; Thornton 2008, 2011; Davidson-Hunt & Berkes 2010; Johnson 2010; Kari 2011 and others). Publications discussing landscape cognition and lexicalisation in other cultures are also growing (eg O'Meara & Bohnemeyer 2008; Williams et al 2012; Feng & Mark 2017; see also Johnson & Hunn 2010). Yet most studies to date highlight the uniqueness and richness of landscape terminologies, which can make finding comparable words and meanings in a different language a serious challenge (see Mark 1993; Burenhult & Levinson 2008; Mark et al 2010). Correspondingly, the way people build and perceive relations between words, sounds and visual manifestations of a landscape can be extremely diverse. Surprisingly, such a huge and linguistically miscellaneous area as Siberia has remained largely blind to ethnogeographic studies (but see Istomin 2011; Jordan 2011; Lavrillier & Gabyshev 2017). This research aims to fill in this lacuna by analysing Ewenki landscape terminology and its variation across the dialect continuum as a first step towards a comprehensive portrayal of human–landscape relationships in this expansive, geographically diverse community. In particular, we focus on the phenomenon of variation in meaning of some basic landscape terms in comparative perspective and how it may be interpreted from recent phenomenological approaches to the study on language–landscape relationships.

The uniqueness of the relationships between the Ewenki and the landscape they inhabit lies in the fact that this minority indigenous community of only 37,843 people (Census 2010) is the most widely spread in Eurasia (Vasilevich 1969; Janhunen 2012). Their endangered language is a member of the Tungusic branch of the Altaic language family. Considering that language is one of the key technologies for organising, classifying and recalling geographic information, the Ewenki case is an opportune one to chart the unity and diversity of geographic terminology across a wide area of traditional settlement (cf with Athabaskan in Kari 1989; 2011). This area stretches for several thousand kilometres from the Yenisei River in the west to the Okhotsk Sea in the east, from Taimyr in the north to Lake of Baikal in the south, with a few communities living beyond this

area in Western Siberia (Figure 1). While a few works have examined Ewenki geographic terminology (Shirokogoroff 1928; Vasilevich 1963, 1965; Lavrillier & Gabyshev 2017), none discuss this terminology in comparative perspective, using contextual methods of data collection and analysis.

The Ewenki ecumene consists of more than 50 dialects which are traditionally classified into three sets (see Atknine 1997). This classification of dialects reflects the Soviet approach to dialectology and is an outcome of language policy, within which diverse and scattered indigenous communities were grouped and 'simplified' into a manageable number of linguistic and ethnic categories (see Mamontova 2016). Recent research (Whaley et al 1999) challenges the generic classification of Tungusic languages, advocating for a 'bottom-up' approach to grouping dialects that considers as many features as possible, as well as presenting variation as a continuum rather than discrete essentialist categories. Our approach further critiques the essentialist stance to languages and dialects (Pennycook 2010) by emphasising the relations between landscape and language, neither of which are homogeneous entities.

Being widely dispersed across a variety of terrains, Ewenki language demonstrates significant variation in the system of landscape categorisation that can be analysed from a cultural and environmental perspective. Ewenki inhabit diverse ecosystems – taiga, semi-tundra, coasts and steppes – and have evolved a sophisticated and rich system of landscape categories (Vasilevich 1940:171–173; 1963). Their hunting and reindeer herding nomadic lifeways necessitates both detailed geographic knowledge and expert navigation skills to traverse diverse landscapes and negotiate their various affordances. Hence, the analysis of landscape terminology in Ewenki may illustrate how this nomadic people come to cognise space and landscape across diverse terrains.

In order for a language and its geographic nomenclature to accommodate new landscapes, it should be flexible in regard to both a) the possibility of including new geographic concepts into the established nomenclature and b) adapting the existing geographic terms to changing landscape conditions. We hypothesise that, while the system of geographic terminology appears to be more or less homogeneous across the Ewenki dialect continuum in its most basic landscape categories and their linguistic means of expression, the meaning of some geographic terms varies significantly. This phenomenon can be defined as a semantic variation of cognates rather than polysemy, as the speakers of different sub-dialects recognise only one meaning of the same term as 'correct'. Yet the transition from one meaning to the other normally involves a phase of synchronic polysemy in which a lexical form may hold several meanings simultaneously (see Zalizniak et al 2012). The nature and extent of

this synchronic polysemic phase may vary considerably depending on a concatenation of cultural and geographic factors.

We argue that this semantic variation is a result of adaptation to new surroundings and builds not only on the incorporation of novel landscape features and experiences but also on interpretations encoded in Ewenki ontology of the geographic domain. We suggest considering this variation as a dynamic continuum, reflecting the idea of changing or fluid landscapes. Finally, we demonstrate that relational context is crucial for understanding the meaning of Ewenki geographic terms.

In ethnophysiography, ontology is the study of reality that determines what kinds of categories and entities, including landscape objects, can exist and why (Mark & Turk 2003; Kuhn 2011). From this standpoint, the unique experiences of a given speech community are vital to the process of conceptualising and distinguishing environments. Ontology also highlights the agency of landscapes as having their own history and power to constrain the way people interact with them. Research demonstrates that for Ewenki environmental perception is linked with mobility, an engagement with landscape that lies at the heart of this nomadic, pastoralist people's way of being in the world (Vasilevich 1969:4–5; Safonova & Sántha 2010; Oeterlaar et al 2013; Brandišauskas 2017). Not only do people move from one place to another, but the landscapes they inhabit and traverse are also changing under the influence of both human-animal activities and environmental processes. Mobility thus cannot be reduced to physical movement but must also include an understanding of landscape perception from a mobility perspective (cf Ingold 2000). Thus, we examine landscape terms not as a fixed coordinate system, but rather as emergent from relational contexts, experience and engagement of the land.

2. Methods and data

In order to present how Ewenki speakers may interpret the same landscape terms differently, we used both published (Vasilevich 1958, 1963, 1969) and contemporary linguistic data. The latter was collected by the members of several expeditions, including E Klyachko and N Mamontova, within the ongoing indigenous languages documentation project in Siberia.[1] Linguistic data were used from Ewenki, Taimyr Dolgano-Nenets and Turukhansk districts of

1. The project is led by Dr Olga Kazakevich. The data is stored in the archive of the Computing Centre of Moscow State University. The following website, *Siberian Lang*, contains detailed

Krasnoyarsk Territory, as well as from Tomsk and Irkutsk regions, and Sakhalin Island in the period between 2005 and 2018. The terms were recorded in the field in the course of voicification of dictionary entries. The geographic categories on the vocabulary list included Ewenki words for the following topographic units: 'river' and 'river bank', 'forest' (relatively large treed area, including boreal forest), 'mountain' (elevated features varying in size), 'lake' (localised inland water separated from rivers and surrounded by land), 'swamp' (marshy places), 'tundra' (extensive treeless area; Arctic tundra), 'plain' (flat landscapes varying in size and location, characterised by an absence or sparseness of vegetation) and all related words for many distinct features and qualities of the landscape (about 70 dictionary entries in total). In this paper, we examine three major categories of terms for a flat landscape, elevations and river terminology, and consider mainly those concepts that can be comparable in different Ewenki communities. The aim of this focused comparison is to bring attention to the phenomenon of variation in a single language, or intra-ethnogeographic diversity. We have also documented a number of terms for different forest types and patches which are beyond the scope of this analysis, and will be discussed separately, along with vegetation terminology.

Structurally, we assembled a vocabulary list containing Russian terms in one column and corresponding Ewenki equivalents found in various sources in the other. We first asked our interlocutors to give an Ewenki term for a corresponding Russian geographic concept and then clarified the meaning of other Ewenki terms from the same cohort. For example, some Russian terms appear to relate to more than one Ewenki equivalent. We first recorded an Ewenki term for a given Russian word and then elucidated the meaning of each Ewenki term in conversations with native speakers, as evidenced below. Most of our interlocutors were Ewenki–Russian bilingual speakers over 50 years old who were able to fluently discuss Ewenki terminology in Russian which served as a metalanguage. In addition, in 2017 we carried out more in-depth field research among the Tugur-Chumikan Ewenki in the Khabarovsk Territory, including the collection of 220 place names and 11 questionnaires on landscape terms (Mamontova & Thornton 2019).

Working with informants to clarify the meaning of landscape terms presented certain challenges, as some Ewenki terms designate not a concrete geographic feature, but rather a set of objects, a type of landscape and the local vegetation all together as a gestalt. For example, *mar* in Ewenki means a boggy place

or a sphagnum swamp covered with ledum. This term was borrowed into Russian from Ewenki, but is absent in English. This quality makes the terms to some extent resistant to disappearance within the increasing displacement of Ewenki by Russian, as people continue to use some of them to refer precisely to geographic objects that lack comparable terms in Russian. Referring to concrete places of the local landscape in situ or with photographs helped mitigate this problem but was not always possible.

To compare the terms, we selected 14 Ewenki communities on the bases of two main criteria: 1) geographical diversity (westernmost, central and easternmost communities corresponding to different geographical areas and environments, such as mountainous taiga, semi-tundra, and coastal areas); and 2) linguistic diversity – representing the northern (Ekonda, Chirinda, partly Tutonchany, Yukta, Kislokan, Khantayskoye Ozero, Sovetskaya Rechka), southern (Uchami, partly Tutonchany, Belyi Yar), and eastern (Iengra, Okha, Tokma and all Tugur-Chumikan communities, including Torom and Algazeya) sets of dialects. To avoid language–landscape determinism, we included not only communities in contrastive environments but also several linguistically diverse communities living along the Lower Tunguska River (Figure 1). Apart from primarily coastal fishing Tugur-Chumikan Ewenki, with a few reindeer herding families in Algazeya, the rest of the communities are all involved in hunting and – in Ekonda, Sovetskaya Rechka and Iengra – in the nomadic, pastoralist reindeer economy. In total, 46 full voiced dictionaries (about 2000 entries each) were collected in these communities. In this paper, we use linguistic examples from 28 most comprehensive dictionaries (19 from men and nine from women).

To further triangulate the meaning of each term, we analysed epic stories and narratives recorded in the same communities as dictionary entries and stored in two digital Ewenki text corpora (see http://corpora.iea.ras.ru/corpora and http://gisly.net/corpus/). These texts provide important ethnogeographic context concerning the deployment of specific landscape terms, which is crucial for understanding their relational and nuanced meanings in cultural settings (cf Basso 1996; Cruikshank 2005; Thornton 2008; Kari 2010). In the process of adaptation to new landscapes, the context and semiotics of existing linguistic terms inevitably change or transform. The absence of cultural context makes it well-nigh impossible to understand the sources of variation in meaning, in particular when the same terms are interpreted differently by informants or in published sources. A mix of linguistic and ethnographic methods to flesh out the geographical, semiological and ontological contexts of landscape terminology and experience was therefore essential to testing our hypothesis.
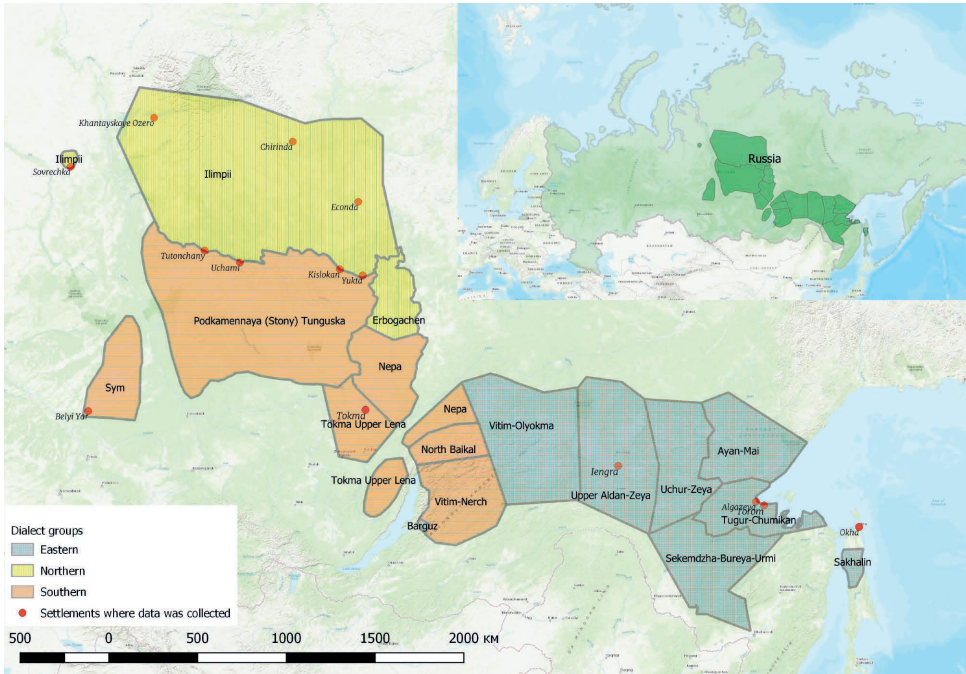
Figure 1 The surveyed Ewenki communities

3. Ewenki ecotopes: general description and analysis

Landscape perception is generally defined with respect to the earth's surface as it is viewed from the human perspective (Cresswell 2004:10), and ecotopes are 'the smallest ecologically distinct landscape features in a landscape mapping and classification system' (Hunn & Meilleur 2010:15). However, these categories and definitions need to be reconsidered when it comes to indigenous people who use distinct categories in different ways (Johnson & Hunn 2010; Holton 2011; Burenhult et al 2017). The Ewenki language, for example, makes no semantic contrast between 'space', 'landscape' and 'world', as all of these are termed *dunnə/dundə* or *buga* which also means 'earth' and 'environment'. However, the term *dunnə* attaches concrete terms to identify what *kind* of place or space is meant, for example, *dunnə urəgəːsəːn* 'mountainous area' or *hərguː dunnə* 'lower world' in mythology. Ewenki speakers do not use this term separately but usually in conjunction with a specifier to convey the quality of a particular landscape or place. Analysis becomes even more complicated when parsing generic landscape terms.

Integrated examination of Ewenki concepts of elevation, plain, and river / river bank shows how landscape categories overlap and vary in meaning in different dialect communities and settings.

3.1 Elevations vs tundra

Elevations are among the most significant features in Ewenki geography. People orient themselves according to the location and direction of mountains slopes, or *kaltir* (see Vasilevich 1963:307–308; Mamontova & Thornton 2019). Some Ewenki communities, for example in Zabaykalye Province, have the terms for different sides of a mountain slope *kaltir* to mark cardinal points. Sergey Shirokogoroff (1928) points out that the cardinal points in Ewenki include the idea of movement and the relations in space. Hence, these terms are usually culturally and geographically specific, and thus vary from one community to another. Ewenki has a rich terminology designating different types of elevations according to their size, location and shape. Most prominent elevations usually possess specific names.

Since mountainous landscapes constitute the ordinary environment, informants tend to make no distinction between such terms as taiga, mountainous taiga and forest. They refer to all of them using such terms for forest as *moːha / moːsa, agiː, hargiː, diːlə* 'taiga on the slope' or even *urəl* . The latter is a generic term for any salient elevation covered with forest. *Urə* differs from, for example, *tʃuwakaːn* 'hill' in size. In the meaning of 'forest on the mountain ranges' the tern *urə* can be regarded as a semantic generality. Yet a typological shift from 'mountain' to 'forest' is common in other languages as well.[2] People also widely use the Russian word 'taiga'. Yet, different parts and patches of the forest are differentiated (see Mamontova in press). However, people utilise a variety of words and expressions for mountainous landscapes, among which are: *urədi dunnəːk* 'mountainous land', *dunnə urəgəːsəːn* 'the land resembles a mountain', *ihəgdəl* 'stones', 'mountains', *tʃuwakaːn* 'hill', *kadar / kadaɣa* 'rocky mountain', *kamniːga:* 'cliff', 'rocks standing close to each other' (Table 1).

Three words are commonly used for elevation: *urə, jaŋ,* and *ŋəːкə.* These terms feature in Ewenki epic stories (I.) and can be analysed through the movements of the main hero. In one popular narrative, recorded in a number of variations, the hero and his enemy (in swan form) struggle to determine who

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2. *Database of semantic shifts in languages of the world* (http://datsemshift. ru/meanings_sense=mountain).

is the strongest (Mamontova 2015). A mountain, or *urə*, plays a key role in this narrative as the battle takes place either on the top of the mountain or nearby (1).

1   *bəjə-ŋi-l-tin guːn-d́ərə-0 'əːkur gaːgi-l-tin*

man-INDPS-PL-3PL.POSS say-PRS-3PL what swan-PL-3PL.POSS

dəgi-ktə-d́ərə-0 urə-duː? məː-r-tin bagdama-l
tətigə-l-tin'

fly-DSPRS-PRS-3PL mountain-DATLOC oneself-PL-3PL.POSS white-PL
cloth-PL3PL.POSS

'People say, "Why do the swans fly on the mountain? They have white clothes"'.

(E., IEA Corpus, recorded by N Mamontova 2011)

After the murder of the hero his son goes to the enemy's camp to take revenge. Usually the exact location of the camp is not revealed. However, from the narrative it becomes clear that the enemies live outside the Ewenki space, as the hero's son has to undertake a long journey before he reaches their place 'on the edge of the world' (*dundə tar səsəːduːn*). He finds his father's murderers in the huge tundra *hoːjikaːkun* by following the marks, apparently the opposite of *moːha* 'taiga', where the Ewenki reside (2).

2   *tar ilkə-həl-wə-n uːd́a-d́a-na hoːji-kaːkun-ma*

that mark-PL-ACCD-3SG.POSS follow-IPFV-CVB.SIM tundra-INTS-ACCD

bargiː-it d́uː, d́uː-l bi-d́ərə-0, d́ukchaː-l

opposite.side-ELAT tipi tipi-PL be-PRS-3PL tipi.carcass-PL

'And he followed the marks. In the opposite side of the huge tundra, there are tipis, carcasses of the tipis'.

(Ch.; IEA Corpus, recorded by N Mamontova 2011)

Tundra, the vast treeless Arctic area, is an almost unfamiliar landscape to Ewenki. Only a few communities inhabit non-taiga areas which can be defined as semi-tundra. Some western Ewenki-speaking communities even use the word *moːra* for tundra (P.T., I.), a loanword from Russian meaning 'sea' (Vasilevich 1958:257). Yet this landscape type has the largest number of recorded words related to it. The basic words for tundra are *hoːj* and *dət.* Both reference 'swamp' and define a kind of marshy place, but the exact difference between tundra and swamp is sometimes unclear and seemingly context-dependent. Among other words which the Ewenki interlocutors associated with

Figure 2 Mar type of landscape. Nearby Algazeya village, Tugur-Chumican district. Photographed by N Mamontova, 2017

hoːj / dət were *kuta* 'swamp', *buləːl* 'boggy places', *jaku* 'stagnant water', 'grassy swamp', *ləwəre / ləwə / lowo* 'peat swamp', 'muggy area at the upper reach of the river', *nirəː* 'swamp with small tussocks, vegetation-free', *muːʃu* 'swamp with big tussocks and with vegetation', and some others. Among Tugur-Chumikan and some other easternmost groups, however, the word *hoːj* is not attested. When asked about tundra, they usually say *mar.* Any flat and damp landscape covered with wild rosemary (*Ledum palustre*) and moss is also called *mar* (see Figure 2). Although in this community *dət* is used as a synonym for *mar, dət* is less frequent. Contextual analysis of this ecotope helps flesh out the conceptual boundaries of mountainous taiga versus tundra; as in the narratives the hero always goes in the direction of the tundra, ultimately finding the alien enemies.

   Journeying on the tundra, the hero spots the enemies from *jaŋ* 'high bare rock', which is the most visible elevation in the area with snow on top. This is the point where *dundə* 'land' as the speaker knows ends. The term *dundə* describes space which the speaker can observe and directly experience. It is common when people say *dundə* referring to the taiga. In the narrative, the hero

sees tipis of the reindeer people standing *hərgiskiː* 'down the hill' or 'at the foot of the mountain' (3).

3   *ərdələːn, ərdələːn dundə mihoː-sə, tar ilkə-həl-bə*

completely completely land disappear-PTCP.ANT that mark-PL-ACCD

uːd̆a-d̆a-na. iːduː-wəl tar dundə tar səsəː-duː-n

follow-IPFV-CVB.SIM where-INDF that land that edge-DATLOC-3SG.POSS

isə-səː jaŋ-duk, urə-duk isə-səː hərgiskiː

see-PTCP.ANT rock-ABL mountain-ABL see-PTCP.ANT down.the.hill tipi.

d̆ukchaː-l ilit-tʃariː-l-ba, oroloː-hol bəjə-l-bə

carcass-PL stand-PTCP.SIM-PL-ACCD herder-PL man-PL-ACCD

'Completely, completely the land disappeared [from his view] when he followed those marks. Somewhere on the edge of the earth he spotted something, from a high rock, from a mountain he recognised the tipis of the reindeer people standing down the hill'.

(Ch.; IEA corpus, recorded by N Mamontova 2011)

Normally *hərgiskiː* is used to identify that something is located downwards, on the bottom, or on the lower part. Along with *neːskiː*, it can also mean 'the lower reach of the river'. Importantly, the narrator stresses that the enemies do not live in the taiga. This opposition between the mountainous taiga and the tundra is again illuminated by the use of the semantically related word *hərəlgən* in the meaning of 'tundra', 'valley bottom', 'bottom land', whereas the taiga is described as an 'upper place'. Thus, the word *diːskiː* 'up to the mountain', 'upwards', 'east' is also frequently used to define the movement in the direction of the taiga. In the following story of two girls, who are chased by cannibals, *diːskiː* is used as the opposite direction of *həwələndaːn,* a mythical land. The name of this place our informants interpreted as being akin to *hərəlgəːn* 'tundra', 'bottom land' (4).

4   *'kələ, huru-kəldu, gu-sə: ə-liː hokto-liː diːskiː*

well, go-IMP2PL say-PTCP.ANT this-PROL path-PROL up.the.slope

anŋuː bi-d̆əŋəː-n aŋe iːwələn=də aja=dih'.' [...] 'Əə, əm=kə,

right be-FUT-3SG DM glade=FOC nice=FOC INTJ NEG=FOC

guːn-d̆ə-səː-n aːnŋuː-liː həwələndaːn-duliː.'

say-IPFV-PST-3SG right-PROL tundra-PROL

'"Follow this path up the slope", he said. [...] "The one to the right, that one

is a nice glade"'. "'Hey", [the older sister] answered, "to the right, to the tundra!"'

(Ek.; IEA corpus, recorded by G Shakirzyanova, transcribed by N Mamontova, 2011)

This contrast between mountainous taiga and tundra also explains why the Ewenki occasionally use the same term to refer to tundra, swamp, lower area and plain. The three concepts share the same characteristics, namely all depict a kind of flat and wide landscape with few visual obstructions or landmarks – 'only stones covered with moss', as one Ewenki speaker (Uch.) describes it, in contrast to a landscape erupting with trees or mountains.

The third common term for mountain *ŋaːкə* is usually used to describe a rather high and separate elevation in the area. The Tugur-Chumikan Ewenki use the term *ŋaːka* to refer to a steep and high river bank. Another word for this ecotope is *kerain*, which is not attested in the dictionaries recorded among western Ewenki. The difference between *ŋaːka* and *kerain* is in size and shape, the latter being lower and flatter (Alg., Ien., Tor.).

Thus, Ewenki general terms for elevations should be analysed with contrastive terms for tundra-like landscapes, as such comparisons reveal the fluidity and nuances between geographic terms by putting them in a pragmatic cultural and perceptual context. This approach mirrors the Ewenki way of observing the land from an elevation (above) in order to optimally perceive, conceptualise, memorise, and navigate the landscape (below). In this regard, the phenomenal logic of the taiga as a kind of high place, affording perspectives of elevation, becomes legible as a means of understanding, wayfinding and other interactions between Ewenki and their surroundings.

Table 1   Geographic terms for elevations provided by G Vasilevich (1958, 1965)

Name in Ewenki (Latin)	Translation	Dialects
ďugdir	Mountainous area with bare rocky and sharp peaks	Z., Ald., Uchr., Chum., Urm.
əmkər	High and steep river bank	N., E., Sym, N.B., Tng., Z., Ald.
heːksa / eːksa / eːha (also heːha, heːkʃa)	Cliff	P.T., N., E., I., Z., Sym, Ald., Tkm., Khng.
hisə (also isə, iʃə)	Cliff or stone located on the shore	P.T., N., E., I., Tkm., Z., Ald., Sym
ilukta / ulukta	High and steep river bank	P.T., I., N., E.
jaŋ	Bare rocky peak, high mountain with snow on top	All

Name in Ewenki (Latin)	Translation	Dialects
kadar	Rocky mountain	P.T., N.B., Brg., Nerch., Tng., Z., Ald., Khng., Uchr., Urm., Chum., Sak.
kamniga	Rocks standing close to each other	P.-T., N., I., U.-L., N.-B., Nerch., Sak., Sym
kerain	High riverbank	Chum.
ŋəːkə / ŋəːku / ŋaːka	Small bare mountain standing beside the river bank High and steep river bank	P.T., N., E., Uchr., Urm., Chum., Sak. Chum.
uksi / uksikta	One of the two high steep banks of the river with a gorge in between	P.T., E., Uchr., Nerch.
urə	Mountain covered with trees, mountainous taiga	All

3.2 Open and flat terrains

Open and extensive treeless areas do not rank among the most salient Ewenki landscape types because most people live in mountainous areas. Nevertheless, the idea of a plain as a flat surface is an important relational concept. In the taiga or along river banks, this kind of landscape is convenient for camping. Most terms relating to a flat landscape are complex ecotopes signifying multiple traits, including: 1) type of landscape, 2) character of vegetation, and 3) proximity / distance from the river and other features. We suggest that this quality makes them fluid in meaning; people in different communities tend to choose a particular dominant feature to identify the ecotope. Ewenki interviewees most commonly use the following terms: *aglan / awlan* 'low / flat land', *pollaka* 'area without trees', *dət / hoːj* 'swamp', 'tundra', *kəwər* 'wide open and dry place with vegetation', *kuŋtikəː* 'dry sphagnum tundra-like place, slightly higher than the surrounding surface', *dəwsən* 'plain', 'wide area in the forest without vegetation', *nit* 'plain without forest located in the mouth of the river / by the sea', 'floodplain', 'flat river bank', and *hərəlgəːn* 'tundra', 'valley bottom', 'bottom land' (Table 2).

As noted above, the Ewenki tend to perceive *dət* as a plain marshy space located beyond their dwelling area on the edge of the earth and inhabited by non-Ewenki people. In referring to swamps, a more mundane yet still marginal plain, this ecotope appears to be more neutral (5 and 6). In this

regard, this is not a reference used in the parts of the taiga occupied by the Ewenki themselves. This is further substantiated by the Ewenki corpus, wherein *dət* appears, for example, in the mythological stories about *tʃaŋit*, evil creatures resembling humans that reside in boggy areas, abandoned, forbidden or otherwise unoccupied by Ewenki.

5   *tʃaŋiti-l dət dulin-duː-n taːŋəl-tʃa-l*

changit-PL swamp middle-DATLOC-3SG.POSS take.rest-PTCP.ANT-PL

'The changits were taking a rest in the middle of the swamp.'

(P.T.; IEA corpus; recorded by G Vasilevich 1931)

But:

6   *taripti-duk tar dət-wə Oluwul dəti-n guni-wkiː-l*

that.time-ABL that tundra-ACCD Oluwul tundra-3SG.POSS say-PTCP.HAB-PL

bira-kaːn Dətkən dərən-duː-n

river-ATTEN Dətkən head.of.the.river-DATLOC-3SG.POSS

'Since that time that tundra is called Oluwul tundra, [located] at the head of the small river of Dətkən "small tundra"'.

(I.; IEA corpus; recorded by G Vasilevich 1957)

Among the most variable terms for a flat kind of landscape is *awlan* / *aglan* 'a lower kind of area', 'depression', 'flat terrain'. This term is known in most of the dialects and is one of the most interesting ecotopes in terms of its variation across the dialect continuum (Figure 3). The meaning of this term ranges from a vegetation-free plain space near a river, to a flat and wide surface, to a clearing in the forest, and finally to a sparse forest. This example shows how some landscape terms may significantly vary and possibly have changed from initial meaning, having been adapted to new realms.

There are many more Ewenki terms designating 'flat' landscapes than can be analysed here. Unlike the terms for elevations, this terminology is more variable in meaning and more context-dependent, especially when it comes to differentiating swamp and tundra. These two concepts are easily confused in the Ewenki corpus and can be quite dynamic and fluid in subarctic climatic contexts. Other terms for plain surface landscapes demonstrate a high degree of variation across the Ewenki dialect continuum, reflecting the idea of changing landscapes, with a plain being a kind of empty space prone to change and transformation. Their meaning is usually bound to the predominant vegetation, size, location and surrounding landscape features.

Table 2 Selected terms describing a flat landscape

Name in Ewenki (Latin)	Translation	Dialects (Vasilevich 1958)	In surveyed communities (voiced dictionaries)
agi:	Forest	Most	T., Uch., Y., Ien., Tor., Alg., Okh.
	Steppe	Brg.	
	Field	Ald.	
amnunna / amnunda	Grassy place in the taiga	P.T., N., E., Tng., Z. Urm., Sak.	Ien. (frozen river)
	Frost on the river		
	Agglomeration of stones at the mouth of a mountain river where ice does not melt	Bnt., Z., Ald., Uchr.	Ien., Tor.
	Valley; wide and flat area (in the river basin) covered with low vegetation (lichen and blueberries)		Alg.
	Treeless flat place along the river bank with huge stones and low vegetation		
awlan / aglan	Plain covered with grass, meadow	Tng., Z., Ald., Uchr., Urm., Chum., Sak., N.B., Brg., N., E., I., Bnt. Ald.	K., Ien., Tor., Alg.
	Sparse forest, semi-tundra		
	Glade in the forest		S.R.
	Depression, low kind of land		S.R.
			T.
dət	Plain surface in the taiga covered with sphagnum		Uch.
	Tundra	P.-T., N., E., Sym, Z., Urm., Chum., Sak	K., T., Y., Tor., Sak
	Swamp		
dəwsən	Wide area in the forest without vegetation; peat swamp	P.T.	B.Y., T., Uch., Ch.
hərəlgə:n	Depression, valley bottom	P.T., N., E., I., Ald.	T., Ch.
	Foot of the mountain		Ch.
	Bottom land, tundra		Y., Ch.
ho:j	Tundra		S.R., T., Y., K., Ch., Ek., Uch.,
	Swamp		B.Y., T., K., Uch., Y., Ch., E.
kila / killanďa	Plain surface at watersheds covered with moss; mountainous tundra	Z., Ald., Uchr.	–
	Grassy swamp on the top of mountainous ranges	Urm.	–

| Name in Ewenki (Latin)	Translation	Dialects (Vasilevich 1958)	In surveyed communities (voiced dictionaries)
kəwər	Wide open and dry place with vegetation / grazing grass Steppe Swamp / dump place covered with grass and sparse forest Mountainous tundra	P.T., N., E., Sym, N.B., Brg, Brg., Nerch. Z., Ald., Uchr. Ald.	Ien.
kuŋtikə:	Dry sphagnum tundra-like place in the taiga, slightly higher than surrounding landscape Glade on the river bank Hillock	Z., Uchr., Sak. Uchr. P.T., Brg.	Ien., Alg., Tor.
nit	Plain without forest located in the mouth of the river / by the sea, floodplain Flat river bank	 Chum., Sak.	Alg., Tor.
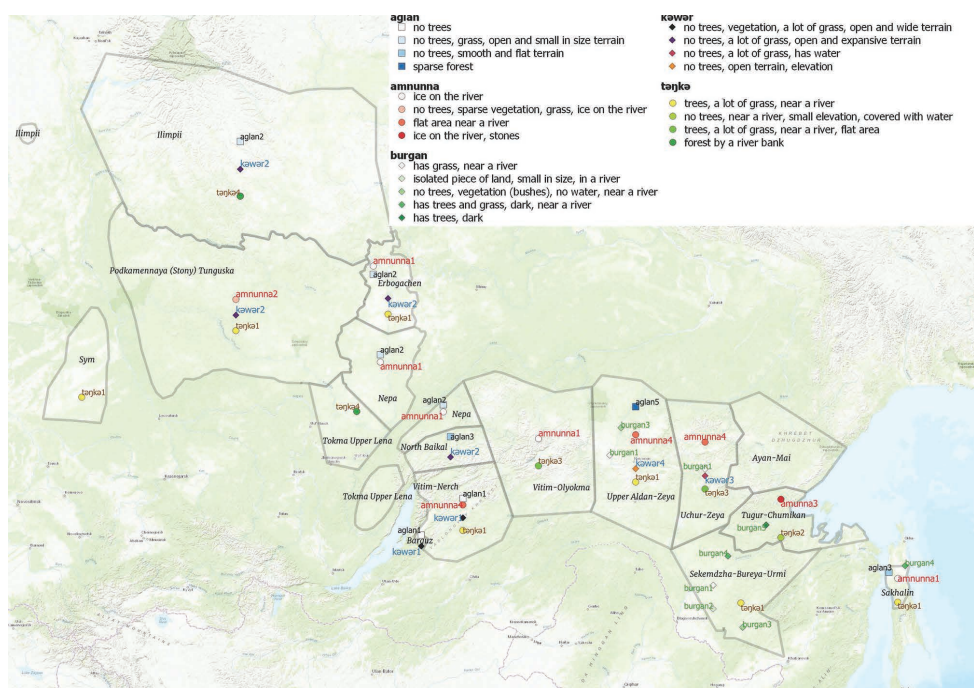
Figure 3 Semantic dimensions of selected Ewenki landscape terms across their dialect continuum

3.3 River terminology and types of river banks

River systems occupy a special place in Ewenki life and ontology. People's sense of orientation and movement are largely linked to hydrology (Vasilevich 1963, 1969:182; Oetelaar et al 2013:235). Unlike other geographic features, there are not so many basic terms for types of rivers and waterways; rather each river has its unique name representing its distinguishing feature. The name for the key river can be used as a synonym for a large river. For example, instead of *həgdi bira* 'large river' the Ilimpii Ewenki can say *Tuŋuska* or *Kataŋa*. The latter is a proper Ewenki name for the Lower Tunguska River. The word *bira* and its variations also serve as a place name in many parts of the Ewenki territory. Such terms as *bargida:* 'opposite river bank', *daptu* 'mouth of the river', *dərə:n* 'head of the river', *ajan* 'backwater', *arba* 'sandbank' and some others are similar in the surveyed communities. The terminology for river banks (*ďapka*, *ugu* or *kerain* depending on the dialect), in contrast, is rather diverse, with the Ewenki classifying them according to their shape, altitude and location. In some cases the terms designating river banks overlap with those for other landscape forms, especially cliffs. We consider river banks as ecotopes, as their Ewenki terms convey important information in relation to navigation and resources.

Ilimpii Ewenki interlocutors generally do not distinguish between a high steep river bank and a flooded river bank, naming both of them *ulukta*. Occasionally people use the term *təŋkə* to designate a flooded river bank. This word typically means a bank inundated during rainy seasons. This could be the same category due to variable water levels and the fluid perception of this ecotope as a river bank sliding into or succumbing to water. Yet, in one of the Ewenki dialects spoken in Yakutia the word *təŋkə* has begun to mean a dense forest on a river bank (Lavrillier & Gabyshev 2017:87; also in Y and Tok) or a river bank covered with bushes. The same pattern of variation is evident in the closely related term *tə:n*, meaning either a smooth passage between two mountains or a forest located in the flat watershed, or just a plain in the watershed (Vasilevich 1958:422). This is another example of the phenomenon of transformation of a quality of a landscape into an object feature, such as, for example, with *aglan*. Exactly the same semantic variation has occurred in the meaning of the word *burgan* among the Eastern Ewenki, which varies from a river bank, inundated during rainy seasons (Ald., Uchr., Urm.), to an island located in between river passages (Urm.), to a river bank covered with bushes (Urm., Sak.), and, finally, to a spruce and dark patch of the forest (Chum.). As for a steep river bank, among the Eastern Ewenki the term is *əmkər*. All of these examples represent the semantic variation of cognates.

There are also two documented words with the meaning of a plain surface related to the river: one is *amnunna / amnunda* 'wide and flat area in the river basin', and the other one is *nit* 'wide and flat area in the mouth of the river / by the sea'. The term *amnunna / amnunda* has several meanings. In some dialects, it means 'grassy place in the taiga', or 'frost on the river', or 'agglomeration of stones at the mouth of a mountain river where ice does not melt during warm seasons'. Hence, it can also stand for ice in general (Vasilevich 1958:29). In addition, the word is commonly used for a river containing good camping terrain. Hence, when it comes to place names derived from ecotopes, among the Tugur-Chumikan Ewenki, the river *Amnunnak* denotes an open flat terrain located along the river banks in accordance with the related ecotope. However, among the Iengra Ewenki, who speak several sub-dialects, the name *Amnunna* has two different ecotopic meanings: a clear place with low vegetation near the river and a frozen river. The other term, *nit*, is normally translated as a flat river bank in two dialects spoken in the east, Sakhalin and Chumikan (Ibid:296). However, as the field data collected among the Tugur-Chumikan Ewenki shows, the meaning of this term has shifted. Nowadays, it designates a wide and flat area, located in the mouth or delta of the river, which is covered with grass.

In sum, the differences between river, elevation and plains terminology reside in the relative stability of the former terms throughout the entire dialect continuum. The terms for river, its head, mouth and arms and for smaller creeks, springs and river passages, not considered here, are more or less identical across the Ewenki territory, and in most of the cases hold the same meaning. Most importantly, Ewenki landscape terminology exhibits significant variation in the meanings of the ecotopes for plains landscapes.

4. Discussion: ontology and fluidity of Ewenki geographic terminology

Our research demonstrates that Ewenki people living in the mountainous taiga do not make simple categorical distinctions between forest, taiga and mountainous taiga, but rather, use contrastive terms to locate specific affordances and communities of beings, both human and non-human, in a particular landscape. Contrastive or relational terms may be deployed, especially to identify domestic (safe) space versus an alien (dangerous) environment, or to orient other communities to one's home group (cf Burenhult et al 2017). Among the western Ewenki, this is highlighted by the frequent use of the word *dunnə / dundə* 'land', 'earth', 'place' when referencing taiga. All Ewenki communities in general, and Ilimpii communities living in the semi-tundra areas in particular,

make a clear distinction between the taiga and the tundra. The latter appears to be one of the most culturally grounded ecotopes, surrounded by mythological stories associated with non-human and alien beings. Along with these terms the Ewenki utilise a variety of terms for a tundra-like landscape that also include terms for boggy places and grassy swamps, which are classified as being akin to tundra and occasionally used as synonyms. However, as the Ewenki geographical narratives demonstrate, the main phenomenal difference between proper Arctic tundra and other related categories is that tundra is perceived as a space outside the Ewenki ecumene.

The dictionary entries show that among the most stable and homogeneous ecotopes are those for river and its parts, but excluding river banks as their terms slightly vary. We suggest that this homogeneity is due to the special role which river systems have played and still play in Ewenki subsistence practices, mobility and navigation, as well as in their broader migrations across and within Siberia (see Vasilevich 1963; Ermolova 2007; Janhunen 2012). The hydrological systems represent a collection of unique riverine names which should be analysed in separate research as their distribution across Siberia may shed light on the ways the Ewenki people came to inhabit this area.

Unlike river terminology, the terms for a flat landscape are more changeable and fluid in meaning across Ewenki communities (see Figure 3). The meaning of some landscape categories can be modified to fit the particular landscape or generalised from a particular dominant feature such as a forest, steppe or tundra. For example, along with abovementioned terms *amnunna* and *awlan*, another striking example of cross-dialectal differences is the word *kəwər*. The basic meaning of *kəwər* is a wide field covered with grazing grass. However, in the steppe area the meaning has predictably changed to steppe. In other dialects, *kəwər* means a grassy swamp, and since there is a connection between swamp and tundra, as discussed above, another meaning of this term is mountainous tundra (Vasilevich 1958:227). This concept initially may have represented a kind of wide area covered with vegetation, but has since evolved to cover other landscapes as Ewenki expanded their physiographic range. Since similar variation of semantic cognates across the dialects is observed in the case of other landscape terms, we suggest that particular terms designate not only landscape objects themselves but also their salient qualities and contrastive features. Landscape features can also be conceptualised as assemblages (see Pennycook 2017). Accordingly, a particular feature of an assemblage may be attached to a different assemblage to produce a new meaning. Hence, the quality of a landscape object may remain the same whereas the physiographic meaning of the term can vary, thus contributing to the fluidity of ecotopes. How
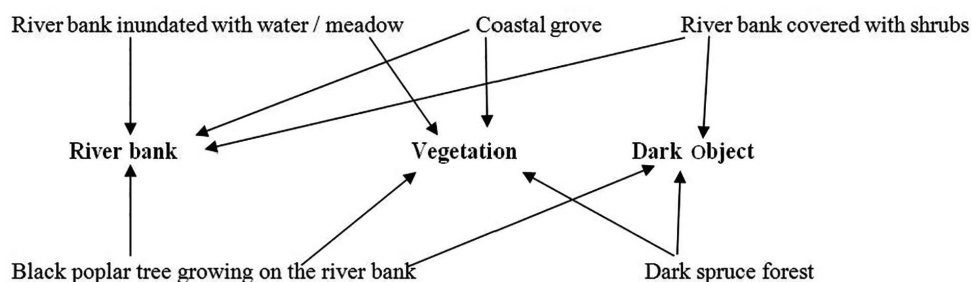
Figure 4 The semantic variation of the term *burgan* as a combination of the following elements: river bank, vegetation, and dark object / darkness

a key feature's meaning may change several times, even within the same dialect group, is well illustrated by the term *burgan*, as mapped in Figure 4.

This and other similar variations in meaning raise the issue of ontological relations between an object and its qualities which can be considered within a qualitative topology (Mark et al 1999). The impossibility of establishing boundaries of a certain geographic object across the dialect continuum further challenges classificatory systems based on static landscape features within a single language. Our analysis of Ewenki shows that even the most basic landscape terms may characterise different types of landscapes.

Analysis of the qualities and resemblances of geographic features that are described by the same term may shed light on the structure and development of landscape terminology not only in Ewenki but in other languages and spatial cognition systems. We further suggest that the best way to understand this fluidity in landscape terminology is not simply through linguistic and ethnographic investigation, but also through consideration of ontology in language itself, as suggested by Werner Kuhn. Kuhn (2011:371) posits that the purpose of ontological specification is to treat meaning as a process to be constrained, rather than as an object to be defined. It is the people who mean something when they use words rather than the words having the meaning. By applying this principle to landscape terminology, it can be argued that it is not a particular geography that determines the meaning of its constituent landscape terms, but rather the speech communities that conceptualise these landscape features and define the meaning of landscapes based on both continuity and changes in their engagements with the land. However, they do it in response to the changes in the environment. One interviewee expressed this idea well in

response to a question about why Ewenki are believed never to follow the same path twice:

> First of all, the track is changing all the time. Whether you go along this way in spring or autumn, or even in summer, it is different, because fresh verdure grows. It grows differently in different places [...]. Some trees grow very fast. Second, there can be a water flood, a boggy place appears somewhere. An Ewenki person forms a map. When he has passed by a place, he mentally takes a picture of this landscape. (Struchkova Valentina, Tugur-Chumican District, Chumikan, 2017)

Hence, if landscape is a physical and cultural process, then its conceptu-alisation (cognising its mental image and its lexicalisation) is a process, too. In this regard, it is significant to further examine how the idea of transitional boundaries suggested by Mark & Turk (2003:30–31) in conjunction with the Ewenki people's nomadic practices may contribute to the perception of certain geographic objects as moveable or fluid, and how the relationships between the Ewenki people, landscape objects, animals and other beings inhabiting the land contribute to the way people interpret the meaning of basic ecotopes. This issue is one for further consideration in future research.

5. Conclusion

Our analysis of the spread and divergence of Ewenki terms for key ecotopes in their territory shows that variations and flexibilities in landscape terminology and meaning are pragmatic. Yet, the fluidity of landscape terms can serve as a significant obstacle to simple categorical distinctions and standardisation among dialect and speech communities in language and landscape studies (see Brabyn & Mark 2011:403). With its common language but breadth of dialect and geographic communities, Ewenki demonstrates how concepts of space, place and geographic nomenclature evolve in an expanding indigenous community over time and space. Moreover, the Ewenki case shows that the meaning of some geographic terms may vary so dramatically that in different communities they may be classified as completely different landscape categories. The phenomenon of dialectal variation, or fluidity of meaning among generic landscape terms, should be examined in more detail with due consideration to dynamic, changing and contrastive landscapes, and by shifting the analytical focus from abstract terms for 'objective' geographic features to the ontological qualities of geographic phenomena as people experience and relate to them phenomenologically in navigating their expanding ethnophysiographic existence over time.

Acknowledgements

Abbreviations

ABL	ablative case
ACCD	definite accusative case
Ald.	Aldan dialect
Alg.	Algazeya village, Tugur-Chumikan District, Khabarovsk Territory
ATTEN	attenuative
B.Y.	Belyi Yar village, Tomsk Region
Bnt.	Baunt sub-dialect of the Vitim-Nerch dialect
Brg.	Barguz dialect
Ch.	Chirinda village, Ewenki District, Krasnoyarsk Territory
Chum.	Chumikan dialect
CVB.SIM	simultaneous action converb
DATLOC	dative-locative case
DM	discourse marker
DSPRS	dispersive aspect
E.	Erbogachen dialect
Ek.	Ekonda village, Ewenki District, Krasnoyarsk Territory
FOC	focus particle
FUT	future tense
I.	Ilimpii dialect
Ie.	Iengra village, Neryungri District, Yakutia
IEA RAS	Institute of Ethnology and Anthropology, Russian Academy of Sciences

IMP	imperative mood
INCH	inchoative aspect
INDF	indefinite adverb
INDPS	indirect possession
INTJ	interjection
INTS	intensifier
IPFV	imperfective aspect
K.	Kislokan village, Ewenki District, Krasnoyarsk Territory
Kh.O.	Khantayskoye Ozero village, Taymyr Dolgan-Nenets District, Krasnoyarsk Territory
Khng.	Khingan sub-dialect of the Upper Aldan-Zeya dialect
N.	Nepa dialect
N.B.	North Baikal dialect
NEG	negation
Nerch.	Nerch sub-dialect of the Vitim-Nerch dialect
NFUT	nonfuture tense
NMLZ	nominaliser
Okh.	Okha village, Sakhalin Region
PHAB	habitual participle
PL	plural
POSS	possessive
PROL	prolative case
PST	past tense
P.T.	Podkamennaya (Stony) Tinguska dialect
PTCP.ANT	anterior action participle
PTCP.SIM	simultaneous action participle
Sak.	Sakhalin dialect
SG	Singular
S.R.	Sovetskaya Rechka village, Turukhansk District, Krasnoyarsk Territory
Sym	Sym dialect
T.	Tutonchany village, Ewenki District. Krasnoyarsk Territory
Tkm.	Tokma sub-dialect of the Tokma-Upper Lena dialect
Tng.	Tungir sub-dialect of the Vitim-Olyokma dialect
Tok.	Tokma village, Katangsk Ditrict, Irkutsk Region
Tor.	Torom village, Tugur-Chumikan District, Khabarovsk Territory
Uch.	Uchami village, Ewenki District, Krasnoyarsk Territory
Uchr.	Uchur-Zeya dialect
Urm.	Urmi sub-dialect of the Bureya-Urmi-Amgun dialect

Y.   Yukta village, Ewenki District, Krasnoyarsk Territory
Z.   Zeya sub-dialect of the Upper Aldan-Zeya dialect

References

Aporta, C 2004. Routes, trails and tracks: trail breaking among the Inuit of Igloolik. *Etudes/Inuit Studies* 28(2):9–38.

Aporta, C 2005. From map to horizon; from trail to journey: documenting Inuit geographic knowledge. *Etudes/Inuit Studies* 29(1–2):221–231.

Atknine, V 1997. The Evenki language from the Yenisei to Sakhalin. Northern minority languages: problems of survival. In Shōji, H & Janhunen, J (eds) *Senri ethnological studies.* Osaka: National Museum of Ethnology:109–121.

Basso, KH 1996. *Wisdom sits in places: landscape and language among the Western Apache*. Alburquerque: University of New Mexico Press.

Boas, F 1934. *Geographical names of the Kwakiutl Indians*. Columbia University Contributions to Anthropology 20. New York: Columbia University Press.

Boas, F 1940. *Race, language and culture*. New York: Macmillan.

Brabyn, L & Mark, DM 2011. Classifying landscape character. In Mark, DM, Turk, AG, Burenhult, N & Stea D (eds) *Landscape in language: transdisciplinary perspectives.* Amsterdam, Philadelphia: John Benjamins Publishing Company:395–409.

Brandišauskas, D 2017. *Leaving footprints in the Taiga: luck, spirits and ambivalence among the Siberian Orochen reindeer herders and hunters*. New York, Oxford: Berghahn.

Burenhult, N & Levinson, SC 2008. Language and landscape: a cross-linguistic perspective. *Language Sciences* 30:135–150.

Burenhult, N, Hill, C, Huber, J, van Putten, S, Rybka, K & San Roque, L 2017. Forests: the cross-linguistic perspective. *Geographica Helvetica* 72:455–464.

Census 2010. Vserossiyskaya perepis naseleniya 2010. Vol 1. Chislennost i razmechshenie naseleniya. http://www.gks.ru/free_doc/new_site/perepis2010/croc/perepis_itogi1 612.htm.

Cresswell, T 2004. *Place: a short introduction.* Oxford: Blackwell.

Cruikshank, J 2005. *Do glaciers listen? Local knowledge, colonial encounters, and social imagination.* Vancouver, Toronto: University of British Columbia.

Davidson-Hunt, I & Berkes, F 2010. Journeying and remembering: Anishinaabe landscape ethnoecology from northwestern Ontario. In Johnson, LM & Hunn, ES (eds) *Landscape ethnoecology: concepts of biotic and physical space.* New York, Oxford: Berghahn Books:222–240.

Ermolova, NV 2007. Reka v treh mirah evenkiyskoy vselennoy. In Pavlinskaya, LR (ed) *Reki i narody Sibiri*. St Petersburg: Nauka:87–126.

Feng, C-C & Mark, DM 2017. Cross-linguistic research on landscape categories using GEOnet names server data: a case study for Indonesia and Malaysia. *The Professional Geographer* 69(4):567–578.

Holton, G 2011. Differing conceptualizations of the same landscape: the Athabaskan and Eskimo language boundary in Alaska. In Mark, DM, Turk, AG, Burenhult, N & Stea, D (eds) *Landscape in language. transdisciplinary perspectives*. Amsterdam: John Benjamins Publishing Company:225–239.

Hunn, ES 1996. Columbia Plateau Indian place names: what can they teach us? *Journal of Linguistic Anthropology* 6(l):3–26.

Hunn, ES & Meilleur, BA 2010. Toward a theory of landscape ethnoecological classification. In Johnson, LM & Hunn, ES (eds) *Landscape ethnoecology: concepts of biotic and physical space.* New York, Oxford: Berghahn Books:15–26.

Ingold, T 2000. *The perception of the environment: essays on livelihood, dwelling and skill*. London, New York: Routledge.

Istomin, KV 2011. The land to herd and the space to travel: comparing the categorizations of landscape among Komi and Nenets reindeer herding nomads. In Prager, L (ed) *Nomadismus in der 'Alten Welt': Formen der Repräsentation in Vergangenheit und Gegenwart*. Münster: LIT Verlag:233–256.

Janhunen, J 2012. The expansion of Tungusic as an ethnic and linguistic process. In Malchukov, AL & Whaley, LJ (eds) *Turcologica 89. Recent advances in tungusic linguistics*. Wiesbaden: Harrassowitz Verlag:5–16.

Johnson, LM 2010. *Trail of story, traveller's path: reflections on ethnoecology and landscape*. UA Press: Athabasca University.

Johnson, LM & Hunn, ES (eds) 2010. *Landscape ethnoecology: concepts of biotic and physical space.* New York, Oxford: Berghahn Books.

Johnson, LM & Hunn, ES 2010. Introduction. In Johnson, LM & Hunn, ES (eds) *Landscape ethnoecology: concepts of biotic and physical space*. New York, Oxford: Berghahn Books:1–11.

Jordan, PD (ed) 2011. *Landscape and culture in northern Eurasia*. Walnut Creek, CA: Left Coast Press.

Kari, J 1989. Some principles of Alaskan Athabaskan toponymic knowledge in general and Amerindian ethnolinguistics. In Key, MR & Hoenigswald, H (eds) *Remembrance of Stanley Newman*. Berlin: Walter de Gruyter:129–151.

Kari, J (ed) 2010. *Ahtna travel narratives: a demonstration of shared geographic knowledge among Alaska Athabascans, told by Jim McKinley, Frank Stickwan, Jake Tansy, Katie John and Adam Sanford*. Fairbanks: Alaska Native Language Center.

Kari, J 2011. A case study in Ahtna Athabascan geographic knowledge. In Mark, DM, Turk, AG, Burenhult, N & Stea, D (eds) *Landscape in language, transdisciplinary perspectives*. Amsterdam: John Benjamins Publishing Company:239–260.

Kroeber, AL 1916. California place names of Indian origin. *University of California Publications in American Archaeology and Ethnology* 12(2):31–69.

Kuhn, W 2011. Ontology of landscape in language. In Mark, DM, Turk, AG, Burenhult, N & Stea, D (eds) *Landscape in language: transdisciplinary perspectives.* Amsterdam, Philadelphia: John Benjamins Publishing Company:369–379.

Lavrillier, A & Gabyshev, S 2017. *An arctic Indigenous knowledge system of landscape, climate, and human interactions. Evenki reindeer herders and hunters.* Fürstenberg/Havel: Kulturstiftung Sibirien.

Mamontova, N 2015. Khosunnye predaniya ilimpiiskikh ewenkov. *Zhivaya starina* 1:27–30.

Mamontova, N 2016. Language as a systematic foundation: Tungus-speaking groups in the Far East. *Asian Ethnicity* 17(1):48–66.

Mamontova, N In press. Taiga forest reindeer herders and hunters, subsistence, stewardship. In Thornton, TF & Bhagwat, S (eds) *Handbook of Indigenous environmental knowledge: global themes and practice*. London: Routledge.

Mamontova, N & Thornton, TF 2019. The multiperspectival nature of place names: Ewenki river naming and walking relationships with animals, spirits, and landscapes. Manuscript in the authors' possession.

Mark, DM 1993. Toward a theoretical framework for geographic entity types. In Frank, AU & Campari, I (eds) *Spatial information theory: a theoretical basis for GIS.* Lecture notes in computer sciences no. 716. Berlin: Springer:270–283.

Mark, DM & Turk, AG 2003. Landscape categories in Yindjibarndi: ontology, environment, and language. In Kuhn, W, Worboys, M & Timpf, S (eds) *Spatial information theory: foundations of geographic information science COSIT 2003*. Kartause Ittingen, Switzerland, 24–28 September 2003. Berlin: Springer-Verlag:28–45.

Mark, DM, Smith, B & Tversky, B 1999. Ontology and geographic objects: an empirical study of cognitive categorization appeared. In Freksa, C & Mark, DM (eds) *Spatial information theory: cognitive and computational foundations of geographic information science.* Lecture notes in computer science no. 1661:283–298.

Mark, DM, Turk, AG & Stea, D 2010. Ethnophysiography of arid land: categories for landscape features. In Johnson, LM & Hunn, ES (eds) *Landscape ethnoecology: concepts of biotic and physical space*. New York, Oxford: Berghahn Books:27–45.

O'Meara, C & Bohnemeyer, J 2008. Complex landscape terms in Seri. *Landscape Sciences* 30(2–3):316–339.

Oetelaar, GA, Anderson, DG & Dawson, PC 2013. The hearth, the home and the homeland: an integrated strategy for memory storage in circumpolar landscapes. In Anderson, DG, Wishart, RP & Vate, V (eds) *About the hearth: perspectives on the home, hearth and household in the circumpolar North*. New York, Oxford: Berghahn:183–199

Pennycook, A 2010. *Language as a local practice.* New York: Routledge.

Pennycook, A 2017. Translanguaging and semiotic assemblages. *International Journal of Multilingualism* 14(3):269–282.

Safonova, T & Sántha, I 2010. Walking mind: the pattern that connects Evenki land, companionship and person. In Bammé, A, Getzinger, G & Wieser, B (eds) *Yearbook 2009 of the Institute for Advanced Studies on Science, Technology and Society*. München, Wien: Profil:311–323.

Shirokogoroff, SM 1928. Northern Tungus terms of orientation. *Rocznik Orientaiistyczny* W(IV):167–187.

Thornton, TF 2008. *Being and place among the Tlingit*. Seattle: University of Washington Press.

Thornton, TF 2011. Language and landscape among the Tlingit. In Mark, DM, Turk, AG, Burenhult, N & Stea, D (eds) *Landscape in language: transdisciplinary perspectives.* Amsterdam: John Benjamins Publishing Company:275–289.

Vasilevich, GM 1940. *Ocherk grammatiki ewenkiyskogo (tungusskogo) yazyka.* Narkompros RSFSR: Leningrad.

Vasilevich, GM 1958. *Ewenkiysko-russkiy slovar.* Moscow: Gosudarstvennoye izdatelstvo inostrannyh i natsionalnyh slovarey.

Vasilevich, GM 1963. Drevneyshchie geographicheskie predstavleniya ewenkov i risunki kart. *Izvestiya vsesoyuznogo geographicheskogo obshchestva* 4.

Vasilevich, GM 1965. Geograficheskaya terminologiya tungusskogo proishozhdeniya i tungusskie toponimicheskie suffiksy (archival document). The Archive of the Museum of Ethnology and Anthropology named after Peter the Great, Russian Academy of Sciences. F. 22, l. 1., c. 110.

Vasilevich, GM 1969. *Ewenki: Istoriko-etnograficheskie ocherki (XVIII – nachalo XX veka).* Leningrad: Nauka.

Whaley, LJ, Grenoble LA & Li, F 1999. Revisiting Tungusic classification from the bottom up: a comparison of Evenki and Oroqen. *Language* 75:286–321.

Williams, M, Kuhn, W & Painho, M 2012. The influence of landscape variation on landform categorization. *Journal of Spatial Information Science* 5:51–73.

Zalizniak AA, Bulakh, M, Ganenkov, D, Gruntov, I, Maisak, T & Russo, M 2012. The catalogue of semantic shifts as a database for semantic typology. In Koptjevskaja-Tamm, M & Vanhove, M (eds) *New directions in lexical typology: linguistics, a special issue* 50(3):633–669.