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THE DOMAIN OF SURFACE TEXTURE

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THE DOMAIN OF SURFACE TEXTURE³

This paper deals with the typology of surface texture expressions, such as *a slippery road*, *a smooth wooden board*, *rough hands*, *coarse or rough fabric*. We discuss both their direct uses and metaphors formed with them, such as *a slippery person*, *a smooth speech*, *a rugged captain*. Our language sample includes 10 Uralic languages (Finnish, Estonian, 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 of these attributes includes primarily the division into visually perceived surfaces and surfaces perceived through physical contact. We discuss how much and in what ways the antonymic areas under observation are asymmetrical in their semantic features and combinability. One more focus in this research is to evaluate texture lexicon variation in an intragenetic study of a group of related languages in comparison with its variation across a broader sample of languages.

Keywords: Lexical Typology; Semantic Typology; Corpus Research; Attributive Use; Metaphoric Shift

JEL Classification Code: Z19

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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, Mari, Erzya, Moksha, Udmurt, Komi-Zyrjan, Hungarian, Khanty, Nenets) and five languages from other families—Russian, English, Spanish, Chinese, and Korean—in our language sample might look like a disproportionate selection, but they have not been compiled randomly. Our aim is, 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 data have been mostly gathered in fieldwork, but materials from dictionaries and corpora were also included where available. The Russian material (Russian being the native language of the authors) comes primarily from the Russian National Corpus and from dictionaries. Our English data were collected by getting responses of native speakers to our typological questionnaires, as well as by consulting COCA, BNC and a range of internet 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 Chinese.

The description of the research results falls into four sections. After an introduction in Section 1 we discuss the direct 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. Direct uses

2.1 Absence of roughness

2.1.1 The way a surface is perceived

The basic semantic distinction within the domain of surfaces deals with **the way a surface is perceived**. 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 this group of frames). There are, however, many surfaces usually perceived **by touch**, cf. a wooden board when one examines how well it is polished, or touching 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): they 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 categorizing **SLIPPERY**, **SMOOTH**, and **LEVEL** surfaces.⁴

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 there 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).

⁴ It should be emphasized that the words **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.

RUSSIAN

(1) *Ja podn'als'a i, ostorožno stupaja po skol'zkomu parketu, otpravils'a v kukhn'u*
'I stood up and went to the kitchen, carefully stepping on a slippery parquet floor' [RNC]

RUSSIAN

(2) *Poverkhnost' kartiny dolžna byla byt' gladkoj, kak polirovannaja kost'*
'The surface of the picture was required to be as smooth as a polished bone' [RNC]

RUSSIAN

(3) *R'adom s dorogoj polno rovnykh ploščadok, est' rodniki i ručji*
'There are plenty of level areas near the road, as well as springs and brooks'

Second, languages sometimes use a separate lexeme for SLIPPERY surfaces, which is opposed to 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' sinst (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-PRS.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'-i⁵.*
smooth hand-LOC she shirt sew-IPFV-PRS.3SG
'She is sewing a shirt with her smooth hands'

ERZYA

(6) *valan'a paks'a-nt' langas'ed'e vadr'a kizna t'ikše-n' l'ed'e-ma-s'.*
level field-DEF.GEN on more good summer grass-GEN mow-NMN-DEF.NOM
'It is better to mow grass in summer when a field is level'

In the third strategy, SLIPPERY and SMOOTH surfaces may 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 strategies, but at the same time it provides a typological reason for including SLIPPERY surfaces into the same 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, see [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'

⁵ If an example receives no explicit reference, it means that it has been recorded from a native speaker.

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).

KHANTY (TEGI DIALECT)

(9) *tām torn 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 of these three basic classes. Each of these classes includes some rather heterogeneous frames, which is apparent in the data investigated. At the next stage of the research we will be looking 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 recipient. On the one hand, one may evaluate a surface as SLIPPERY when moving on it and finding it difficult to remain on one's feet (cf. such bearing surfaces as a road in winter, or a wet floor, or stone stairs). On the other hand, one may keep an object with a slippery surface in one's hands and experience problems trying to hold it (cf. fish, or a bar of soap, or the handle of a spade). There is also an intermediate frame, which is the sole of shoes (and metonymically the shoes themselves): one stands on the soles while moving (which makes them similar to the road etc.), 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*, or Estonian *libe*. Some languages (e.g., Komi, Udmurt, Spanish), however, treat bearing surfaces separately from the surfaces of objects slipping out of hands, cf. 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 here 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'

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, see [Spesivceva 2012: 39–42].

Apart from the differences determined by its topological properties, a surface may be slippery for different reasons. For the sole of a shoe this is usually an inherent property, but at the same time many surfaces may 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 the COBUILD corpus the 100 most frequent occurrences of the adjective *slick* are in 64 combinations with nouns, and 34 of them are nouns for objects that have become slippery because of something that happened to them, such as a road with the thawing snow or a path covered with the fallen leaves (for the comparison, there are 3 examples of metaphoric shifts among those 100 combinations). Here are some of those occurrences: *...skiing on a sunny crisp Sunday with beautiful slick snow on the ground only starting to thaw...; Slick road after the rain; Slick floor after it was washed/...pavements slick with rain...; My shoes were slick with mud; ...his hair slick and oiled into a jockey quaff...; ...the glossy coating makes the paper slick to the touch; ...on the floor wet from splashing the fountain water. Nya could not keep her balance. Her slick shoes went out from under her.*

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).⁶

A special type of such a 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 been 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

SMOOTH surface semantics cannot always be reduced to the type of perception, sometimes including more fine-grained distinctions. Thus, an important type of smooth surfaces includes those which have an **additional visual feature of shining**. A striking example of this strategy is provided by an English adjective *sleek* meaning 'smooth and shining' (cf. the neutral *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 "straight-forward" 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*

⁶ It should be noted here that we do not analyze adjective 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. These examples are from COCA: *...the delicious repellence of meeting up with the slimy things that coiled under psychic rocks; I tried to climb out of the hole full of silt and rotting vegetation and maybe slimy creatures.*

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 Mari: an adjective *jaklaka* refers to all the slippery surfaces, and also to sleek surfaces, whereas smooth (but not reflecting light) surfaces are described as *jyvyža*.

As 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 categorizing **body parts**: the focus in their description may be placed on some other related features, while lexemes of surface texture cannot be applied for 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 categorized within other semantic domains, cf. *mulijəl* ‘shines’ or *xɔraseŋ* ‘beautiful’ about a man’s clean-shaven face or the smooth face of a pretty girl, *lepət* ‘soft’ about well-groomed skin.

2.1.4 LEVEL surfaces: land areas vs. artefacts

A detailed language categorization of perception types emerges not only for SLIPPERY and SMOOTH surfaces, but also for LEVEL ones. The first stage of this categorization 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., a floor, a wall, a fence) if a speaker means their visual perception. The latter class requires an adjective *rəvnej* (borrowed from Russian) or an adjective *ves’kyd*, which means ‘straight’ and 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, being a surface on which people are moving. 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 ‘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 other kinds of level surfaces, the occurrence of the ‘tactile’ adjective is considerably less frequent. Thus, the ratio of occurrences of *rovnyj* ‘level’ as opposed to *gladkij* ‘smooth’ is 84 vs. 14 for *pole* ‘field’ (all the examples for *gladkij* come from fiction between the 18th and 20th centuries), 46 vs. 9 for *st’ep* ‘steppe’ (the last example for *gladkij* dates back to 1937), 14 vs. 2 for *lug* ‘meadow’ (both latter entries of *gladkij* are from the 19th century).

One more important frame within land areas is landscape **without mountains** or any other significant elevation. 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 properties at all (like Khanty *lopsəx* or Moksha *lapš*). On the other hand, some lexemes traced back to the domain of shape are applicable not only to

landscapes in the domain of surface. 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”, e.g. the following examples from COCA: *a perfectly flat floor for a dining table and six chairs; Stand the chair on a flat table and check that all legs rest evenly; He walked the long flat deck up even with a pier. The deckhands threw some boards across...*

In the subdomain of “land” areas there is the frame of smooth **water surface** (when there is no wind). Some languages use here lexemes from the surface domain, cf. 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 categorization, see example (12) from Tegi Khanty, or an Udmurt expression *šypyt pukys*’ (lit.: quietly sitting) used about smooth water surface.

KHANTY (TEGI DIALECT)

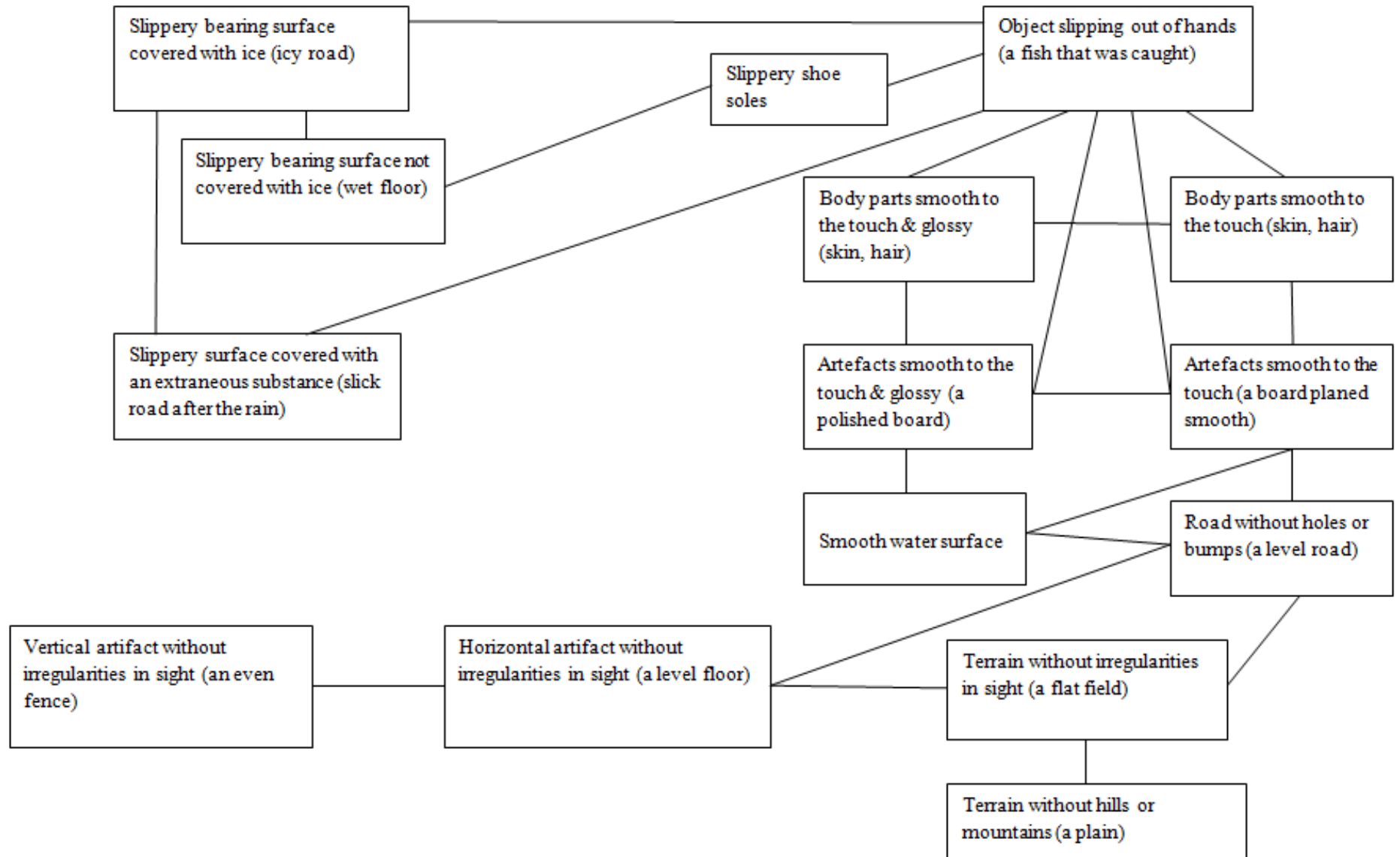
- (12) *tewən, jɨŋk ńur rəm-ije.*
quiet water entirely calm-DIM
‘Be quiet, the water is entirely calm’

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 (Figure 1). The map has been created manually following the theoretical approach of [Haspelmath 2003].

Absence of irregularities domain: 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 the language categorization 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*, *pimply*, *scarred*, *knotty*, *bumpy*, *cracked*, *bristly*. We will not discuss such lexemes in this article, but we will focus on classes of frames typically categorized 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 surface of an old apple, cf. Udmurt *kisyr'ijo*, 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' (a flat object, e.g. skin, face, forehead, leaf) vs. *krimpsus* 'wrinkled' (a 3-D object, e.g. apple, potato). The second important class of ROUGH surfaces comprises surfaces with regularly rigid roughness perceived by touch, e.g. a cat's tongue, frost-bitten hands, or a badly polished piece of wood (e.g. Russian *šeršavyj*, Udmurt *šakyr'es*, Erzya *kaz'amo*, Estonian *kare* corresponding to this kind of surfaces). It is the latter class which demonstrates the most prominent cross-linguistic variation along with having many of the above-mentioned prototypes common for the languages in our sample, and we will therefore concentrate on its typology.

ROUGH surfaces may vary in the **size of roughness**: on the one hand, small roughness on a cat's tongue or on hands that are rough from frost, or, on the other hand, larger roughness like that on a tree bark or on a scab. Within our set of the 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 a paper in an old notebook)

ESTONIAN

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

Outside the Uralic family, a good example is provided by the group of English adjectives *rough*, *coarse*, and *rugged*. The latter lexeme obviously refers to large roughness, often located on landscapes or other visually perceived objects, cf. *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 *... with its dunes largely intact, secured by the roots of the coarse sea grass* [COCA]. Another example is the use of these adjectives for describing whetstones or sandpaper. As they are by definition *rough*, they are rarely characterized with this adjective, while the use of *coarse* is possible, if the speaker wants to focus the larger grain in roughness.

The parameter of size sometimes correlates with other properties of a surface. If we look at the combinations of *rough* and *coarse* with the same nouns, we notice that the use of *rough* often emphasizes a lack of 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*), while *coarse* refers to the structure of the separate elements of the 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). What we see in the semantics of *rough* is the idea of low functionality. It is important, however, that *rough* is still applicable to 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]. Therefore, the negative evaluation in the example above is rather a frequent pragmatic development of meaning 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 specifying either positive or negative evaluation of rough surfaces. 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, a Russian adjective *šeršavyj* refers to regular roughness (e.g. on such surfaces as a cat's tongue, asphalt, emery), while an adjective *šerohovatyj* tends to describe irregular roughness (e.g. on a wooden board or tree bark). 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 *nasortosy*. On the contrary, some languages draw no distinction in the regularity of roughness: this is the case of Erzya *kaz'amo*, English *rough*, or Chinese *cucáo*, all of which describe roughness irrespective of its regularity.

As mentioned, 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, or a woollen 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 *tšogyr'es* describing surfaces which are simultaneously rough and scratching (15), cf. the neutral *šakyr'es* ‘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) *tšogyr'es pul-ti basma-en ortčyt-i-d ke, basma-len*
 rough wooden.board-PROL cloth-INSTR pass-PST-2SG if cloth-GEN
šin'ys-jos-yz kan'žas'k-o-zy pul bord-y.
 thread-PL-POSS3SG catch.on-FUT-3PL 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’

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 here an opposition between the objects themselves important for the zone of SMOOTH—namely,

the distinction between **natural objects and artefacts**. As regards the zone of ROUGH, this can be observed in Chinese [Kholkina 2014: 208]: an adjective *máocao* ‘rough’ is applied to cloth or wooden boards, but cannot refer to natural objects unaffected by humans.

An important parameter of cross-linguistic variation in the ROUGH subdomain deals with its relation to an adjacent frame of flexible objects with a **crude structure**—the prototype of the latter class is 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. *grubyyj* describing stiff structure of an object. In Udmurt, coarse fabric is described with an adjective *čuryt* originally meaning ‘hard, rigid’, but not with an adjective *šakyr’es* ‘rough’. Some languages, however, apply the same lexeme to crude structures and to rough surfaces, cf. Shoksha Erzya *kaz’ama* in (16)–(17).

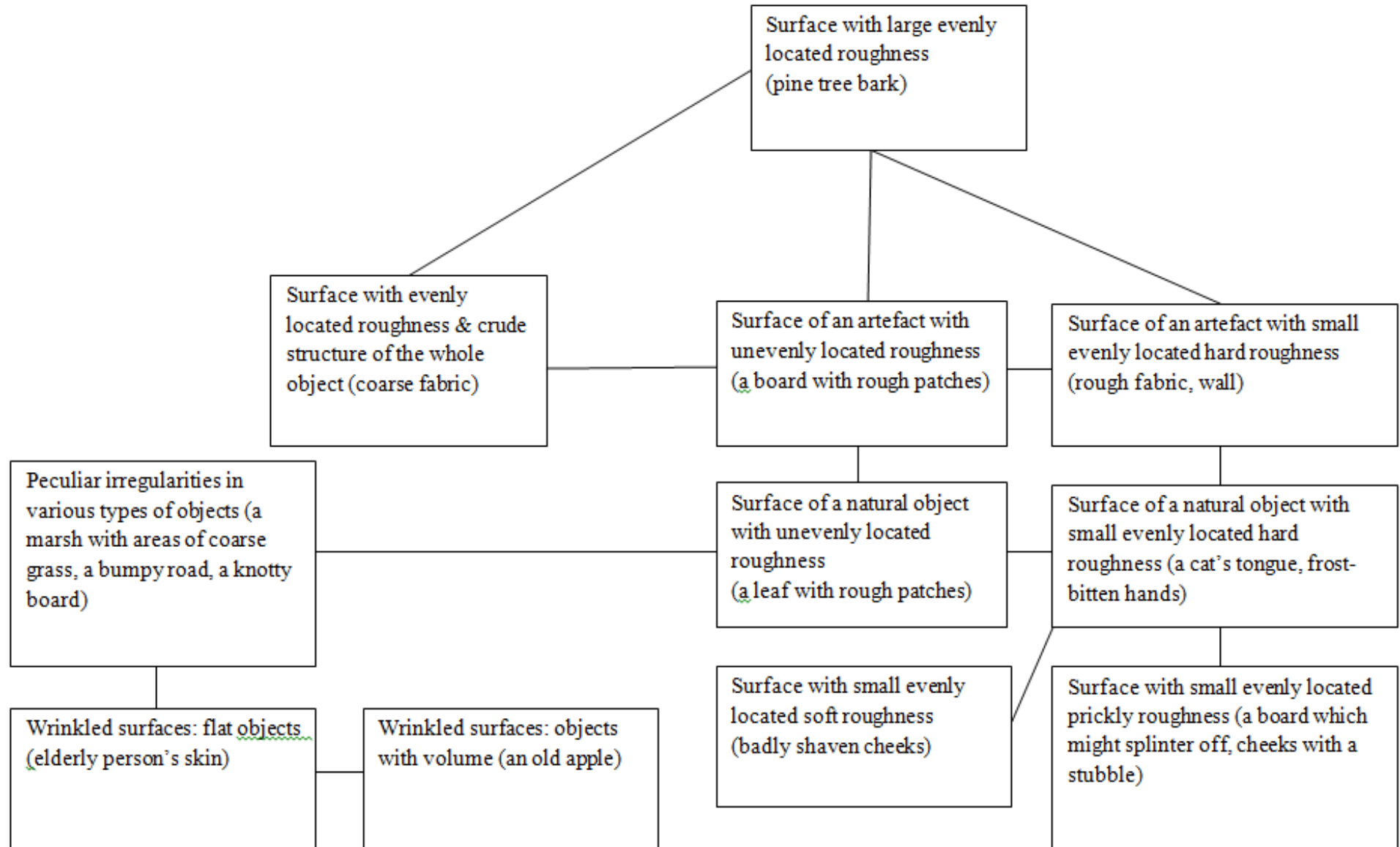
ERZYA (SHOKSHA)

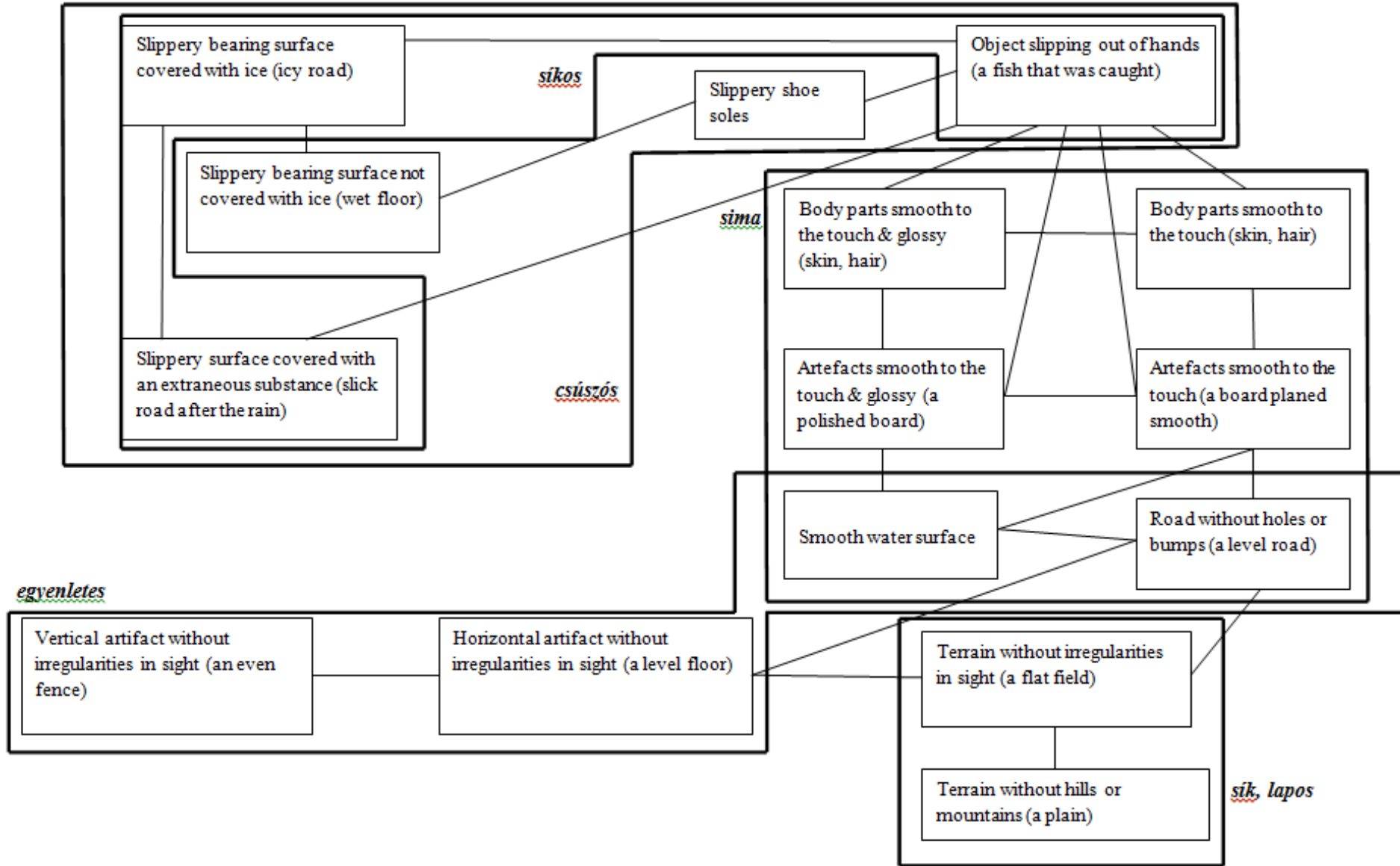
(16) *katka-t’ kel’-s’ kaz’ama, son čama-t’e-st kišt-e.*
 cat-DEF.GEN tongue-DEF.NOM rough it face-DEF-EL lick-PRS.3SG
 ‘A cat’s tongue is rough, it is licking my face’

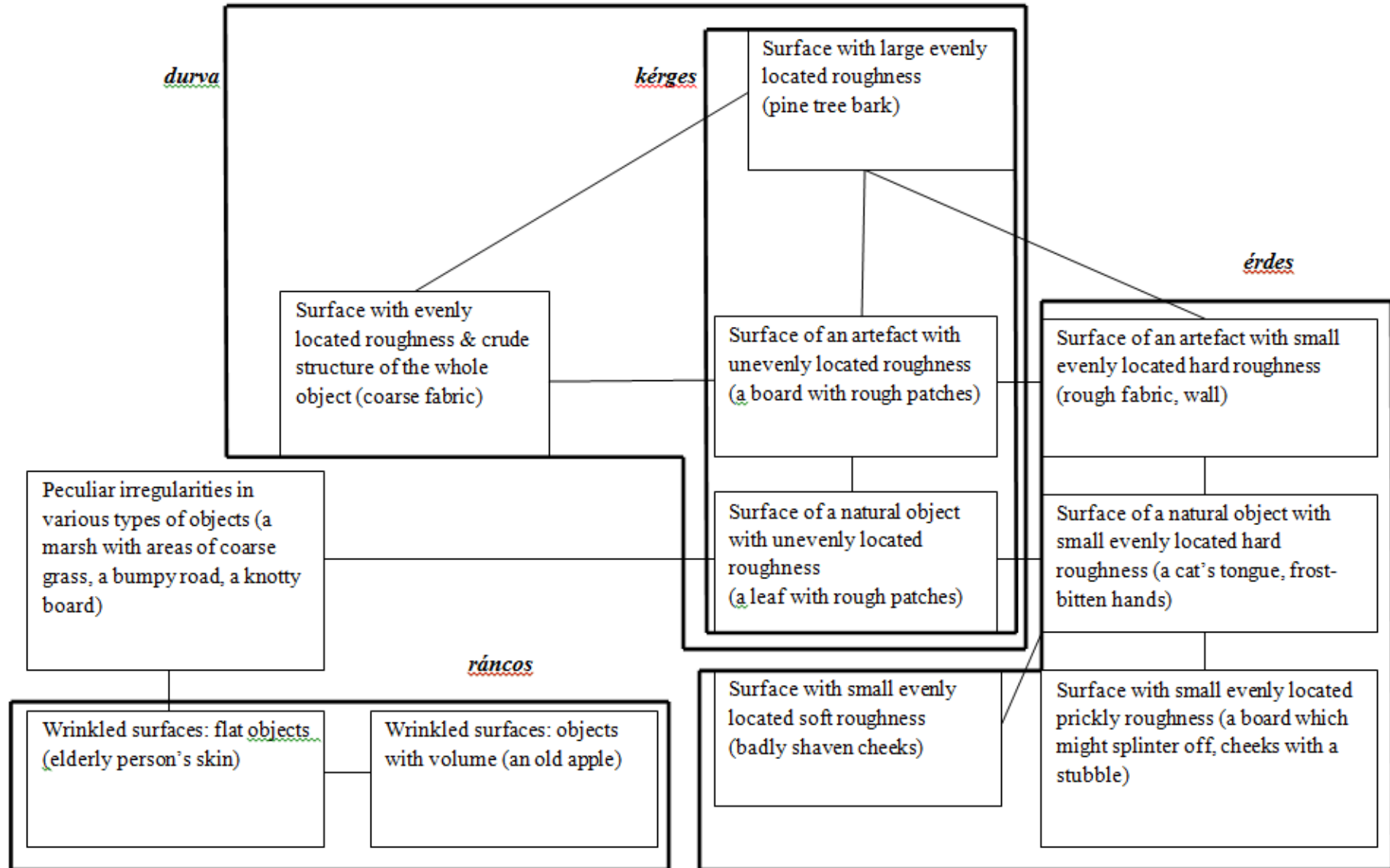
ERZYA (SHOKSHA)

(17) *keskaf-t’n’i-n’ t’ij^h-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 on Figure 2. Note that the semantic maps of the two antonymic domains (absence of roughness vs. roughness) are quite different. In particular, lexemes denoting absence of roughness draw subtle distinctions inside various types of perception, while lexemes describing roughness are mostly opposed in the properties of roughness itself (size, regularity, impact on a contacted object). Figures 3 and 4 illustrate the difference between the two domains on the example of Hungarian data.







3. Metaphoric uses

The analysis of the metaphoric uses of the texture expressions will follow the same order of the source semantic zones 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 of slippery surfaces, which makes it difficult to use them. The 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 in their metaphoric uses is quite subtle: according to Macmillan dictionary, “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 them”), *be as slippery as an eel*, Russian *skol'zkiĭ tip* ‘a slippery person’, Finnish *liukas kuin ankerias* ‘as slippery as an eel’ (about an unreliable person), Erzya *nolaža loman* ‘a slippery person’. Second, the metaphors of ‘slippery’ may deal with situations, course of life, 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* ‘a tricky (lit.: slippery) subject’, *skol'zkiĭ vopros* ‘a tricky (lit.: slippery) question’.

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

There is another class of metaphors which stem from the meaning ‘slippery’ and are based on the idea of fast motion along a slippery surface. The metaphors of the SLIPPERY subdomain sometimes refer to **an action performed easily and quickly**. This metaphoric pattern is less frequent than the previous one, but it is quite apparent in the case of the Finnish adjective *liukas* ‘slippery’⁷. This lexeme is metaphorically used in such contexts, as *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, cf. *liukasliikkeinen* ‘agile, nimble (lit.: slippery + movements)’, *liukaskielinen* ‘talkative (lit.: slippery + tongue)’.

FINNISH

(18) *Tiede+miehe-n järki pela-a liukkaa-sti.*

science+man-GEN intellect play-3SG slippery-ADV

‘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’

⁷ 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.

3.2 SMOOTH

The metaphors of 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, see English *smooth speech*, *smooth transition*, *smooth implementation of the programme*, or Russian *Vs’o 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 r’eč’* (lit.: smooth speech) / *gladko govor’it* (lit.: speaks smoothly) correspond to the former frame, while the latter one is not present in Russian with an adjective close in meaning to ‘smooth’ but is described with an adjective *svobodnyj* or with an adverb *svobodno* (lit.: free / freely). An Udmurt metaphor *vol’yt veras’ke* (lit.: speaks smoothly) may refer to both frames depending on the broader context. In English the website www.dictionary.com defines *fluent* as able to speak or write smoothly, easily or readily. The American Heritage School site gives the following definition: *fluency* refers to speech that is smooth or flowing. In these and in many other examples, *smooth* is used as a synonym to *fluent*. In many other contexts *smooth* appears 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 here is either a person’s nice appearance or positive character traits. The first type of metaphor takes place in the case of Estonian *sile* (*sileda näolapiga tüdruk* ‘a girl with pretty (lit.: smooth) face’) or Udmurt *vol’yt*, sometimes also used in an idiomatic expression *s’artčy kad’ vol’yt* (lit.: smooth like a turnip) referring to a pretty girl with the smooth outlines of the body. The second type can be illustrated with Mari *jyvyža* developing a metaphorical meaning ‘tender, soft’ (about a person’s character).

The concept of smoothness may call up metaphorical associations not only with the absence of defects, but also with **absence of distinctive features**. This becomes apparent in such examples as Spanish *tela lisa* ‘plain (lit.: smooth) cloth’ or *fachada lisa* ‘a plain (lit.: smooth) façade’ [Spesivceva 2012: 32], Estonian *sile sõnastus* ‘superficial, simplified (lit.: smooth) narrative’, the Hungarian sentence (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.

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 by 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.

Often lexemes meaning ‘level’ are metaphorically applied to static entities, see 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 an English adverb *evenly* (*evenly red*, *evenly good quality*, etc.) or of Finnish *tasaisen*, which is the genitive of *tasainen* ‘level’, see (21).

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 Mari (22).

MARI

(22) *Jer’ente māj deč-em kugu-rak kap-an,*
 Jer’ente 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 into focus particles, cf. English *even*, German *eben*, Russian *rovno*. However, this extension has not proved typical of the Uralic languages from our sample, but it has been widely discussed on the material of the Indo-European languages, cf. [König 1991 a,b], [Traugott 2006], [Dobrovol’skij, Levontina 2012], [Luchina et al. 2013]. Therefore we do not discuss it here.

The idea of regularity / uniformity can be seen in the metaphors of LEVEL applied not only to static entities, but also to activities or processes. A good example is given by a Hungarian *egyenletes* ‘level’, which forms a wide range of such metaphors, cf. *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, see e.g. Russian *rovnoe dyhan’ije* ‘even breathing’, *rovnyj šag* ‘even step’, or the use of Korean *maekkulepta* ‘level’ in the contexts of steady voice or steady management of affairs attested in [Ivanova 2011: 127]. A close type of metaphor deals with the use of LEVEL about a calm person or their character / actions, e. g. Russian *rovnyj harakter* ‘a calm character’, English *an even tone*, or 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’ develop a 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 express 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 semantic 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, see its reference as a noun to a large flat area of land): *a plain looking girl*, *plain food*, *plain English*, *plain text*, *a plainclothes police-officer*.

On top of those, there are highly distinctive uses of *flat*, *even* and *level* with metaphoric development close to that shown for *plain* but still not exactly the same. *Flat*, in particular, has a broad combinability with many nouns meaning “dull, monotonous, lacking in expressiveness” – cf. “*You go to work and you come at home in the evening, you watch this television... is a very flat life*” [COCA]; *flat character* (Dictionary definition: *a fictional character without any development or depth*); or ‘fixed, not growing’ with some other nouns: “... *problems led by online piracy that have resulted in falling or flat sales for five years*” [COCA]. However, with a few nouns all the three adjectives—*flat*, *even* and *level*—can collocate, and one such noun is *tone*. A closer look at these combinations has revealed the following subtle differences among the three adjectives:

—*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, not to let it out in a way of speaking (...*she replied in a detached, flat tone. She was upset with me*); to the impression contrary to what the words meant (...*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 than the two above. It renders the meaning of a deliberately chosen or strictly controlled tone of voice (*I asked in a deliberately level tone or Wilder paused until he could be sure of a level tone of his voice*).

3.4. ROUGH

Lexemes denoting roughness typically develop metaphors of **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 šakyr’es* ‘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, see Russian *grubyyj čelovek* ‘a rude person’, *grubyje slova* ‘rude words’, English *coarse joke*, *coarse language*, Erzya *kaz’amo loman* ‘a rude person’, Estonian *krobelistised kombid* ‘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’

Some metaphors of 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*, Estonian (24), Tundra Nenets (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 the latter domain, the 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’ 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, cf. 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)’, *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 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 *tšazš-*: basically describing rough surfaces which derive a metaphorical meaning ‘refreshing, 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* [Collins]; *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 some similar contexts has been attested in German in [Bons 2009: 306-307], cf. *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’.

DISCUSSION

The analysis of the direct 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. The language categorisation of the five senses is a popular issue in cognitive semantics, see, for instance, [Viberg 1983], [Majid, Levinson (eds.) 2011], [Levinson, Majid 2014], [Koptjevskaja-Tamm (ed.) 2015]. In our discussion of the frames included in the domain of surface texture (see Section 2), we have shown that one of the most significant parameters of their cross-linguistic categorisation is the way a surface is perceived (especially it concerns the 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, for instance, with the frame of sleek surfaces (both smooth to the touch and reflecting light).

Another interesting point concerns **antonymic relations** in 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, Cruse 2004]). But this phenomenon has not been thoroughly investigated in linguistic typology: it is not quite clear what semantic entities are most commonly involved in this asymmetry from a cross-linguistic perspective. Our data include two antonymic zones: absence of roughness (SLIPPERY, SMOOTH, LEVEL) and roughness. The direct uses of the three subdomains are subcategorized 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 direct uses and new grounds for semantic shifts. At the same time, the caritative zones of SLIPPERY, SMOOTH and LEVEL lack this semantic element, and the main focus in their categorization 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.

Last but not least, our research contributes to the issue of **language sampling**, which is highly important for linguistic typology (consider [Croft 1990 / 2003], [WALS], [Bakker 2010], etc.). 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 could fully embrace the cross-linguistic diversity.

There is, however, another approach to typological studies, called intragenetic typology. As argued in [Kibrik 1998, 2003, 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 language groups.

The issue of language sampling has also been raised with respect to lexical typology. Some authors pointed out that studying a lexical group in closely related languages can reveal a considerable number of semantic oppositions, such as [D'urovič 2000] on verbs of cutting and breaking in Russian and Slovak, [Rakhilina, Prokofieva 2004, 2005] on verbs of rotation and oscillation in Russian and Polish, [Majid et al. 2007] on verbs of cutting and breaking in English,

German, Swedish, and Dutch⁸. The sample in our paper is a bit different. While the 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.⁹ Let us now discuss the most important conclusions made on the basis of our sample.

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 (cf. [Rakhilina, Prokofieva 2004] argue that lexical semantics historically changes faster than phonetic forms). Among those are interesting cognate pairs in the ROUGH domain: Khanty *karəŋ*—Hungarian *kérges*, and Estonian *kare*—Finnish *karhea*, *karkea* (see [UEW: 148], [SSA I: 314] for the etymological data). The adjectives forming these pairs have a completely different semantic scope. Native speakers of Khanty often link *karəŋ* to a noun *kar* ‘crust, bark’, and what is prototypically described by this adjective 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*). Among the cognates in the Balto-Finnic languages, Estonian *kare* describes a long list of rough surfaces (a cat’s tongue, skin, unshaven cheeks, rough paper in old notebooks) and productively develops metaphors (hoarse voice, severe winter, strict or severe person). In Finnish there are two lexemes from this word family (*karhea* and *karkea*), which differ in the size of irregularities they describe and develop some metaphors not equal to those of their Estonian counterpart (e.g. *karkeat sanat* ‘rude words’, *karkea arvio* ‘a rough estimate’). To sum up, examples of this kind provide evidence of different stages of diachronic development in the lexicon.

Interestingly, there are some cognate pairs used approximately in the same way in their direct 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 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. Here it is interesting to compare our results with those of [Majid et al. 2014], who compare the stability of four different domains (colours, body parts, containers, spatial relations) across 12 closely related Germanic languages. They argue that colour systems serving as a case for studying a qualitative domain are quite similar in both their form and in their semantics within the sample analysed. However, our data on another group of qualities 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 has revealed that the semantic oppositions between the direct meanings tend to be reproduced outside the Uralic family, as do the basic metaphoric patterns. Therefore, the lexico-typological research carried out for the Uralic family has appeared valid from a broader typological perspective. This statement surely needs additional confirmation from other semantic

⁸ Another important area of research focusing on lexicon of closely related languages deals with semantic reconstruction [Dybo 1996, 2006]. However, the tasks set in our paper are a bit different and mostly concern the synchronic lexical typology.

⁹ There is also a recent paper [Majid et al. 2014] which presents an exception, dealing with the sample of 12 Germanic languages. We are going to discuss it further, but at the same time its main research goals don’t seem identical to ours.

domains, but at least it is clear that studying closely related languages can serve as the basis for further research in lexical typology.

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Abbreviations

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

References

- [Apresjan 1974 / 1995] – *Apresjan Ju.D.* Leksičeskaja semantika. Sinonimičeskie sredstva jazyka [Lexical semantics. Synonymic tools of language] – Moscow, 1974 (2nd ed. – 1995).
- [Bakker 2010] – *Bakker D.* Language sampling // *The Oxford Handbook of Linguistic Typology* – Oxford: Oxford University Press, 2010. P. 100–127.
- [Bons 2009] – *Bons I.* Polysemie und Distribution Zur Theorie und Methode einer korpusbasierten Semantik deutscher Adjektive – Gießen: Gießener Elektronische Bibliothek, 2009.
- [Buzakova 1982] – *Buzakova R. N.* Slovar' sinonimov erz'anskogo jazyka [The dictionary of synonyms in Erzya] – Saransk, 1982.
- [COCA] – The corpus of contemporary American English. Online resource: <http://corpus.byu.edu/coca/>
- [Collins] – Collins Cobuild Advanced Learner's English Dictionary. New Digital Edition – HarperCollins Publishers, 2008.
- [Croft 1990 / 2003] – *Croft W.* Typology and universals – Cambridge, 1990 (2nd edition – 2003).
- [Croft, Cruse 2004] – *Croft W., Cruse D.* Cognitive linguistics – Cambridge, 2004.
- [Cruse 1986] – *Cruse D.* Lexical semantics – Cambridge, 1986.
- [Dobrovol'skij, Levontina 2012] – *Dobrovol'skij D. O., Levontina I. B.* O sinonimii fokusirujuščih častic (na mat'erial'e nemeckogo i russkogo jazykov) [Synonymous focus particles in German and Russian] // *Computational Linguistics and Intellectual Technologies. Papers from the Annual International Conference "Dialogue" (2012). Issue 11. Vol. 1: Main conference program* – Moscow, 2012. P. 138–149.
- [D'urovič 2000] – *D'urovič L.* Soblazn rodstva (o značenii leksem v rodstvennyh jazykah) [Temptation of relatedness (on the meanings of lexemes in genetically related languages)] // *Iomdin L.L., Krysin L.P.* (eds.) Slovo v tekste i slovare. Sb. statej k 70-letiju akad. Ju.D. Apres'ana [A word in a text and in a dictionary. To the 70-th anniversary of Ju.D. Apresjan] – Moscow, 2000, pp. 77–81.
- [Dybo 1996] – *Dybo A. V.* Semantičeskaja rekonstrukcija v altajskoj etimologii. Somatičeskije terminy (plečevoj pojas) [Semantic reconstruction in Altaic etymology. Somatic terms (shoulder girdle)] – Moscow, 1996.
- [Dybo 2006] – *Dybo A. V.* Indoeuropeans and Altaians through the Linguistic Reconstruction // *Kinship in the Altaic World. Proceedings of the 48th PIAC* – Wiesbaden, 2006. P. 88–102.
- [EVS] – Eesti-vene sõnaraamat (Estonian-Russian dictionary), www.eki.ee/dict/evs

- [Haspelmath 2003] – *Haspelmath M.* The geometry of grammatical meaning: semantic maps and cross-linguistic comparison // *Tomasello M.* (ed.) *The new psychology of language*, vol. 2. – Mahwah, NJ, 2003. P. 211–242.
- [Ivanova 2011] – *Ivanova E. Ju.* Netrivial'nye svojstva poverhnostej kak topologičeskikh objektov: materialy k leksičeskoj tipologii (russkie i korejskie prilagatel'nye) [Non-trivial properties of surfaces as topological objects: data for lexical typology (Russian and Korean adjectives)]. MA thesis – Moscow: RSUH, 2011.
- [Kholkina 2014] – *Kholkina L. S.* Kačestvennye priznaki v kitajskoj leksike: opyt tipologičeskogo opisanija [Qualitative concepts in Chinese vocabulary: a typological description]. Candidate's dissertation in philology – Moscow: MSU, 2014.
- [Kibrik 1998] – *Kibrik A. E.* Does intragenetic typology make sense? // In: Boeder W. et al. (eds.) *Sprache in Raum und Zeit: Beiträge zur empirischen Sprachwissenschaft* – Tübingen, 1998. Pp. 61–68.
- [Kibrik 2003] – *Kibrik A.E.* Rodstvennye jazyki kak objekt tipologii [Genetically related languages as an object of typology] // *Kibrik A.E.* *Konstanty i peremennye jazyka* [Constants and variables of language] – St-Petersburg, 2003, pp. 191–195.
- [Kibrik 2009] – *Kibrik A. E.* In defence of intragenetic typology: evidence from clause coordination in Daghestanian languages // Eighth Biennial Conference of the Association for Linguistic Typology. Abstracts. 2013. Online publication: http://lsa2009.berkeley.edu/alt8/kibrik_aleksandr_abstract.pdf
- [Koptjevskaja-Tamm (ed.) 2015] – *Koptjevskaja-Tamm M.* (ed.) *The Linguistics of Temperature* – Amsterdam: Benjamins, 2015.
- [König 1991] – *König E.* *The Meaning of Focus Particles. A Comparative Perspective* – London, 1991.
- [Levinson, Majid 2014] – *Levinson S. C., Majid A.* Differential ineffability and the senses. *Mind & Language*, 29, 2014, pp. 407–427.
- [Luchina et al. 2013] – *Luchina E. S., Reznikova T. I., Stenin I. A.* Atributivy kak istočnik grammatikalizacii: 'pr'amoj' i 'rovnyj' v ruskom, n'em'eckom i finskom jazykah [Attributives as a source of grammaticalization: 'straight' and 'level' in Russian, German and Finnish] // *Guzmán Tirado R., Votyakova I.* (eds.) *Tipología léxica* – Granada, 2013. P. 123–129.
- [Majid et al. 2007] – *Majid A., Gullberg M., Van Staden M., Bowerman M.* How similar are semantic categories in closely related languages? A comparison of cutting and breaking in four Germanic languages // *Cognitive linguistics*, 18 – 2 (2007). P. 179–194.
- [Majid, Levinson (eds.) 2011] – *Majid A., Levinson S. C.* (eds.). *The senses in language and culture* [Special Issue]. *The Senses & Society*, 6(1), 2011.
- [Majid et al. 2014] – *Majid A., Jordan F., Dunn M.* Semantic systems in closely related languages. *Language Sciences*, 2014. Advance online publication. http://pubman.mpg.de/pubman/item/escidoc:2070758:3/component/escidoc:2078728/Majid_Jordan_Dunn_2014.pdf
- [Marlamuter] – Marlamuter: an online dictionary of Mari, <http://marlamuter.com/>
- [OAD] – *New Oxford American Dictionary*, 2nd Edition – Oxford University Press, 2005.
- [Rakhilina, Prokofieva 2004] – *Rakhilina E.V., Prokofieva I.A.* Rodstvennye jazyki kak objekt leksičeskoj tipologii: russkie i pol'skie glagoly vraščeniija [Genetically related languages as an object of lexical typology: Russian and Polish verbs of rotation] // *Voprosy jazykoznanija* [Issues of linguistics], 2004, №1, pp. 60–78.
- [Rakhilina, Prokofieva 2005] – *Rakhilina E.V., Prokofieva I.A.* Russkie i pol'skie glagoly kolebatel'nogo dviženija: semantika i tipologija [Russian and Polish verbs of oscillation: semantics and typology] // *Toporov V.N.* (ed.) *Jazyk. Ličnost'. Tekst. Sb. k 70-letiju T.M. Nikolaevoj* [Language. Personality. Text. To the 70-th anniversary of T.M. Nikolaeva] – Moscow, 2005, pp. 304–314.
- [RNC] – The Russian National Corpus, www.ruscorpora.ru

- [Traugott 2006] – *Traugott E.* The semantic development of scalar focus modifiers // *van Kemenade A., Bettelou Los* (eds.) *The handbook of the history of English* – Blackwell, 2006. P. 335–359.
- [UEW] – Rédei K. *Uralisches Etymologisches Wörterbuch. Band 1* – Budapest: Akadémiai Kiadó, 1988.
- [Spesivceva 2012] – *Spesivceva A. A.* Semantika prilagatel'nyh, opisyvajuščih kačestva poverhnosti, i prilagatel'nyh so značením “pustoj” i “polnyj” (na materiale ispanskogo jazyka) [The semantics of adjectives denoting surface properties and adjectives ‘full’ – ‘empty’ (evidence from Spanish)]. MA thesis – Moscow: RSUH, 2012.
- [SSA] – Suomen Sanojen Alkuperä: Etymologinen Sanakirja – Helsinki: Suomalaisen Kirjallisuuden Seura: Kotimaisten kielten tutkimuskeskus, 1992–2000.
- [Viberg 1983] – *Viberg Å.* The Verbs of Perception: A Typological Study // *Linguistics* 21(1), 1983, pp. 123–162.
- [WALS] – The World atlas of language structures. Online resource: <http://wals.info>

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