

**THE DOMAIN OF SURFACE TEXTURE**

The paper deals with the typology of surface texture expressions, such as *slippery road*, *smooth wooden board*, *rough hands*, *coarse* or *rough fabric*. We discuss both their literal uses and metaphors formed with them, such as *slippery person*, *smooth speech*, *rugged captain*. Our language sample includes 10 Uralic languages (Finnish, Estonian, Meadow Mari, Erzya, Moksha, Udmurt, Komi-Zyrjan, Hungarian, Khanty, Nenets), as well as 5 languages from other families (Russian, English, Spanish, Chinese, and Korean). The categorisation includes primarily a division into visually perceived surfaces and surfaces perceived through physical contact. We discuss in what ways the antonymic areas under observation are asymmetrical in their semantics and combinability. One more focus is on evaluating variation in the texture lexicon in genetically related languages in comparison with its variation across a broader sample of languages.

**Keywords:** Lexical Typology; Intragenetic Typology; Corpus Research; Metaphoric Shift; Uralic Languages

**1. Introduction**

The work presents an attempt to categorise one part of the domain of sensory lexicon, namely, attributes for surface texture description. Having ten Uralic languages (Finnish, Estonian, Meadow Mari, Erzya, Moksha, Udmurt, Komi-Zyrjan, Hungarian, Khanty, Nenets) and five languages from other families (Russian, English, Spanish, Mandarin Chinese, and Korean) in our language sample might look like a disproportionate selection, but the sample has not been compiled randomly. Our aim was, first, to find out the degree of similarity demonstrated by the same semantic domain in a group of closely related languages, and, second, to check the typological relevance of our results on languages outside this family. The Uralic

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<sup>1</sup> Researcher at V. V. Vinogradov Russian Language Institute of RAS.

<sup>2</sup> Associate Professor at School of Linguistics, Faculty of Humanities, National Research University Higher School of Economics.

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data have been mostly gathered in fieldwork,<sup>3</sup> but materials from dictionaries and corpora were also included where available.<sup>4</sup> The Russian material (Russian being the native language of the authors) comes primarily from the Russian National Corpus (RNC) and from dictionaries. Our English data were collected by getting responses of native speakers to our typological questionnaires, as well as by consulting the Corpus of Contemporary American English (COCA)<sup>5</sup>, the British National Corpus (BNC)<sup>6</sup>, and a range of online and paper dictionaries. As regards the other languages in our sample, their data have been taken from the existing descriptions created within our project, namely: (Spesivceva, 2012) for Spanish, (Ivanova, 2011) for Korean, and (Kholkina, 2014) for Mandarin Chinese.

The data on some particular languages were published in our previous papers, see Kashkin (2011a, 2011b, 2012, 2013a: 112–280, 2013b), Vinogradova (2013) and Koshkareva et al. (2017: 233–242). In this paper we aim to discuss cross-linguistic generalizations of our study, providing language examples for them, but not elaborating on the whole structure of the surface texture domain in each particular language.

The description of the research results falls into four sections. After the introduction in Section 1, we discuss the literal meanings of surface texture expressions (covering both roughness and its absence) in Section 2. Section 3 is devoted to the metaphorical uses derived in the domain in question. Finally, the possible conclusions and implications are considered in Section 4.

## 2. Literal uses

### 2.1 *Absence of roughness*

#### 2.1.1 *The way a surface is perceived*

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<sup>3</sup> If an example receives no explicit reference, it means that it has been recorded from a native speaker.

<sup>4</sup> Certain Uralic dialects different from the standard language variety are referred to when discussing the relevant examples.

<sup>5</sup> <https://www.english-corpora.org/coca/>, last accessed October 1, 2019.

<sup>6</sup> <https://www.english-corpora.org/bnc/>, last accessed October 1, 2019.

The basic semantic distinction within the domain of surfaces deals with **the way a surface is perceived**.<sup>7</sup> For some surfaces their ‘smoothness’ or ‘roughness’ is evaluated **visually**, like in the case of a field or a ceiling (we will use the label LEVEL for

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the group of frames<sup>8</sup> that includes fields and ceilings). There are, however, many surfaces usually perceived **by touch**, cf. a wooden board when one examines how well it is polished, or one’s cheeks while shaving. The frames of tactile perception are further subdivided into two types: the first one includes **smooth** surfaces like those mentioned above, and the second one embraces **slippery** surfaces (e.g. a slippery road or a slippery ball). Slippery surfaces lack roughness to such an extent that it becomes difficult to keep one’s balance on them or to hold them in one’s hands. Correspondingly, the labels we use are SMOOTH and SLIPPERY.

The languages of our sample demonstrate three strategies of categorising SLIPPERY, SMOOTH, and LEVEL surfaces.<sup>9</sup>

First, each of these types may be referred to by a special lexeme (or a special set of lexemes), cf. examples (1)–(3) from Russian. SLIPPERY surfaces are described with an adjective *skol’zkiĭ* (1). SMOOTH surfaces (perceived by touch) require another adjective *gladkiĭ* (2). Finally, LEVEL surfaces are referred to as *rovnyiĭ* (3).

RUSSIAN

(1) *Ja podnja-l-sja i, ostorožno stupaj-a po*  
 I lift-PST.M.SG-REFL and carefully tread-CVB.PRS on  
*skol’zk-omu parket-u, otpravi-l-sja*  
 slippery-DAT.M.SG parquet-DAT.SG send-PST.M.SG-REFL  
*v kuxnj-u.*

<sup>7</sup> Here and further on we discuss linguistic understanding of perception. For the biological aspects of this issue, see Lederman and Klatzky (2009) and references therein.

<sup>8</sup> We use the term "frame" for a basic situation described by a lexeme, see Rakhilina and Reznikova (**this volume**). One can also speak about groups of frames in the sense that frames in a group are semantically close to each other and are often co-lexified.

<sup>9</sup> It should be emphasized that SLIPPERY, SMOOTH, and LEVEL are used here as metalinguistic labels referring to the basic subzones of surfaces without roughness, and they do not imply all the polysemy of the corresponding English lexemes.

to kitchen-ACC.SG

‘I stood up and went to the kitchen, carefully treading on a slippery parquet floor’ [RNC]

RUSSIAN

- (2) *Poverxnost’ kartin-y dolžn-a by-l-a by-t’*  
surface.NOM.SG picture-GEN.SG must-F.SG be-PST-F.SG be-INF  
*gladk-oj, kak polirovann-aja kost’.*  
smooth-INS.F.SG as polished- NOM.F.SG ivory.NOM.SG

‘The surface of the picture was required to be as smooth as polished ivory’  
[RNC]

RUSSIAN

- (3) *Rjadom s dorog-oj polno rovn-yx ploščadok,*  
close with road-INS.SG plenty level-GEN.PL area.GEN.PL  
*jest’ rodnik-i i ruč’j-i.*  
be.PRS spring-NOM.PL and brook-NOM.PL

‘There are plenty of level areas near the road, as well as springs and brooks’ [RNC]

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Second, languages sometimes use a separate lexeme for SLIPPERY surfaces in opposition to just one lexeme in common for both SMOOTH and LEVEL surfaces. This strategy can be illustrated in Erzya examples (4)–(6): the adjective *nolaža* stands for SLIPPERY (4), while the adjective *valan’a* describes both SMOOTH (5) and LEVEL (6) surfaces.

ERZYA

- (4) *vasn’a son (nad’a) pel’-s’ synst (kal-tne-n’)*  
at.first she Nadya be.afraid-PST.3SG they.GEN fish-PL.DEF-GEN  
*tokše-ms: nolaža-t di jezmoldy-t’*  
touch-INF slippery-PL and move-NPST.3PL

‘At first she (Nadya) was afraid of touching them (small fishes): they were slippery and were moving’ (Buzakova 1982: 88).

ERZYA

- (5) *valan’a ked’-se son panar vi-kšn’-i*  
smooth hand-LOC she shirt sew-IPFV-NPST.3SG  
‘She is sewing a shirt with her smooth hands’

ERZYA

- (6) *valan’a paks’a-nt’ langas’ed’e vadr’a kizna*  
level field-DEF.GEN on more good summer  
*t’ikše-n’ l’ed’e-ma-s’*

grass-GEN mow-NMN-DEF.NOM

‘In summer it is better to mow grass on a level field’

In the third strategy, SLIPPERY and SMOOTH surfaces can be described with one and the same lexeme, while LEVEL surfaces are referred to with another lexeme. This strategy is less frequent than the other two, but at the same time it provides a typological reason for including SLIPPERY surfaces into the same larger domain (absence of roughness) as SMOOTH ones. An illustration is represented in examples (7)–(9) from Khanty (Tegi dialect): an adjective *wol’ək* (with an allomorph *wol’k*) means ‘slippery’ (7), and ‘smooth’ (8), whereas an adjective *pajli* means ‘level’ (9). Outside the Uralic family, this strategy is also attested in Chinese (Kholkina 2014: 170-171).

KHANTY (TEGI DIALECT)

(7) *at mār juoš pət-s-a, juoš wol’k-a ji-s*  
night at road freeze-PST-PASS road slippery-DAT become-PST  
‘The road has frozen at night, it has become slippery’

KHANTY (TEGI DIALECT)

(8) *tām sɔxəl wol’k-a wer-e!*  
this wooden.board smooth-DAT make-IMP.O.SG  
‘Make this wooden board smooth’ (e.g., a father tells this to his son while teaching him to polish wooden boards).

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KHANTY (TEGI DIALECT)

(9) *tām torən xār-em pajli, šit-em muw-əŋ.*  
this hay place-POSS1SG level that-POSS1SG ground-ATTR  
‘This meadowland of mine is level, and that one is hummocky’

These are the basic classes of surfaces “without roughness” and the strategies languages use in subdividing this semantic zone. These semantic oppositions within the domain concerned, however, are not limited to the distinctions among these three basic classes. Each of these classes includes some rather heterogeneous frames, which is apparent in the data investigated. In the next subsections we will look at more semantic features, starting with the subdomain of SLIPPERY surfaces.

### 2.1.2 SLIPPERY surfaces

The crucial distinction among different SLIPPERY surfaces deals with their **topological class**, which primarily implies the type of contact between a surface and a human being. On the one hand, one may evaluate a surface as SLIPPERY when moving on it and finding it difficult to keep one’s balance

(e.g., a road in winter, a wet floor, or stone stairs). On the other hand, one may try to keep an object with a slippery surface in one's hands and experience problems trying to hold it (e.g., fish, a bar of soap, or the handle of a spade). There is also a frame that is in a way similar to both topological classes of slippery surfaces, and a typical representative is the lexeme denoting the sole of shoes (and metonymically shoes themselves). Shoe soles may slip as one is moving (which makes them similar to the road), and at the same time the sole is small and its topological properties therefore become close to those of fish or small stones.

Quite a few languages possess a lexeme dominant over all the frames of SLIPPERY surfaces, cf. English *slippery*, Russian *skol'zkiĭ*, Erzya *nolaža*, and Estonian *libe*. Some languages (e.g., Komi, Udmurt, Spanish), however, treat bearing surfaces separately from the surfaces of objects slipping out of hands, cf. the Izhma Komi examples (10) and (11). In (10) a slippery floor is described with an adjective *vol'k* 'slippery', while in (11) this adjective is out of place for describing a piece of soap, and what must be used instead is a verb *vol'sjoony* 'to slip out'.

KOMI (IZHMA DIALECT)

- (10) *pos-se*                      *mys'k-ema-s'*,    *i*    *l'ok-a*    *kos't-ema-s'*,  
 floor-ACC.POSS3SG wash-PST2-PL    and    bad-ADV    dry-PST2-PL  
*i*    *posk-ys*                      *vol'k*,    *verm-an*    *us'-ny*.  
 and floor.OBL-POSS3SG slippery may-NPST.2SG fall-INF  
 'The floor has been mopped but badly dried, the floor is slippery, you  
 may fall down'

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KOMI (IZHMA DIALECT)

- (11) *majteg*    *torj-ys*                      *vol'sjal-e*    /    *\*vol'k*.  
 soap    piece.OBL-POSS3SG slip.out-PRS.3SG slippery  
 'The piece of soap is slipping out'

The frame of shoe soles may behave differently in such systems. In Izhma Komi, it can be characterized either with the adjective *vol'k*, or with the verb *vol'sjoony*. However, in the closely related Udmurt language, it is only the verb *gyldz'yny* 'to slip out' (about fish, soap, etc.) that is applied here, but not the adjective *gylyt* used for bearing surfaces. In Spanish, the lexeme *resbaladizo* is common for both bearing surfaces and shoe soles, whereas a lexeme *escurridizo* is specific for objects slipping out of hands (Spesivceva 2012: 39–42).

Apart from the differences determined by its topological properties, a surface can be slippery for different reasons. For the sole of a shoe this is usually an inherent property, but at the same time many surfaces can become slippery because there is some **extraneous substance** on them, such as ice on the road, slime on the skin of a snake or on the scale of a fish. This factor becomes significant for some languages. In COCA, the 101 most frequent occurrences of the English adjective *slick*<sup>10</sup> are in 64 combinations with nouns, and 43 of them are nouns for objects that have become slippery because of something that happened to them, such as a road with thawing snow or a path covered with fallen leaves. Here are some of those occurrences: *Ahead, the trail rose steeply, slick stones and black mud churned by booted feet and shod hooves; ... with his bare torso slick with water and mud from the damp, ...; ... the windows overlooking the quad slick with condensation, the children overlooking each other slick with sweat, ...; I noticed the snail trail of slick tears across his cheeks.; ... a dead fruit fly floating belly-up in the rainbow-colored grease slick spreading on the surface of his coffee ...; ... He nearly slipped as his foot hit something slick. He looked down briefly to see the puddle of crimson he'd skidded through.*

Similarly, Hungarian *sikos* is used only for slippery surfaces covered with extraneous substances. Its prototypical contexts are an icy road, the skin of a snake, and the scale of a fish (on the contrary, the adjective *csúszós* is dominant over all the subdomains of SLIPPERY surfaces in Hungarian).<sup>11</sup>

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A special strategy is represented in some languages which have a separate lexeme for a slippery **bearing surface covered with ice** (e.g., a road after it has frozen at night), and this lexeme is not a direct derivation from the noun ‘ice’. In particular, this is the case of Tundra Nenets, where a lexeme *salot°q* means ‘slippery with ice’ (about a bearing surface), while the dominant lexeme for all slippery surfaces is a verb *nøsadørçy°* ‘to slip’.

#### 2.1.3 SMOOTH surfaces

<sup>10</sup> <https://www.english-corpora.org/coca/>, search for *slick*, last accessed October 13, 2019.

<sup>11</sup> It should be noted here that we do not analyze adjectives like *slimy* (often derived directly from a noun referring to the extraneous substance), as they do not necessarily imply that an object is slippery, often focusing only on the existence of *slime* on its surface, as in the example from COCA: *... I tried to climb out of the hole full of silt and rotting vegetation and maybe slimy creatures.*

SMOOTH surface semantics cannot always be reduced to the type of perception, as lexemes sometimes include more fine-grained distinctions. One important type of smooth surface includes the **additional visual feature of shining**. A striking example of lexicalizing this feature is provided by an English adjective *sleek* meaning ‘smooth and shining’ (cf. the neutral term *smooth*). Examples can be seen in photographs of *sleek* hair on the internet—the hair is typically very smooth and shining, reflecting light in a special way, often as a result of special care or styling, and in most cases such hair is of quite a “straightforward” shade giving the strongest luster, mostly raven-black or golden. Here are a few other examples of *sleek* used in the same meaning: *He wore an old sleek crisp flaxen wig which ...was made of hair but which looked far more as though it was spun from filaments of silk or glass. (Charles Dickens, A Tale of Two Cities); ...a few styling tricks...the result: sleek face; ...the actress’s sleek face flaming with tints of arousal...; Light glints off the glass tiles, drawing the eye to their sleek surfaces.*

A bit more complex case is observed in Spanish, where the adjective *terso* describes only sleek surfaces (Spesivceva 2012: 35–37), at the same time imposing restrictions on the semantic class of the object: it is compatible only with the names of body parts (e.g., hands or cheeks), but not artefacts (e.g., a polished wooden board). Within the Uralic family, the parameter of ‘shining’ is relevant for Meadow Mari: an adjective *jaklaka* refers to all the slippery surfaces, including sleek surfaces, whereas smooth surfaces which do not reflect light are described as *jyvyža*.

As was demonstrated with the Spanish adjective *terso*, some lexemes may describe only body parts, which therefore constitute a special type of surface. In some languages, this determines a special strategy of categorising **body parts**. The focus in their description may be placed on some other related features, while lexemes of surface texture cannot be applied to them. This strategy has been attested in Khanty (Muzhi dialect) and in Moksha (Central dialect). In Khanty an adjective *pajli* ‘level, smooth’ may describe smooth artefacts (e.g., wooden boards), but not a person’s skin, face, or hair. The qualities of these body parts are categorised within other semantic domains, e.g., *mulijəl* (shine-NPST.3SG) ‘shines’ or *xɔraseŋ* ‘beautiful’ about a man’s clean-shaven face, or about a smooth face of a pretty girl; *lepət* ‘soft’ about well-groomed skin.



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### 2.1.4 LEVEL surfaces: land areas vs. artefacts

A detailed language categorisation of perception types emerges not only for SLIPPERY and SMOOTH surfaces, but also for those in the domain of LEVEL. The first stage of this categorisation deals with the opposition between level **land areas** and **artefacts**. Thus, Hungarian *sík* ‘level, flat’ is appropriate only for land areas, for example, *sík rét* ‘level meadow’, *sík mező* ‘level field’, *sík vidék* ‘level landscape’. Izhma Komi gives a more complex case, where an adjective *mol’yd* describes all the smooth surfaces perceived by touch, and also level land areas, but not level artefacts (e.g., it is not applied to a floor, a wall, a fence) if a speaker means their visual perception. The latter class requires an adjective *rəvnej* (borrowed from Russian *rovnyj* ‘level’) or an adjective *ves’kyd*, which means ‘straight’ and which may also cover some frames of artefacts.

The class of land areas shows more fine-grained distinctions which cannot be reduced to a mere type of perception. Thus, a special frame in this subdomain is a **level road**. On the one hand, it is a land area and is often evaluated visually; on the other hand, a road has a specific function of being a surface on which people move. This makes it subject to a certain degree of tactile evaluation, which affects the choice of texture expressions for it. Languages differentiating between the lexemes for ‘level’ and ‘smooth’ tend to use the latter for a road, especially if it is necessary to emphasize the good quality of a road (while an adjective ‘level’ still remains possible). For example, the Russian National Corpus provides 100 entries of *rovnaja doroga* ‘a level road’ and 63 entries of *gladkaja doroga* ‘a smooth road’ asserting a greater degree of ‘smoothness’ for those who use it. For other kinds of level surfaces, the occurrence of the ‘tactile’ adjective is considerably less frequent. Thus, the ratio of co-occurrences of *rovnyj* ‘level’ as opposed to *gladkij* ‘smooth’ is 84 vs. 14 with *pole* ‘field’ (the latter examples all come from fiction between the 18th and 20th centuries), 46 vs. 9 with *step’* ‘steppe’ (the last example for *gladkij* dates back to 1937), and 14 vs. 2 with *lug* ‘meadow’ (both of the entries of *gladkij* with *lug* date back to the 19th century).

One more important frame within land areas is landscape **without mountains** or heights. Some languages encode it with a lexeme originally coming from the semantic domain of shape and denoting flat objects, e.g. Russian *ploskij* or Estonian *lame*. However, this polysemy pattern is not universal. In many languages, a lexeme describing a flat shape cannot refer to any surface landscape properties at all (like Khanty *lopsax* or Moksha *lapsš*). On the other hand, some lexemes traced back to the domain of shape are

applicable not only to landscapes, but also to other types of surfaces. This is the case of English *flat*, which is applicable to various kinds of surfaces defined by one of our consultants as having no “significant elevation”; this is also seen in the following examples from COCA: *a perfectly flat floor for a dining*

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*table and six chairs; Stand the chair on a flat table and check that all legs rest evenly; The top of the mesa was a flat deck of stone.*

In the subdomain of “land” areas, there is the frame of smooth **water surface** (when there is no wind). Some languages use lexemes here from the surface domain, e.g. English *smooth*, Russian *gladkij*, or Nenets *salmuy*. It is often the case, however, that water cannot be described with surface expressions. Instead, some languages focus on other related features in its categorisation, see example (12) from Tegi Khanty, or an Udmurt expression *šyptyt pukys*’ (lit.: quietly sitting) used about smooth water surface.

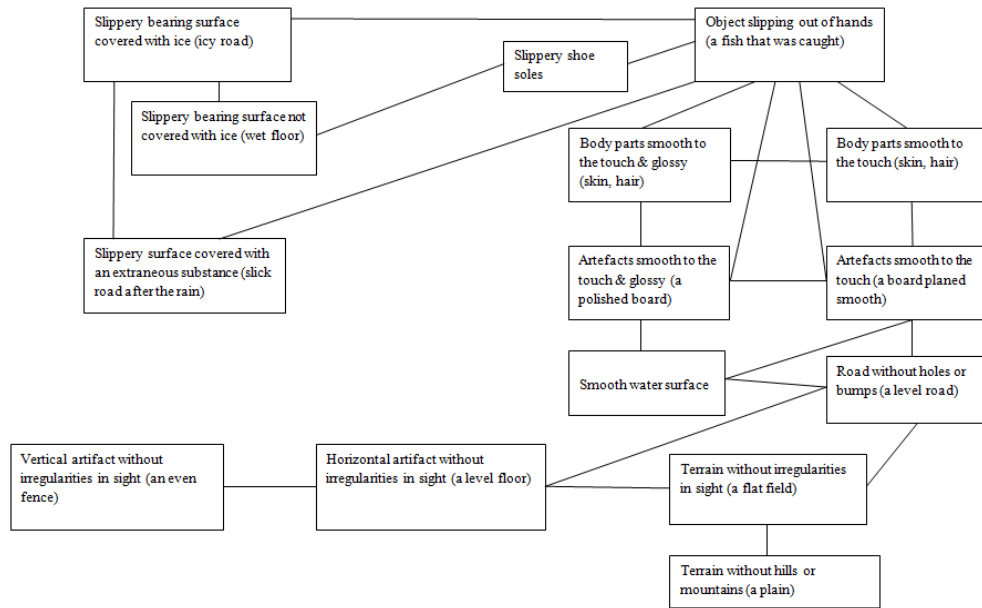
KHANTY (TEGI DIALECT)

- (12) *tewən, jɨŋk      ńur      rəm-ije.*  
quiet    water    entirely calm-DIM  
‘Be quiet, the water is entirely calm’

Artefacts with a level surface may be differentiated on the basis of their **vertical** vs. **horizontal orientation**. A good example is provided by Tegi Khanty, where an adjective *pajli* ‘level’ is appropriate only for horizontal surfaces (e.g., a floor), while vertical surfaces (e.g., a wall or a fence) tend to be described as *tuj* ‘straight’.

The typological data on how the absence of irregularities may be categorised across languages are summarized on the semantic map in Figure 1. The map has been created manually following the theoretical approach of Haspelmath (2003).

*Absence of irregularities domain: basic semantic map. Figure 1.*



## 2.2 Roughness

As compared to the zone of smoothness, the frames of roughness have an additional slot, which is roughness itself with its own properties: size, regularity, rigidity. As we will see, this becomes highly important for language categorisation of ROUGH surfaces. The zone of roughness includes quite a few lexemes with narrower semantics referring to various specific types of roughness, e.g. English *rippled*, *pimpley*, *scarred*, *knotty*, *bumpy*, *cracked*, *bristly*. We will not discuss such lexemes in this article, but we will focus on classes of frames typically categorised by lexemes with long collocation lists.

According to our cross-linguistic data, there are two important classes of ROUGH surfaces. The first one embraces wrinkled surfaces, like the face of an elderly person or the skin of an old apple, cf. Udmurt *kisyrijo*, Khanty *morməŋ*, Izhma Komi *kərs'ema* as examples of lexemes specific for this class. Sometimes wrinkled surfaces are subdivided into two-dimensional and three-dimensional objects, cf. Estonian *kortsus* 'wrinkled' (for a flat object such as skin, face, forehead, leaf) vs. *krimpsus* 'wrinkled' (for a 3-dimensional object such as an apple, potato). The second important class of ROUGH surfaces comprises surfaces with regularly rigid roughness perceived by touch such as a cat's tongue, frost-bitten hands, or a badly polished piece of wood (e.g. Russian *šeršavyj*, Udmurt *šakyres*, Erzya *kaz'amo*, and Estonian *kare* correspond to this kind of surfaces). It is the latter class which demonstrates the most prominent cross-linguistic variation along with having many of the prototypes mentioned above that are common for the languages in our sample. We will therefore concentrate on its typology.

ROUGH surfaces may vary in the **size of roughness**: on the one hand, small evenly-distributed granules of roughness on a cat's tongue or on frostbitten hands, or, on the other hand, larger patch-like roughness like that of the tree bark or a scab. Within our set of Uralic languages, this opposition is significant for Finnish *karhea* (small roughness) vs. *karkea* (large roughness), and for Estonian *kare* (small roughness) vs. *krobeline* (large roughness). This distinction is illustrated by the Estonian examples (13)–(14), with the latter example given by a native speaker in reply to the question if there is any situation when the surface of paper or another similar object may be called *krobeline*.

ESTONIAN

(13) *See paber on natuke kare / \*krobeline.*

this paper be.PRS.3 a.bit rough coarse  
'This paper is a bit rough' (about paper in an old notebook)

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ESTONIAN

(14) *Krokodillinaha imitatsiooni-ga vihikukaane-d on*  
crocodile+skin:GEN imitation-COM notebook+cover-PL be.PRS.3  
*kergelt krobelse-d.*  
a.bit coarse-PL

'Notebook covers imitating crocodile skin are a bit coarse'

Outside the Uralic family, a good example of this opposition is provided by the group of English adjectives *rough*, *coarse*, and *rugged*. The last lexeme obviously refers to large roughness, often located on landscapes or other visually perceived objects, e.g. *the lava's rugged surface provided livestock with a good place to break their legs* [COCA]; *Phobos has ... a more rugged surface: its most striking features are a large impact crater and a series of grooves* [COCA]. *Coarse*, in its turn, tends to denote more significant irregularities than *rough*. Often it emphasizes a greater degree of roughness, like in the example *Maine is a vast and empty state, and that is precisely what Steve loves most about it. I understand the appeal on a theoretical level, but in actuality I find these woods coarse and lonely.* [COCA]. Another illustrative example of the meaning is how these two adjectives are used to describe whetstones or sandpaper. As they are by definition *rough*, they are rarely characterized with this adjective, while the use of *coarse* is common with them if the speaker focuses on the larger size of grains.

The parameter of size sometimes correlates with other properties of a surface, such as size of granules and positive versus negative evaluation. First, if we look at the combinations of *rough* and *coarse* with the same nouns, we notice that the use of *rough* often emphasizes lack of wood surface processing (*rough boards* as in "...ordered them to cut timber and split it into **rough** boards", or *rough wood planks* as in "He and I were sitting on the **rough** wood slats of the dock..."), or lack of care (*Comb her hair, and she becomes a young socialite. As it stands, the bold contradiction of **rough** hair plus the refined mouth creates a Kate who's not sure whether she's coming or going*). Secondly, *coarse* can highlight the separate structure of the elements contributing to the roughness of a surface or its fibre (...*his chest's coarse hairs looked golden, his forehead's rugged creases appeared less defined; I took off my loafers and socks and walked out on the hard coarse surface of the wet sand*). Third, *rough* can communicate the idea of low functionality,

though it is important to note that *rough* is still applicable to certain functional and positively evaluated surfaces, cf. *Slightly rough blankets are also preferred as they have less contact with the paper surface thus reducing blanket contamination* [Google]. This brings us to a fourth observation, that the negative evaluation in *rough hair* is rather a frequent pragmatic implication than a necessary assertion, and the primary semantic parameter regulating the use of *rough* is size of roughness. The typological data do not show any lexeme

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specifying either positive or negative evaluation of rough surfaces. Overall, the parameters of evaluation and functionality always remain supplementary to any other parameters discussed in this section.

Another parameter of variation within the ROUGH subdomain is the **regularity of roughness**. Thus, the Russian adjective *šeršavyj* refers to roughness which is regularly distributed on a surface and/or is inherent (e.g. on such surfaces as a cat's tongue, asphalt, an emery board), while the adjective *šeroxovatyj* tends to describe irregular roughness (e.g. on a wooden board or tree bark) that is often expected to be treated. In many languages, a lexeme used for regular roughness cannot be applied to a surface with irregular roughness, such as Izhma Komi *sozores'*, Khanty *karəŋ*, or Nenets *nasortəsy*. On the contrary, some languages make no lexical distinction in the regularity of roughness; this is the case of Erzya *kaz'amo*, English *rough*, or Chinese *cucao*, all of which describe roughness irrespective of its regularity.

As mentioned above, a prototype of ROUGH surfaces includes those covered with rigid roughness. There are, however, some soft surfaces covered with separate items which cause what may be called **softer roughness**. Examples include stubble and a woolen blanket: *Still, nervousness itched at him just like the rough blanket* [COCA]; *The blankets itched me horribly. My skin felt raw where I had scratched at my arms in my sleep, and when I finally hauled my legs from under the rough blankets...* [Google]. Languages differ as to whether such surfaces may be described with a basic lexeme meaning 'rough'. The use of Estonian *kare*, Erzya *kaz'amo* or English *rough* spreads to the frame of soft roughness, while Izhma Komi *sozores'* or Western Khanty *karəŋ* are impossible in these contexts, remaining specific for rigid roughness.

A special class of ROUGH surfaces includes surfaces **affecting an object in contact**, e.g. scratching or pricking it, like bristly cheeks or splintery wood. This is the case of Udmurt *čogyres* which describes surfaces which are simultaneously rough and scratching (15), compared to the neutral term

*šakyres* ‘rough’. A similar case has been attested in Spanish; see Spesivceva (2012: 55–57) for a detailed discussion of the adjective *rasposo* ‘rough and scratching’ as opposed to *áspero* ‘rough’.

UDMURT

- (15) *čogyres pul-ti basma-en ortč'yt-i-d ke,*  
 rough wooden.board-PROL cloth-INSTR pass-PST-2SG if  
*basma-len sin'ys-jos-yz kan'žas'k-o-zy*  
 cloth-GEN thread-PL-POSS3SG catch.on-FUT-3PL  
*pul bord-y*  
 wooden.board near-ILL  
 ‘If you pass a cloth over a rough wooden board, the threads of the cloth  
 will catch on the wooden board’

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Most cross-linguistic distinctions in the subdomain of ROUGH discussed so far in this section are connected with the properties of roughness itself. However, some languages maintain lexical differentiation of the objects, namely, the distinction between **natural objects** and **artefacts**. As regards the zone of ROUGH, this can be observed in Mandarin Chinese (Kholkina, 2014: 208), where the adjective *máocao* ‘rough’ is applied to man-made cloth or wooden boards, but cannot refer to objects that exist in wild nature (e.g. tree bark, branches, leaves) and have not been processed by the man.

An important parameter of cross-linguistic variation in the ROUGH subdomain deals with its relation to **coarse fabric**. Languages differ in whether there is a texture lexeme covering this frame. Sometimes there is no such lexeme in the subdomain of ROUGH, cf. Russian *šeršavyj* characterizing a surface vs. *grubyj* describing the stiff structure of any object. In Udmurt, coarse fabric is described with an adjective *č'uryt* literally meaning ‘hard, rigid’, but not with an adjective *šakyres* ‘rough’. Some languages, however, apply the same lexeme to rough surfaces, cf. Shoksha Erzya *kaz'ama* in (16)–(17).

ERZYA (SHOKSHA)

- (16) *katka-t' kel'-s' kaz'ama, son čama-t'e-st*  
 cat-DEF.GEN tongue-DEF.NOM rough it face-DEF-EL  
*kišt-e*  
 lick-NPST.3SG  
 ‘A cat’s tongue is rough, it is licking my face’

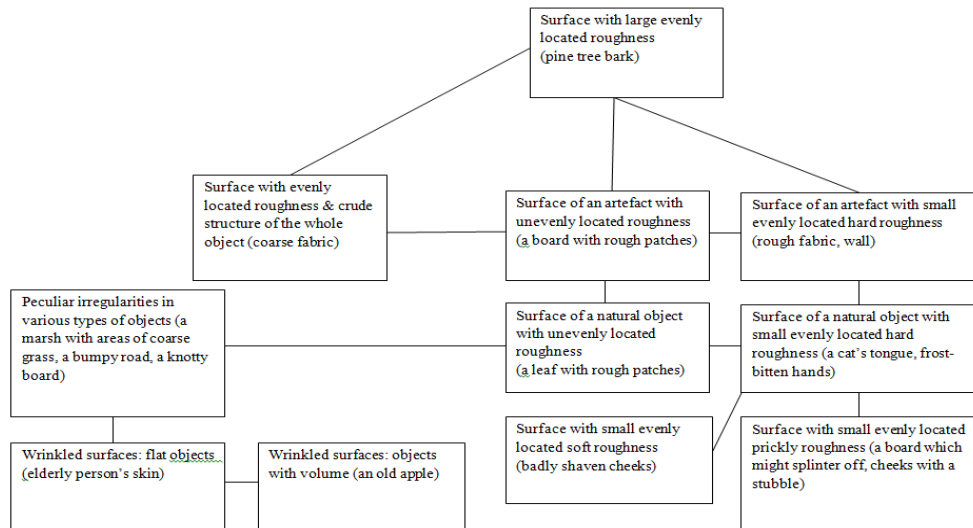
ERZYA (SHOKSHA)

(17) *keskaf-t'n'i-n' t'ij<sup>h</sup>-sy-z'*                      ***kaz'ama***    *mat'er'ial-sta*  
sack-PL.DEF-GEN make-PRS-3PL.S:PL.O    coarse       fabric-EL  
'Sacks are made of coarse fabric'

The semantic map visualizing the domain of ROUGH is shown in Figure 2. Note that the semantic maps of the two antonymic domains (absence of roughness in Figure 1 vs. roughness in Figure 2) are quite different. In particular, lexemes denoting absence of roughness draw subtle distinctions within various types of perception, while lexemes describing roughness are mostly opposed in the properties of roughness itself (size, regularity, impact on a contacted object).

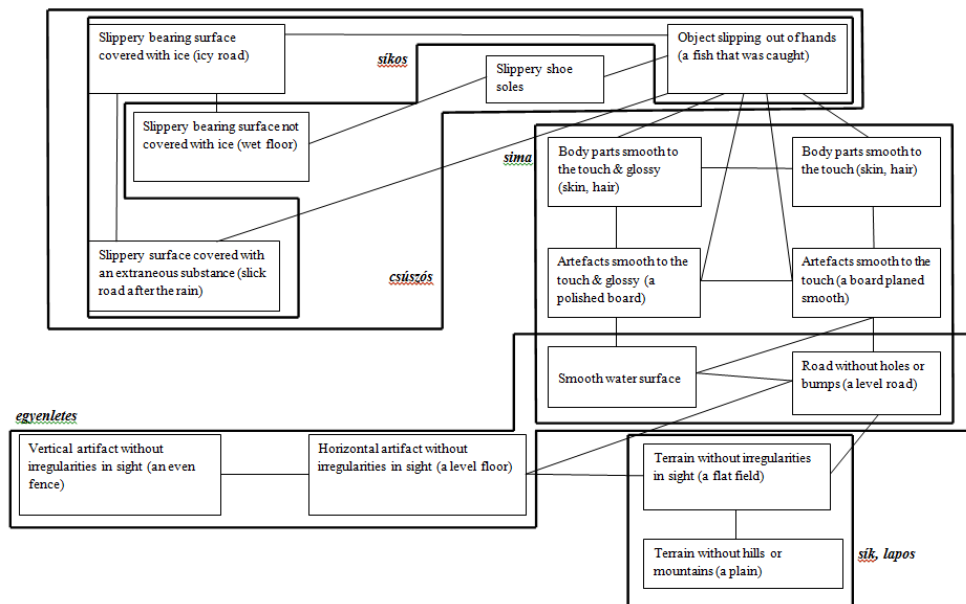


*Irregularities domain: basic semantic map Figure 2.*

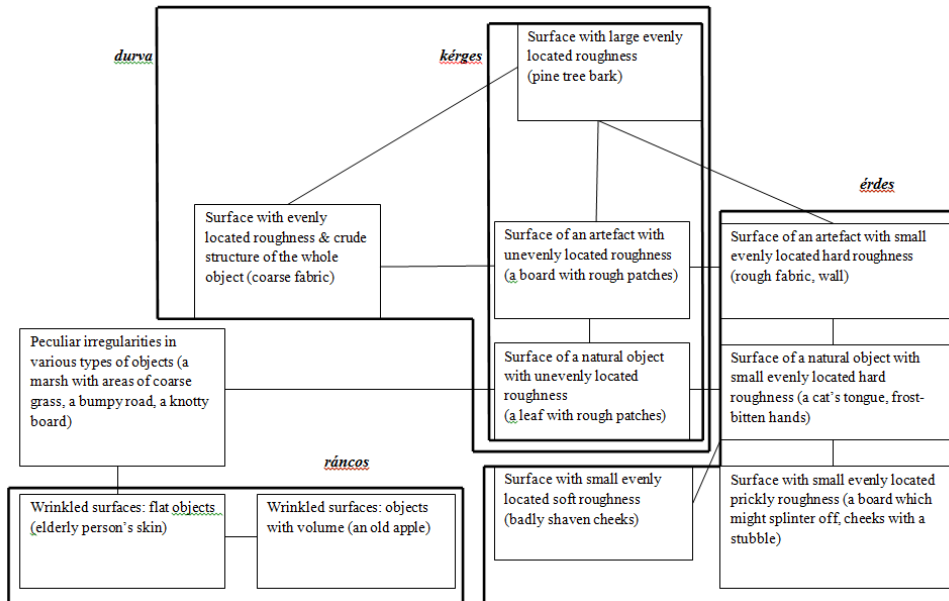


Figures 3 and 4 illustrate the difference between the two domains as lexicalized in Hungarian.

*Absence of irregularities domain: semantic map for Hungarian Figure 3.*



*Irregularities domain: semantic map for Hungarian Figure 4.*



### 3. Metaphoric uses

The analysis of metaphoric uses of the texture expressions will follow the same order of the source semantic zones as they were discussed in Section 2 — SLIPPERY, SMOOTH, LEVEL, and the zone of roughness.

#### 3.1 SLIPPERY

Lexemes describing slippery surfaces often develop metaphors of **unsteadiness or lack of trustworthiness**. This shift is quite transparent, keeping in mind low functionality feature of slippery surfaces, which makes it difficult to use them. Metaphors belonging to this class first refer to unreliable people, like English *a slick person, a slick lawyer, slick Willie and slippery Hillary* (a reference to Bill and Hillary Clinton; the difference between the two adjectives *slick* and *slippery* in their metaphoric uses is quite subtle; according to the Macmillan dictionary<sup>12</sup>, “a slick person is clever and good at persuading people but probably not honest or sincere,” while “someone who is slippery is clever but dishonest, so that you cannot trust

<sup>12</sup> Macmillan English Dictionary for Advanced Learners, International Student edition, Bloomsbury Publishing Plc., 2006, p.1344 and p.1346.

them”). Some specific expressions include English *be as slippery as an eel*, Russian *skol'zkiĭ*

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*tip* ‘a slippery person’, Finnish *liukas kuin ankerias* ‘as slippery as an eel’ (about an unreliable person), and Erzya *nolaža loman* ‘a slippery person’.

Second, metaphors involving ‘slippery’ may deal with situations, course of life, and fields of somebody’s activity which may lead to something unpredictable, e.g. Spanish *situación resbaladiza* ‘an unstable (lit.: slippery) situation’, Russian *skol'zkaja tema* ‘an unpleasantly tricky (lit.: slippery) subject’, *skol'zkij vopros* ‘a tricky (lit.: slippery) question’.

Some metaphors in this category focus on particular reasons for evaluating a person or another object as unreliable. For example, the Hungarian adjective *sikamlós*, originally meaning ‘slippery’, shifts to expressing the idea of vulgarity in *sikamlós téma* ‘a vulgar (lit.: slippery) subject (especially one referring to sexual relations)’, *sikamlós viccek* ‘vulgar (lit.: slippery) jokes’, see also Russian *skol'zkie frazy* ‘vulgar phrases’. The Estonian lexeme *libe* ‘slippery’ metaphorically describes a flattering person as *libe inimene* whom it is difficult to believe, or the activities of such a person, in *libe jutt* ‘a flattering (lit.: slippery) speech’.

Another class of metaphors stemming from ‘slippery’ is based on the idea of fast motion along a slippery surface. The metaphors of this SLIPPERY subdomain sometimes refer to **an action performed easily and quickly**. This metaphoric pattern is less frequent than the one with the meaning “non-trustworthy”, but it is quite apparent in the case of the Finnish adjective *liukas* ‘slippery’.<sup>13</sup> This lexeme is metaphorically used in *liukas varas* ‘a skilled (lit.: slippery) thief’, *liukas pelaaja* ‘a skilled (lit.: slippery) player’; see also the uses of the derived adverb *liukkaasti* in (18) and (19). There are also some compound adjectives that include the component *liukas* with this metaphoric meaning, such as *liukasliikkeinen* ‘agile, nimble (lit.: slippery + movements)’ and *liukaskielinen* ‘talkative (lit.: slippery + tongue)’.

FINNISH

(18) *Tiede+miehe-n järki pela-a liukkaa-sti*  
science+man-GEN intellect play-3SG slippery-ADV

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<sup>13</sup> This metaphor might seem to be closer to the idea of smoothness, see Section 3.2. However, the Finnish lexeme *liukas* belongs to the domain of SLIPPERY, but not to that of SMOOTH.

‘The scientist is very quick-witted (lit.: The scientist’s intellect is playing in a slippery way)’

FINNISH

(19) *Auto-t liikku-vat liukkaa-sti uude-lla valtatie-llä*

car-PL move-3PL slippery-ADV new-ADESS highway-ADESS

‘The cars are moving smoothly (lit.: in a slippery way) along the new highway’

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### 3.2 SMOOTH

The metaphors which involve lexemes meaning ‘smooth’ are mostly related to the **absence of defects or difficulties**, which follows from the prototypically positive evaluation of smooth surfaces and of their functionality. This usage embraces a wide range of situations, such as English *smooth speech*, *smooth transition*, *smooth implementation of the programme*, or Russian *Vse prošlo gladko* ‘Everything went off smoothly’.

Some metaphors of this group express a slightly narrower meaning. Often they belong to the domain of speech and characterize either a person speaking confidently, or a fluent speaker of some language. Thus, Russian expressions *gladkaja reč’* (lit.: smooth speech) / *gladko govorit* (lit.: speaks smoothly) correspond to speaking confidently, while fluency is not present in Russian with any adjective close in meaning to ‘smooth’, but it is metaphorically described with an adjective *svobodnyj* or with an adverb *svobodno* (lit.: free / freely). An Udmurt metaphor *vol’yt veras’ke* (lit.: speaks smoothly) can refer to both frames depending on the broader context. In English *fluent* is defined as able to speak or write smoothly, easily or readily (cf. [www.dictionary.com](http://www.dictionary.com)). In this and in many other examples, *smooth* is used as a synonym to *fluent*. In many other contexts *smooth* appears along with *confident*, *persuasive* — or is even used to render these meanings — as in *His smooth comments helped the committee to take the right decision*.

Another important metaphorical extension of SMOOTH, related to absence of defects, deals with human qualities. What may be focused on here is either a person’s nice appearance or positive character traits. The first type of metaphor occurs with Estonian *sile*, as in *sileda näolapiga tüdruk* ‘a girl with pretty (lit.: smooth) face’, and Udmurt *vol’yt*, sometimes used in an idiomatic expression *s’artč’y kad’ vol’yt* (lit.: smooth like a turnip) referring to a pretty girl with smooth outlines of the body. Positive character traits can

be illustrated with Meadow Mari *jyvyža* developing the metaphorical meaning ‘tender, soft’ (about a person’s character).

The concept of smoothness may call up metaphorical associations not only based on the absence of defects, but also based on **absence of distinctive features**. This becomes apparent in such examples as Spanish *tela lisa* ‘plain (lit.: smooth) cloth’ and *fachada lisa* ‘a plain (lit.: smooth) façade’ as in Spesivceva (2012: 32); Estonian *sile sõnastus* ‘superficial, simplified (lit.: smooth) narrative’; and the Hungarian sentence in (20), where *sima* (lit.: smooth) means ‘average, common’. Note that such metaphors often lack the positive evaluation typical of the previously discussed metaphorical shifts undergone by SMOOTH. What becomes more significant here is the caritive nature of SMOOTH which triggers the metaphor of something missing.

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HUNGARIAN

- (20) *Ez egy sima bögre.*  
this INDEF smooth cup  
‘It’s a common (lit.: smooth) cup.’

### 3.3. LEVEL

The semantic invariant of most metaphors developed in the LEVEL subdomain is the idea of **regularity or uniformity**. These metaphors may occur with different types of objects and therefore focus on different aspects of the basic invariant meaning.

Often lexemes meaning ‘level’ are metaphorically applied to static entities, as in English *evenly spaced desks*, *The wall is evenly covered with paint*, Russian *rovnyj zagar* ‘an even suntan’, *rovno rasstavit’ stul’ja* ‘to arrange chairs evenly’, Finnish *tasainen rusketus* ‘an even suntan’, *tasainen väri* ‘a regular colour’. A special case of this pattern takes place when a lexeme from the LEVEL subdomain modifies another qualitative lexeme and points to the steadiness of the quality. For example, this is the case of the English adverb *evenly* (*evenly red*, *evenly good quality*, etc.) and of Finnish *tasaisen*, which is the genitive of *tasainen* ‘level’, as in the following example:

FINNISH

- (21) *Elämä on tasaise-n tylsä*  
life be.3SG level-GEN dull  
‘Life is permanently dull’

Another metaphorical extension of LEVEL, which follows from its use with the names of static entities, expresses equality, cf. English *The score is even; Divide the dough into three even amounts*, or the Meadow Mari example in (22).

MEADOW MARI

- (22) *Jerente māj deč-em kugu-rak kap-an,*  
 Jerente I from-POSS1SG big-CMPR body-ATTR  
*ijgot-šo gəna māj den-em tör*  
 age-POSS3SG only I with-POSS1SG level  
 ‘Jerente is larger than me, but his age is equal to mine’ [Marlamuter]

In some languages such metaphors trigger further semantic extension of LEVEL terms into focus particles. This is the case for English *even*, German *eben*, and Russian *rovno*. However, this extension has not proved typical of the Uralic languages in our sample, but it has been widely discussed for Indo-European languages (cf. König 1991, Traugott 2006, Dobrovol’skij and Levontina 2012, and Luchina et al. 2013). Therefore, we do not discuss it here.

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The idea of regularity / uniformity can be seen in the metaphors of LEVEL applied not only to static entities, but also to activities and processes. A good example is given by a Hungarian *egyenletes* ‘level’, which forms a wide range of such metaphors including *egyenletes lélegzés* ‘even breathing’, *egyenletes mozgás* ‘uniform (lit.: level) motion’, *egyenletes ritmus* ‘steady (lit.: level) rhythm’, *egyenletes sebesség* ‘steady (lit.: level) speed’, *egyenletes zúgás* ‘steady (lit.: level) drone’. This pattern also exists outside the Uralic family, as in Russian *rovnoe dyxanie* ‘even breathing’, *rovnyj šag* ‘even step’, and the use of Korean *maekkulepta* ‘level’ in the contexts of steady voice or steady management of affairs (Ivanova 2011: 127). A closely similar type of metaphor involves use of LEVEL terms with reference to a calm person or their character / actions, as in Russian *rovnyj xarakter* ‘a calm character’, English *an even tone*, and the use of Chinese *píng* ‘level’ for describing a calm person (Kholkina 2014: 198).

Apart from the shift to the domain of regularity or uniformity, lexemes meaning ‘level’ have developed a second completely different metaphorical pattern. Based on the caritive component in the primary meaning of LEVEL, the metaphors within this pattern focus on **low intensity or absence of distinctive features**. A striking example is provided by Estonian *tasane* ‘level’, which expresses metaphorical meanings ‘light’ (pain, rain), ‘slow’

(motion, a river current), ‘low, quiet’ (sound, steps, waves). Similarly, Chinese *píng* ‘level’ follows a productive compounding pattern with the semantics of something ordinary or routine, cf. *píngcháng* ‘ordinary, average (lit.: level + frequent)’, *píngshí* ‘ordinary, everyday (lit.: level + time)’, *píngdàn* ‘monotonous (e.g. about the style of a text; lit.: level + insipid)’ (Kholkina 2014: 198–199). In English such metaphors are highly productive for the adjective *plain* (which is obviously related to the domain of surface texture, as its nominal use can refer to a large flat area of land): *a plain looking girl, plain food, plain English, plain text, a plainclothes police-officer*.

There are also highly distinctive uses of *flat*, *even* and *level* with metaphoric developments close to that shown for *plain*, but yet not exactly the same. *Flat*, in particular, has a broad combinability with many nouns to mean “dull, monotonous, lacking in expressiveness”, for example: “*You go to work and you come at home in the evening, you watch this television... is a very **flat** life*” [COCA]; *flat character* as explained in <https://www.thoughtco.com> (> Humanities > Literature) as *a fictional character without any development or depth*; or ‘fixed, not growing’ with some other nouns as in: “... *problems led by online piracy that have resulted in falling or **flat** sales for five years*” [COCA]. However, there are a few nouns with which all three English adjectives — *flat*, *even* and *level* — can collocate, and one such noun is *tone*. A closer look at these combinations reveals the following subtle differences among the three adjectives (all examples are from COCA):

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—*even* about someone’s tone implies unprejudiced (...*in her judge’s **even tone***), not showing unnecessary emotions (*He maintained his **even tone** and composed expression in spite of all provocation*); soothing or calming down (*Do not yell; speak in a low, **even tone** and show understanding* or ...*to face the bear, talking to it quietly in a calm, **even tone** to let it know you are there*);

—*flat* used with *tone* refers to someone’s intention to conceal something or not to let something out by one’s way of speaking (...*she replied in a detached, **flat tone**. She was upset with me*); or even to communicate an impression contrary to what the words literally mean (...*with a **flat tone** that indicates that she might wish she could answer differently*; or —*You’re a celebrity. —But there is nothing congratulatory in the **flat tone** of his voice*);

—*level* is much less frequent in combination with *tone* than *even* and *flat*. *Level* renders the meaning of a deliberately chosen or strictly controlled tone of voice (*I asked in a deliberately **level tone**; Wilder paused until he could be sure of a **level tone** of his voice*).

### 3.4. ROUGH

Lexemes denoting roughness typically develop metaphors **involving defects or difficulties**. Often they describe the lack of precision or poor quality of some action, as in English *a rough estimate*, *a rough draft*, Russian *grubo skoločennyj stol* ‘a table crudely knocked together’, Erzya *kaz’amo ez’em* ‘crude bench’. This metaphorical pattern is seen in the use of ROUGH for describing illiterate speech lacking in confidence, cf. Udmurt *kylyz šakyres* ‘His language is poor (lit.: his tongue / language is rough)’.

It is often the case that adjectives from the ROUGH domain develop metaphors of human qualities or actions indicating that a particular person is difficult to deal with. Most often these metaphors refer to impoliteness, such as Russian *grubyj čelovek* ‘a rude person’, *grubye slova* ‘rude words’, English *coarse joke*, *coarse language*, Erzya *kaz’amo loman* ‘a rude person’, Estonian *krobelised kombed* ‘coarse manners’. Sometimes ROUGH, if applied to human beings, describes a strict or severe person, like in Spanish *hombre áspero* ‘a severe (lit.: rough) person’ (Spesivceva 2012: 54) or in example (23) from Estonian.

ESTONIAN

- (23) *Isa ol-i laste vastu kare*  
 father be-PST child:GEN.PL with rough  
 ‘A father was strict with his children’

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Some metaphors involving ROUGH refer to unpleasant physiological sensations. There are some expressions with these lexemes denoting an unhealthy person or their body parts; see English *to feel rough*, the Estonian expression in (24), and the Tundra Nenets expression in (25).

ESTONIAN

- (24) *Kurk on külmetuse-st kare*  
 throat be.PRS.3 chill-EL rough  
 ‘He has caught a cold and has a sore throat (lit.: His throat is rough because of the chill)’ [EVS]

NENETS



(25) *sæw-myih* / *sæw-xõna-nyih* *nasorta.*  
eye-POSS1SG eye-LOC-POSS1SG be.rough:3SG

‘I have a speck in my eye (lit.: My eye is rough / It is rough in my eye)’

Similarly, ROUGH metaphorically describes qualities unpleasant for sense organs. Such metaphors have been attested in the domains of taste (English *rough wine*, Spanish *sabor áspero* ‘an astringent taste’) and sound (English *The clutch sounds rough — better get it checked*). As regards unpleasant senses, metaphorical uses of ROUGH are often related to a hoarse human voice. Interestingly, in different languages these metaphors may indicate different reasons for a voice being hoarse. Thus, an Estonian metaphor *kare haal* ‘a hoarse (lit.: rough) voice’ describes a voice hoarse for any reason (chill, screaming, a natural quality), as does its Erzya counterpart *kaz’amo vajgel*. The Hungarian expression *érdes hang* ‘a hoarse (lit.: rough) voice’ describes only a voice which is always hoarse and is not applicable if a voice has become hoarse as a result of shouting or a sore throat.

Finally, lexemes with the original meaning ‘rough’ can metaphorically characterize unfavourable conditions. For instance, English *rough* has a vast list of such collocations, e.g. *a rough night*, *a rough journey*, *a rough day*, *rough going*. A variant of this strategy is represented by the metaphors describing bad weather conditions, such as Estonian *kare põhjatuu* ‘piercing (lit.: rough) northern winds’, *Siberi kare talv, kliima* ‘the severe Siberian winter, climate’, Shoksha Erzya *kaz’ama varma* ‘biting (lit.: rough) wind’, *kaz’ama lov* ‘biting (lit.: rough) snow (during a snowfall)’, and *kaz’ama t’el’is* ‘severe (lit.: rough) winter’.

Some metaphors of the ROUGH domain follow a completely different pattern, focusing not on defects or difficulties, but on **the intensity of an action or of a quality**. This metaphorical pattern seems to stem from applying physical force with the use of rough objects (such as, for example, abrasive paper or abrasive brick). An impressive example is provided by Northern Udmurt ideophones with the root *čaz-*, describing rough surfaces which derive a metaphorical meaning ‘refreshing,

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quenching one’s thirst’ (about a drink). According to the interpretations of native speakers, this metaphor is motivated by the fact that such drinks can cause a burning sensation in one’s throat, i.e. the semantic shift is linked here to the impact of something rough that can be felt on an object.

Lexemes from the source domain of roughness can serve as intensifiers in quite a few abstract contexts. This can be observed in the case of English

*rugged* / *ruggedly*; consider such examples as *The camera combines **rugged** reliability with unequalled optical performance and speed* [WordBanks]; *The telescope is **ruggedly** solid with nothing that can be easily damaged* [COCA]; ... *facing the **ruggedly** competitive conditions in a country whose population has risen from 300 million in 1960 to 1 billion today* [COCA]; ... *galvanizing interpretations of these **ruggedly** intense, expansive and unapologetically romantic compositions...* [COCA]. Russian *grubaja ošibka* (lit.: a coarse mistake) denotes a blunder, and similar metaphors have been attested in German (Bons 2009: 306-307), such as *grobe Mängel* ‘grave (lit.: coarse) defects’, *grob ungerecht* ‘very (lit.: coarsely) unfair’. In colloquial Hungarian there is a productive pattern of using an adjective *durva* ‘coarse’ (or an adverb *durván* ‘coarsely’) as an intensifier, either with positive or with negative connotations; see *durván elfáradtam* ‘I am terribly (lit.: coarsely) tired’, *durván megijedtem* ‘I was terribly (lit.: coarsely) frightened’, *durva autó* ‘a cool (lit.: coarse) car’, *durván szeretem* ‘I am madly (lit.: coarsely) in love’.

#### 4. Discussion

The analysis of the literal and metaphoric uses of texture expressions allows us now to draw the conclusions and make some theoretical implications.

The first of these conclusions deals with the organization of the **sensory lexicon** domain. How language categorises experiences of the five senses is a popular issue in cognitive semantics (Viberg 1983, Majid and Levinson 2011, Levinson and Majid 2014, Koptjevskaja-Tamm 2015). In our discussion of the frames included in the domain of surface texture (see Section 2), we showed that one of the most significant parameters in their cross-linguistic categorisation is the way a surface is perceived (perception is especially relevant for lexemes describing absence of roughness). From the physiological point of view, there are two channels of perception prototypically operating with surface texture: visual and tactile. However, linguistically these frames are much more subtly categorised. There is a specific type of surface perceived by touch, namely, slippery surfaces with their inherent negative functionality usually leading to their special encoding in languages. The frames of visually perceived surfaces are not a homogenous phenomenon either:

they are subdivided into artefacts and land areas, the latter being further classified into roads, water surfaces, and landscape without mountains. Sometimes tactile and visual features interplay in the semantics of a lexeme, as is the case with the frame of sleek surfaces (both smooth to the touch and reflecting light).

Another interesting point concerns **antonymic relations** in the lexicon. Antonyms have often been regarded as asymmetrical in their semantic features and combinability in semantics (see, among others, Apresjan 1974 / 1995, Cruse 1986, Croft and Cruse 2004). But this phenomenon has not been thoroughly investigated in linguistic typology. Thus, it is not quite clear what semantic entities are most commonly involved in this asymmetry cross-linguistically. Our data include two antonymic zones: absence of roughness (SLIPPERY, SMOOTH, LEVEL) and roughness. The literal uses of the three subdomains are subcategorised in quite different ways. Their patterns of metaphoric shifts, described in Section 3, are not fully symmetrical either. A possible explanation is that frames of roughness have an additional element (roughness itself), which triggers new semantic oppositions in the literal uses and new grounds for semantic shifts. At the same time, the caritive zones of SLIPPERY, SMOOTH and LEVEL lack this semantic element, and the main focus in their categorisation is on the type of surface per se (rather than on the type of external elements on it). A further search for the patterns of semantic asymmetry reproduced in various lexical domains is a challenge for lexical typology.

Finally, our research contributes to the issue of **language sampling**, which is highly important for linguistic typology (considered in Croft 1990 / 2003, WALSH, Bakker 2010, among others). According to the traditional view, a sample must be representative, which means it must include languages from different families and areas, so that the research can fully embrace the cross-linguistic diversity.

There is, however, another approach to typological studies, called intragenetic typology. As argued by Alexander Kibrik in (Kibrik 1998, Kibrik 2003, and Kibrik 2009), this approach, when applied to grammar studies, first, provides more subtle cross-linguistic differences, which might be difficult to notice when working with a broader sample; second, it provides more systematic data for diachronic typology; third, it can serve as a starting point for a broader study based on the comparison of more diverse language groups.

The issue of language sampling has also been raised with respect to lexical typology. Some authors have pointed out that studying a lexical group

in closely related languages can reveal a considerable number of semantic oppositions: D'urovič (2000) on verbs of cutting and breaking in Russian and Slovak; Rakhilina and Prokofieva (2004) and Rakhilina and Prokofieva (2005) on verbs of rotation and oscillation in Russian and Polish; and Majid et al. (2007) on verbs of cutting and breaking in English, German,

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Swedish, and Dutch<sup>14</sup>. The sample in our paper is a bit different. While previous research usually focused on 2-4 languages belonging to the same family to show that the structure of semantic domains in closely related languages is not identical, our research covers more languages from the same family (10 Uralic languages), as well as 5 languages from other families in order to check the typological validity of the conclusions drawn in the intragenetic study.<sup>15</sup> The most important conclusions made on the basis of our sample are the following.

There are many cognates (words in related languages having a common ancestor and showing a regular phonetic correspondence), which is an important point in intragenetic studies in lexical semantics. Among those are two interesting cognate sets in the ROUGH domain: Khanty *karəŋ*, Hungarian *kérges* (set 1), and Estonian *kare*, Finnish *karhea* and *karkea* (set 2; see (UEW, p. 148), (SSA I, p. 314) for the etymological data). The adjectives forming these sets have completely different semantic scopes. Native speakers of Khanty often link *karəŋ* to a noun *kar* 'crust, bark', and what is prototypically described by the adjective *karəŋ* is surfaces covered with some crust. Its Hungarian cognate *kérges* is also transparently related to a noun denoting crust (*kéreg*), but it shifts to the frame of large roughness (while a dominant adjective for ROUGH is *érdes*). As regards the cognates from Estonian and Finnish, the Estonian adjective *kare* describes a long list of rough surfaces (a cat's tongue, skin, unshaven cheeks, rough paper in old notebooks, etc.) and productively develops metaphors (hoarse voice, severe

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<sup>14</sup> Another important area of research focusing on lexicons of closely related languages deals with semantic reconstruction ((Dybo 1996 and Dybo 2006). However, the tasks set in our paper are a bit different and mostly concern the synchronic lexical typology.

<sup>15</sup> There is also a paper (Majid et al., 2015) which presents an exception, dealing with the sample of 12 Germanic languages. It is discussed further, but at the same time its main research goals are different from ours. See also Koptjevskaja-Tamm (THIS VOLUME) for the analysis of temperature terms in a group of related (Slavic) languages.

winter, strict or severe person). Its Finnish cognates, *karhea* and *karkea*, differ in the size of irregularities they describe, and develop some metaphors not equal to those of their Estonian cognate from set 2 (e.g. *karkeat sanat* ‘rude words’, *karkea arvio* ‘a rough estimate’). Examples of this kind provide evidence of different stages of diachronic development in the lexicon.

Interestingly, there are some cognate sets used approximately in the same way across the languages in their literal meanings, but demonstrating completely different metaphoric patterns. For example, Finnish *tasainen* and Estonian *tasane*, whose source meanings are both dominant lexemes over the frames of level surfaces, have two completely different metaphoric developments. Finnish *tasainen* refers to regularity or uniformity (an even suntan, evenly spaced chairs, steady motion), while

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Estonian *tasane* indicates low intensity or absence of distinctive features (a modest person, a low sound, slight pain, slow motion).

Examples of this kind and the data laid out in Sections 2 and 3 indicate clearly that the Uralic languages show substantial cross-linguistic variation in how the domain of surface texture is organized. It is interesting to compare our results with those of Majid et al. (2015), who compared the stability of lexemes in four different domains (colours, body parts, containers, spatial relations) across 12 closely related Germanic languages. They argue that colour systems are quite stable in both their form and in their semantics within the sample analysed. However, our data on another group of quality terms differ: the textural lexicon appears to show more prominent variation across a sample of related languages. The reasons for such a result are not clear; they are a challenge for future research on the intragenetic typology of qualities.

At the same time, our comparison of the Uralic data with materials of the other five languages in the sample has revealed that the semantic oppositions between the literal meanings tend to be reproduced outside the Uralic family, as do the basic metaphoric patterns. Therefore, the lexico-typological conclusions drawn for the Uralic family appear valid from a broader typological perspective. This assertion surely needs additional confirmation from other semantic domains, but at least it is clear that studying closely related languages can serve as a sound basis for research in lexical typology.

### **Abbreviations**

1, 2, 3 – the 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> person; ADESS – adessive; ADV – adverb; ATTR – attributive; CMPR – comparative; COM – comitative; CVB – converb; DAT – dative; DEF – definite; DIM – diminutive; EL – elative; F – feminine; GEN – genitive; IMP – imperative; INDEF – indefinite; INF – infinitive; IPFV – imperfective; LOC – locative; M – masculine; NMN – nominalization; NOM – nominative; NPST – non-past; O – object conjugation; OBL – oblique; PASS – passive; PL – plural; POSS – possessive; PRS – present; PST – past; PST2 – the 2<sup>nd</sup> past; SG – singular.

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### **Egor Kashkin**

Vinogradov Russian Language Institute of the Russian Academy of Sciences (Moscow, Russia)

Tel. +7 (495) 695-26-60

E-mail: [egorka1988@gmail.com](mailto:egorka1988@gmail.com)

### **Olga Vinogradova**

National Research University Higher School of Economics (Moscow, Russia).

Tel. +7 (495) 650-72-66

E-mail: [ovinogradova@hse.ru](mailto:ovinogradova@hse.ru), [olgavinogr@gmail.com](mailto:olgavinogr@gmail.com)