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© 2021. Classiques Garnier, Paris. Reproduction et traduction, même partielles, interdites. Tous droits réservés pour tous les pays. IORDANSKAJA (Lidija Nikolaevna), MEĽČUK (Igor), « Les noms de parties du corps dans le lexique : le vocable russe RUKA ≈ 'bras + main' »

RÉSUMÉ – Nous présentons les articles lexicographiques pour quatre lexèmes russes du vocable RUKA 'bras + main'. L'article discute les problèmes suivants : 1) dénotation vs sens linguistique, 2) deux lexèmes d'un vocable vs un lexème avec une définition disjonctive, 3) la composante générique dans une définition (dans notre cas, la caractérisation de la fonction vs de la forme), 4) la composante sémantique faible, et 5) la forme plurielle du lexème L en tant que lexème différent L'.

Mots-clés – russe, noms des parties du corps, sémantique, lexicographie, définition lexicographique

IORDANSKAJA (Lidija Nikolaevna), Meľčuk (Igor), « Names of body parts in the lexicon: Russian ruka ≈ 'arm + hand' »

ABSTRACT – Lexical entries for four Russian lexemes of the vocable RUKA 'arm + hand' denoting the human upper limbs are presented. The problems discussed include 1) denotation vs. linguistic meaning, 2) two lexemes in one vocable vs. one lexeme with a disjunctive definition, 3) the choice of the generic component in a definition (in our case, the characterization of the function vs. of the form), 4) the role of weak semantic components, and 5) the plural form of the lexeme L as a different lexeme L'.

KEYWORDS - Russian, body-part names, semantics, lexicography, lexicographic definition

Names of body parts in the lexicon: Russian Ruka \approx 'arm + hand'

Introduction

A rigorous lexicographic description of the names of body parts lays bare a few theoretical difficulties the discussion of which proves useful for lexicography – and for semantics in general. This paper sketches these difficulties and supplies possible solutions in the form of lexical entries, albeit tentative.

In what follows we consider:

- only the Russian language;
- only one body-part noun: RUKA \approx 'arm + hand', an upper limb of the human body;
- only the semantic and the syntactic zones of the lexical entry –
 the lexical cooccurrence zone is illustrated quite approximately, because it is too cumbersome for the present paper.

We renounce a literature overview, since it would be too voluminous, and limit ourselves to the references underlying this paper: Wierzbicka (1980: 77-97), Arbatchewsky-Jumarie and Iordanskaja (1986), the lexical entries of French body-part names in Mel'čuk et al. (1984-1988), as well as Iordanskaja and Paperno (1996) and Iordanskaja and Mel'čuk (1997).

Similarly, we do not explain the special notions used in what follows. The present study is carried out in the framework of Explanatory Combinatorial Lexicography; the interested reader is kindly asked to consult the titles mentioned in the Bibliography,

in the first place – Mel'čuk, Clas, and Polguère (1995), Mel'čuk (2006, 2013: 259-376).

Let us emphasize, at the very beginning, the following fundamental difference between Russian and English – in what concerns the way this human upper limb is referred to. English, as all Germanic and Romance languages (as well as, for instance, Greek, Armenian, Hungarian, Turkish and Arabic), treats the limb in question as consisting of **two** different body parts: 'arm' and 'hand'; crucially, 'hand' is by no means a part of 'arm'.

Russian (as all Slavic and Baltic languages), however, considers this limb as **one** body part: 'ruka' = 'arm + hand'. This means that when an English speaker wants to say something about a person's upper limb, he has to be precise and make an obligatory choice as to what he refers to: a person moves either his *hands* or his *arms*, has a boil either on his *hand* or on his *arm*, takes somebody either by his *hand* or by his *arm*, etc. However, in Russian you cannot be that precise while using the lexeme Ruka 'arm + hand': someone moves his *ruki* (the speaker is necessarily vague about what he means exactly – hands or arms), someone has a boil somewhere on his *ruka* (again the exact location is not made more precise), and you take a person by his *ruka* (which can mean equally either *by hand* or *by arm*).

The Russian lexical item RUKA is polysemous, but its metaphorical wordsenses are not considered below: we concentrate on its direct, or literal, i.e. body-part, senses. All direct senses are numbered with I, while II is reserved for the metaphorical ones.

NB: The lexicographic numbering of lexemes RUKA becomes clear after Section 5.

the hand does not imply to injure the arm, etc.

In other words, 'hand' cannot be lexicographically defined as '... part of the arm ...'. There are some predicates 'P_i' for which the following statement holds:
If 'Ξ' is defined as 'part of Ψ', then 'P_i(Ξ)' implies 'P_i(Ψ)'.
Examples: to injure the elbow implies to injure the arm; to have a boil on the cheek implies to have a boil on the face; My knee hurts implies My leg hurts. But to injure

More precisely, the lexicographic definitions, the government patterns and some lexical functions are presented just for four "body-part" wordsenses of the noun RUKA.

And before we start for real, a last warning:

Our description is aimed not at body parts themselves, but strictly at the linguistic meaning of the nouns naming them.

1. Lexicographic definition

In order to evaluate the proposed lexicographic definitions, one needs to know the constraints these definitions satisfy. Without going into the detail, here are the two major classes of constraints on the lexicographic definition of a lexeme L^2

A) Substantive requirements on a lexicographic definition

The selection requirement: be necessary and sufficient to ensure L's correct selection to express a fragment of a given conceptual representation. In other words, L's definition must correctly describe L's *denotational potential*.

The combination requirement: be necessary and sufficient to ensure L's correct combinability with other lexical units in the sentence. L's definition must specify L's *syntagmatic potential* – underlie L's free lexical cooccurrence and provide the basis for restricted lexical cooccurrence.³

The lexicon-oriented requirement: be necessary and sufficient to characterize L's lexical links (within the lexicon) – that is, to ensure a

On lexicographic definitions, see Mel'čuk (1974: 111, 2006, 2013: 279-306), Mel'čuk, Clas, and Polguère (1995: 78-111) and Mel'čuk and Polguère (2018).

Thus, if L has a lexical function Magn (intensifier), L's definition must contain a component upon which the intensification bears. For instance, a request can be insistent, and *insistent* is an element of the value of Magn(REQUEST); a request is said to be *insistent* if and only if the desire of the requester to get the requested is strong enough. Therefore, the definition of 'X's request for Y' must contain the intensifiable component 'X wants Y'. *Cf.* Iordanskaja and Polguère (2005) and Mel'čuk and Polguère (2018: 449-450), the case of APPLAUD.

correct description of all L's relationships with other lexical units of the language. L's definition must correctly describe L's *paradigmatic potential*. Thus, L's definition must include components that constitute *semantic bridges*:

- Between L and other lexemes L' of the same vocable. For instance: the vocable неар includes the lexeme L' = неар 'person who controls ...', as in the head of the department; this suggests the semantic component 'control' in the definition of the lexeme L = неар 'body part ...'. This component serves as a semantic bridge linking L and L'.
- Between L and its quasi-synonyms L'. For instance: L = conflict over wages, and $L' = \text{Argument}_{(N)}$ 'situation of **disagreement** ...', as in *They have arguments about wages*; the semanteme 'disagreement' in the definitions of both these lexemes accounts for the semantic proximity perceived between them.
- Between L and its derivatives L'. For instance: the Russian adjective RUKASTYJ '[person] good at **finely manipulating physical entities** with his *ruki*' = '[person] good at manual jobs' suggests the inclusion of the component '**finely manipulating physical entities**' into the definition of the lexeme RUKI 2.2a 'hands' (see Section 5).
- Between L and weak idioms L' including L. For instance, the Russian weak idiom 「оризтіт' Ruкі¬ lit. 'let.drop [one's] arms'
 = '¬give up¬¬¬аs if¬ letting drop one's arms as a gesture of utter helplessness' suggests the component 'organ of gesturing' in the definition of the lexeme Ruki.⁴

In case a component strongly suggested by a lexicon requirement contradicts the selection requirement (that is, this component

Russian has an impressive number of weak idioms including the lexeme Ruka that denote gestures. A *weak idiom* is an idiom that includes the meanings of all its lexical components, but none as the semantic pivot, which is the "additional" meaning carried by the idiom as a whole (Mel'čuk 2012: 38); for instance (the semantic pivot is shaded): 'barbed wire' ≈ 'artifact designed to make fences with that consists of wire with barbs on it placed at regular intervals'.

would wrongly narrow the denotational potential of L), it can be presented as a weak, i.e. optional, component. This point will be clarified and illustrated below.

B) Formal requirements on a lexicographic definition

To be formally correct, a lexicographic definition has to conform to the following five principles (or rules).

- 1) Propositional Form Principle. If L is predicative, L's definiendum is a *propositional form* an expression constituted by L supplied with variables X, Y, Z, ..., which represent L's semantic actants.
- 2) Semantic Decomposition Principle. L's definiens is written in terms of full lexical units $L_1, L_2, ...$, such that 'L' = ' $L_1 \oplus L_2 \oplus ... \oplus L_n$ ' and each ' L_i ' is semantically simpler than 'L'; in other words, L's definition must be a strict decomposition of its meaning.
- 3) Standardization, or Uniformity, Principle. L's definition is formulated in a *standardized semantic metalanguage*: lexicographic definitions should contain neither ambiguous expressions nor synonymous expressions.
- 4) Maximal Block Principle. If L's definition contains a configuration of semantemes ' $L_1 \oplus L_2 \oplus ... \oplus L_n$ ' such that it is semantically equivalent to the semanteme 'L'' (= the meaning of a lexical unit L') of language \mathcal{L} , so that ' $L_1 \oplus L_2 \oplus ... \oplus L_n$ ' = 'L'', then 'L'', and not the above semantic configuration, must appear in the definition.

The semanteme 'L'' is the maximal block with respect to the configuration 'L_1 \oplus L_2 \oplus ... \oplus L_n'.

5) Mutual Substitutability, or Adequacy, Principle. L and L's definition must be mutually substitutable *salva significatione* in all possible contexts.

The above universal constraints are used in conjunction with numerous language-specific formal criteria that allow the lexicographer to verify the factual correctness of a lexicographic definition. These criteria cannot, of course, be discussed here, but we believe that what has been said is sufficient for checking the proposed definitions.

An important remark before we start discussing the definitions: A lexicographic definition of a lexeme L of language \mathcal{L} must be formulated in \mathcal{L} ; however, for the benefit of our reader we write our definitions in English, selecting English lexemes that are maximally equivalent to the corresponding Russian ones.

2. RUKI 1.1a 'one pair of arms + hands' and RUKA 1.1b 'one arm + hand'



RUKI **1.1a**I Marija, raskinuv ruki,
Plyla po ètoj reke...
'And Maria, opening her arms,
Swam down this river...'
[Bulat Okudzhava]



RUKA I.1b

Knjaginja tomnoju rukoju
Ob''jala druga svoego
'The princess put her languid arm
Around her friend'

[Evgenij Baratynskij]

A person's body has two upper limbs, each one called *ruka* (a singular noun); these two limbs, considered together, – so to speak, as one paired object – are called *ruki* (this is the plural form of *ruka*). As a rule, a "normal" Russian noun, which has both grammatical numbers, is lexicographically described in the singular, because the plural adds to its lexical meaning a standard chunk of inflectional meaning: 'more than one'. In other words, the singular and the corresponding plural forms are the lexes of the same lexeme.

However, this is not always the case: the plural form can carry more than the above standard addition. Andrej Zaliznjak (1967: 61) gives a suggestive example of this phenomenon: Table 1.

	lexeme sapog 'boot'	lexeme sapogi 'boots'
semantic singular	sapog 'boot'	$sapogi_2$ 'boots ₂ = one pair of boots ₁
	On skinul levyj sapog	On skinul sapogi 'He threw.off
	'He threw.off [the] left boot'.	[the] boots'.
semantic plural	sapogi ₁ 'boots ₁ '	$sapogi_3$ 'boots ₃ = several pairs
		of boots ₁ '
	Tam ležalo tri pravyx	Privezli sapogi na vsju gruppu
	sapoga 'There were three	'They brought boots for [the] whole
	right boots'.	group'.

Table 1 – sapog 'boot' \sim sapogi 'boots = a pair of boots'

Zaliznjak indicates that the form $sapogi_2$ 'boots = one pair of boots' denotes not simply any two $sapogi_1$ 'two boots₁' (e.g., two boots of different sizes or for the same foot), but "a special object," "one item of footwear" – a **whole** consisting of two mutually adapted symmetrical components and designed to fulfill (as a whole) a **function**, namely to ensure the protection of the feet of a person. In this way, Zaliznjak has shown that there are two different lexemes: the lexeme sapog '[one] boot' (with the plural form sapogi) and the lexeme sapogi '[one] pair of boots' (with the same morphological plural form for the semantic singular, i.e. one pair of boots, and the semantic plural, i.e., several pairs of boots). This is true for dozens of nouns denoting objects related, one way or another, to the human body, which includes many paired symmetrical components.⁵

The forms SG ruka and PL ruki stand in the same semantic relationship as sapog and $sapogi_2$: just as Zaliznjak's lexeme sapogi_2 denotes one object fulfilling one function, the lexeme [X's] ruki '[X's] pair of arms + hands' also denotes one object fulfilling one function, namely that of manipulating physical entities. The conclusion seems obvious: Russian has the **two** lexemes listed below.

In all such pairs, the plural form is semantically primary: sapog ['a pair of boots'] \approx 'unit of footwear consisting of (two) artifacts that cover the feet and the legs up to the knee' vs. sapog ['a boot'] \approx 'one of the (two) components of sapogi'.

- RUKI I.1a '[one] pair of arms + hands', as seen in *Skrestivši mogučie ruki*, ... 'Crossing his powerful arms, ...' [M. Lermontov], with its own plural form pary ruk 'pairs of ruki';
- RUKA I.16 '[one] arm + hand', as seen in *Ivan slomal ruku* 'Ivan broke his arm', with the regular plural form *ruki*.

See Comment 1, p. 173.

3. RUKI 1.1a and RUKA 1.1b: which lexeme is semantically simpler?

So, we have two lexemes to define: RUKI I.1a and RUKA I.1b. Which one semantically underlies the other?

All modern Russian dictionaries known to us define RUKA (as a body part) in purely anatomical terms:⁶

'ruka' = 'one of the two upper limbs of the human body between the shoulder and the ends of fingers'

The meaning 'the two upper limbs of the human body between the shoulder and the ends of fingers' is expressed (in Russian) by the lexeme RUKI I.1a; as is easily seen, even the traditional dictionaries in fact define RUKA as 'one of *ruki*'. Why do they do so? Because the two *ruki* of a person are intuitively perceived as one whole, as something designed to fulfill a specific function. Let us make the corresponding addition to the traditional definition of RUKA:

'ruka' = 'one of the two upper limbs of the human body between the shoulder and the ends of fingers which constitute the organ of manipulation of physical entities'

Substituting 'the two upper limbs of the human body between the shoulder and the ends of fingers which constitute the organ of manipulation of physical entities' by *ruki*, we obtain:

'ruka' = 'one of the two ruki'.

Russian semantemes are identified by italics in our linguistically hybrid semantic descriptions tailored for non-speakers of Russian.

Therefore:

The lexeme RUKA I.1b must be defined by means of the lexeme RUKI I.1a, and not vice versa.

The lexeme RUKI I.1a (a plural form) is thus semantically simpler than the lexeme RUKA I.1b (a singular form). See Comment 2, p. 174.

4. The definiens: function and form

Thus, for the lexeme RUKI I.1a we have the definiendum: 'X's ruki I.1a'; what about the definiens? This lexeme denotes an organ whose intended function is to manipulate physical entities; therefore, the configuration of semantemes that describes the intended function of RUKI I.1a's denotation is necessary in the definition of this lexeme and occupies the communicatively dominant position of the generic component:

'X's ruki 1.1a' = 'human X's organ of manipulating physical entities ...'

- NB 1: 'Human being' is understood in this paper in a broad sense to cover mythological and fantastical human like beings, the artistic creations, as well as humanoid robots.
 - 2: 'X's organ of Ξ -ing' = 'X's body part designed to perform the function Ξ '
 - 3: In order to simplify the exposition, we use incomplete definitions, ignoring until Section 7 the actant 'Y' of the lexemes RUKI (the object of manipulating, etc.).

However, this definiens is not sufficient; this follows from the examples in (1):

- (1) a. robot s verxnimi konečnostjami v forme kovšej vmesto ruk 'a robot with upper limbs in form of buckets instead of arms'
 - b. *čelovek, u kotorogo vmesto ruk byli nožnicy* 'a man who had **scissors** instead of arms'

c. Vmesto ruk u nego byli klešni'Instead of arms he had lobster.claws'.

The boldfaced lexemes denote "body parts" that constitute the organ of manipulating physical entities, but these "body parts" cannot be called RUKI I.1a, because of their inappropriate anatomical form.

Therefore, we have to add to our generic component *differentia specifica* – the following semantic configuration:

'that consists of (two) elongated limbs' We have now our first definitions:

'X's ruki 1.1a' = 'human being X's organ of manipulating physical entities (or of gesturing) that consists of (two) elongated limbs by means of which X does the manipulating (or gesturing)'

'X's ruka I.1b' = 'one of the (two) components of X's ruki I.1a'

- **NB 1:** 'human X's limb [= Rus. 'konečnost'']' = 'human X's body part that is a movable appendage'.
 - 2: '(two)' is a weak component, i.e. its presence is not necessary for the lexeme RUKI I.1a to be used. Such expressions as *plemja odnorukix velikanov-rudokopov* 'the tribe of one-armed giant miners' or *šestirukij Šiva* 'six-armed Shiva' demonstrate that the twoness of human arms is not reflected by a necessary semantic component in the definition of RUKI I.1a.

The first of these definitions calls for the following two remarks.

1) The definition of RUKI I.1a does not include a component representing the (very important!) fact that these limbs are articulated. This is so since this property of the denotation of RUKI I.1a – that is, of all the real objects of a particular class – is not reflected in the linguistic meaning of the lexeme: RUKI I.1a readily applies to a primitive unarticulated prosthesis (*Džon Derevjannaja Ruka* 'John Wooden Arm'), to the arms of a dummy (*derevjannye ruki*

manekenov 'wooden arms of the dummies') and to the unarticulated upper limbs of robots and fantastic humanoids.

2) The generic component in our definition of RUKI I.1a is 'organ of manipulating ... that ...'. This choice is not obvious; it concerns the general problem "Function or form?" – that is, the question of what is primary in the lexicographic definition of a body-part noun.

We think that different body parts have to be defined in different ways. Thus, EYES must be defined as 'organ of vision that ...': what we see with is called EYES no matter its anatomical form. On the contrary, EYEBROWS must be defined by their form and position, since the eyebrows have no organic function. In the case of RUKI 1.1a both aspects – function and form – are necessary: upper limbs that serve not for manipulating things (but, for instance, for flying or swimming only) cannot be called RUKI 1.1a, and an organ of manipulating things that has not the form of upper limbs cannot be called RUKI 1.1a either. We opted for the primariness of the component 'organ for manipulating ...' since it determines the primariness of the plural form: in humans, only two *ruka* 1.1b constitute the organ. See Comment 3, p. 176.

5. RUKI I.2a 'one pair of hands' and RUKA I.2b 'one hand'



RUKI **1.2a**Sžala **ruki** pod tëmnoj vual'ju...

'I wrung my hands under my dark veil...'

[Anna Axmatova]



RUKA **1.2b**...I v kol' cax uzkaja **ruka**'... And a narrow hand with rings'

[Aleksandr Blok]

Russian has another two lexemes with the same signifier {ruk-}, present in the mottos. Based on the definitions of RUKI I.1a and RUKA I.1b, we can define them as follows:

'X's ruki 1.2a' = 'human being X's organ of grasping, of exploring by touch or of finely manipulating physical entities (or of gesturing) that consists of (two) movable flat formations that are end parts of X's ruki 1.1a(, that have fingers) and by means of which X does the grasping, exploring or manipulating (or gesturing)'

'X's ruka I.2b' = "one of the (two) components of X's ruki I.2a'

The mention of fingers is included in the definition of RUKI 1.2a as a weak component since the presence of fingers on this body part is not necessary for the lexeme RUKI 1.2a to apply, cf. examples (2):

- (2) a. *Oni byli v dva čelovečeskix rosta; v bespalyx rukax oni deržali lopaty* 'They were twice as tall as people; they held shovels in their **fingerless** *ruki* **1.2a**'.
 - b. Prjamo pered vxodom stojal gigant v skafandre. Ego ogromnye bespalye ruki byli povërnuty ladonjami vverx 'Just in front of the entrance there stood a giant in a spacesuit. His enormous fingerless ruki 1.2a were turned palms up'.

See Comment 4, p. 177.

6. A disjunctive definition?

So far, so good. But how should we describe the form **ruki** in a sentence like (3)?

(3) *Eë polnye belye ruki, deržavšie buket i rjumku, byli obnaženy do plečej* lit. 'Her round white arms, holding the bouquet and the wine glass, were bare up to the shoulders'.⁷

Predictably, the literal translation of sentence (3) is incorrect in English. The corresponding meaning has to be expressed as (i) or (ii):

Here the form **ruki** represents simultaneously two different lexemes: RUKI $1.1a \approx$ 'one pair of arms + hands' ('round white arms', 'bare up to the shoulders') and RUKI $1.2a \approx$ 'one pair of hands' ('holding the bouquet and the wine glass'); this phenomenon is known as *zeugma*. In such a case, the Green-Apresjan Criterion (Mel'čuk 2013: 330) would force us to unite the two lexemes under one disjunctive definition:

'human being X's organ of manipulating physical entities (or of gesturing) that consists of (two) elongated limbs by means of which X does the manipulating (and gesturing) or 3 human being X's organ of exploring by touch, of grasping or of finely manipulating physical entities (or of gesturing) that consists of (two) movable flat formations that are end parts of X's *ruki* I.1a(, that have fingers,) and by means of which X does the exploring, grasping or manipulating (or gesturing)'

However, the criterion for demarcating the lexemes within a vocable, that is, for distinguishing wordsenses, presented in Mel'čuk (2013: 325ff) under the name of Criterion II.1, tells us not to have recourse to a disjunctive definition if each of the disjuncts is associated with its own rich lexicographic information. This is exactly the case with RUKI I.1a and RUKI I.2a: they widely differ by their restricted lexical cooccurrence. Thus, only RUKI I.1a \approx 'arms' can be dlinnye/korotkie 'long/short', okruglye 'round', polnye/xudye 'plump/skinny' and muskulistye 'muscular'; only RUKI I.2a \approx 'hands' are širokie/uzkie 'broad/narrow', mozolistye/natružennye 'calloused/work-weary', gorjačie/xolodnye/ledjanye 'hot/cold/icy', laskovye 'gentle', umelye 'skilled' and obvetrennye 'chapped'. Similarly, vykručivajut 'twist', zalamyvajut za spinu 'wrench behind the back' and bespomoščno

⁽i) Her round white arms were bare up to the shoulders; in one hand she was holding the bouquet, and the other, the wine glass.

⁽ii) In one hand, she was holding the bouquet and in the other, the wine glass; her round white arms were bare up to the shoulders.

opuskajut 'let drop helplessly' only Ruki I.1a ≈ 'one pair of arms + hands', while Ruki I.2a 'one pair of hands' prižimajut k grudi / k serdcu 'press to one's chest / to one's heart', otmoraživajut 'have frostbite in' and otdërgivajut 'pull away'. As one can see in Iordanskaja and Paperno (1996: 308-324), such differences are found in many cases. Therefore, the definitions of the nouns Ruki I.1a and Ruki I.2a cannot be united by a disjunction – they remain two separate lexemes.

Thus, using the form **ruki** in (3) at once for both RUKI **I.1a** and RUKI **I.2a** is a stylistically neutral zeugma, that is, a zeugma that is not a pun (Mel'čuk 2012: 373).⁸

7. A quirky actant

In order to facilitate the reading, we did not mention until now the following important fact about the four lexemes RUKI.

The noun RUKI I.1a, just as the other three lexemes *ruki*, includes in its meaning the mention of an organ "designed" to perform

The stylistic neutrallity of a zeugma depends in an obvious way on the proximity of the meanings 'L' and 'L''.

Here are examples of English and Russian stylistically neutral zeugmas, that is, superpositions of senses 'L' and 'L'' (*cf.* Percova 1988: 62-78):

 ⁽i) Her tender, courageous heart was thumping in her chest
 [HEART as the organ of feelings and HEART as a physiological organ].

⁽ii) They were told that John was absent and to leave immediately [TELL as 'communicate' and TELL as 'instruct, order'].

⁽iii) They **asked** whether John was absent and for permission to leave immediately [ASK as 'question_(V)' and ASK as 'request_(V)'].

⁽iv) I believe in the purity of these snows and their souls[PURITY in the literal sense ('no dirt') and in a metaphorical one ('elevated feelings')].

⁽v) Rus. Perepolnennyj zal razrazilsja xoxotom'The packed hall roared with laughter'[zAL in the literal sense ('hall') and in a metonymic one ('people in the hall')].

 ⁽vi) Rus. On začityvalsja stixami, kuplennymi v prošlom godu
 'He was enjoying reading and rereading the verses he had bought last year'
 [STIXI in the literal sense ('poetry') and in a metonymic one ('a printed book')].

some particular actions. A verb naming one of these actions expresses a lexical function (of the Real group) of RUKI I.1a.

For instance: in *obxvatit' balku rukami* 'wrap arms around the beam' the verb obxvatit' is Labreal₁₂(Ruki I.1a). The noun Balka 'beam' is the semantic actant 'Y' \Leftrightarrow II of obxvatit' – and, therefore, of Ruki I.1a! At first glance, this might seem odd. But the noun Ruki I.1a, because *ruki* I.1a are an organ, is semantically similar to the name of tools and instruments; and the name of a tool necessarily has an actant 'Y' – the object of the tool's action. Thus, for instance, the noun hammer, along with the actant X – who hits with a hammer –, has the actant Y – what is hit with a hammer. (Already in the dictionary Mel'čuk and Zholkovsky (1984), the lexemes termometr 'termometer', čajnik 'tea-kettle' and časy '[a] watch' have the name of their "object" as their actant: the value of temperature, the liquid to boil and the hour.)

However, the actant 'Y' \Leftrightarrow II of the lexemes RUKI 1.1a/I.2a, just as that of all other tool and instrument names, is particular in that it cannot be directly joined to its governor: they must be linked by a lexical-functional verb. This is indicated by curly brackets {}. In other words, the expression "{'Y' \Leftrightarrow II}" means that the actant 'Y' is constrained – it and its implementations can appear only under specific conditions, indicated in the corresponding lexical entry (Mel'čuk 2015: 20-23).

Note that the complications encountered with the 'Y' \Leftrightarrow II actant of the RUKA lexemes present a particular case of a more general problem that awaits a theoretical elaboration: the object actant of many quasi-predicative lexemes.

8. Four lexical entries of the vocable RUKA

We present here four lexemes of the vocable RUKA, but, as we warned in the Introduction, their entries are incomplete in the lexical function zone – this zone is just sketched.

The definition of the lexeme RUKI I.1a is offered in three versions:

- the textual (i.e. linear) definition;
- the schematically hierarchized textual definition (where all semantic components are explicitly hierarchized), see Mel'čuk and Polguère (2018);
- the formal definition (i.e. a semantic network).

All the three versions are, of course, fully equivalent.

For the three other lexemes, only the textual definition is given – in order to save space.

- ◆ 1. <u>Underscoring</u> in the definition indicates the generic component.
 - 2. Circled numbers 1, 2, ... refer to cursory explanations given at the end of this section.
 - 3. The expression " $A_{(poss, pron)}(N)$ " means 'possessive pronominal adjective corresponding to N' (with N= JA 'I', $A_{(poss, pron)}(N)=$ MoJ 'my', etc.).

RUKA 'arm + hand', noun, feminine

```
I.1a. RUKI '[one pair of] arms + hands'
I.1b. RUKA '[one] arm + hand'
I.2a. RUKI '[one pair of] hands'
I.2b. RUKA '[one] hand'
```

The government pattern is the same for all the four lexemes in question; therefore, it is indicated only once.

Government pattern

'X'⇔I	{'Y'⇔ II }
1. N _{GEN}	
2. $A_{(poss, pron)}(N)$	
3. $A_{(poss, non pron)}(N)$	

ruki Vani 'arms of Vanya', naši ruki 'our arms', Vaniny ruki lit. 'Vanyan arms'

The semantic and deep-syntactic actants $\{ 'Y' \Leftrightarrow II \}$ are not expressible as direct dependents of RUKA; 'Y' and its implementations can appear exclusively as dependents of a verb semantically and syntactically linked with RUKA, for instance:

RUKII.1a '[one pair of] arms + hands', plurale tantum, semantic singular ruki, semantic plural ruki, numerative para (ruk) [Comment 5, p. 177]

Definition

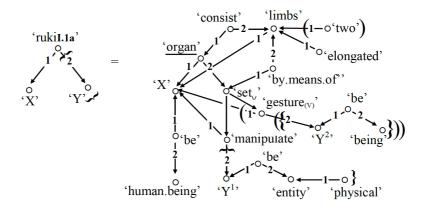
Textual definition

'X's ruki I.1a manipulating $\{Y^1\}$ (or gesturing $\{(to\ Y^2)\}$)' = 'human X's organ of manipulating $\{physical\ entity\ Y^1\}$ (or of gesturing $\{(to\ Y^2)\}$) that consists of (two) elongated limbs by means of which X does the manipulating (or gesturing)' ①, ②

Schematically hierarchized textual definition

- 'X's ruki I.1a manipulating $\{Y^1\}$ (or gesturing $\{(to\ Y^2)\}$)' = 'X's organ of manipulating $\{physical\ entity\ Y^1\}$ (or of gesturing $\{(to\ \overline{Y^2})\}$)
 - that consists of X' limbs
 - that are elongated
 - (• that are two)
 - by means of which X does the manipulating (or gesturing)
 - X being a human
 - Y¹ being a physical entity
 - Y² being a living creature'

Formal definition



Lexical functions

one of R. : rukal.1b

Dimin : ručki I.1a; ručen'ki I.1a

[hypochoristic]; ručonki I.1a

[depreciative]

gesture of helplessness— spread R., without raising them, having palms up,

QPerfReal₁ ③ : razvesti 'spread' [~ami]

gesture of selfassertion—crossing R. in front of the chest, putting hands into the crooks of the elbows,

QPerfReal₁ : skrestit' 'cross' [∼i] [na grudi 'on

the.chest'] (see the image at the be-

ginning of Section 2)

QLabreal₁₂ : deržat' 'hold' [N_Y v \sim ax] [Ivan

 $der \check{z}al \ v \ rukax \ oxapku \ xvorosta$ lit. 'Ivan held in arms [an] armful of.firewood'] // $der \check{z}at'$ 'hold' [N_Y] [Ivan $der \check{z}al \ oxapku \ xvorosta$ lit. 'Ivan held [an] armful

of.firewood'] 4

ruki oxapku xvorosta lit. 'Ivan took in arms [an] armful of.firewood'.]

// vzjat' 'take' [N_Y]

wrapping R. around Y,

 $QPerfLabreal_{12}$: obxvatit' lit. 'wrap around' $[N_Y]$

(~ami)] [*Maša obxvatila rukami ego šeju* 'Masha wrapped [her] arms around his neck'.] // obxvatit'

lit. 'wrap around' [N_Y]

gesture of affection toward Y—wrapping R. around Y,

QPerfLabreal₁₂ : obnjat' 'hug', obvit' lit. 'wrap

around' [N_Y ~ami] // obnjat' 'hug'

 $[N_Y]$

 F_1 = with more

flesh than normal : polnye 'full'; okruglye 'round'
AntiF₁ : tonkie 'thin'; xudye 'skinny'

RUKA 1.1b

Definition

'X's ruka I.16 manipulating $\{Y^1\}$ (or gesturing $(\{to\ Y^2\})$)' = 'one 22 of the (two) components of X's ruki I.1a'

For 'one²2', see Comment 6, p. 178.

Lexical functions

Dimin : ručka I.1b; ručen'ka I.1b [hypocho-

ristic]; ručonka I.16 [depreciative]

wrapping R. around

Y, $QPerfLabreal_{12}$: obxvatit' lit. 'wrap around' $[N_Y]$

~oj] [*Maša obxvatila pravoj rukoj* ego šeju 'Masha wrapped [her] right

arm around his neck'.]

gesture of affection toward Y—wrapping R. around Y,

QPerfLabreal₁₂ : obnjat' 'hug', obvit' lit. 'wrap

around' $[N_Y \sim oj]$ [I on moščnoju rukoju obnjal persijanki stan 'And he wrapped his powerful arm around the waist of the Persian woman'. (a Rus-

sian popular song)]

 $F_1 = with more$

flesh than normal : polnaja 'full'; okruglaja 'round' $AntiF_1$: tonkaja 'thin'; xudaja 'skinny'

RUKI1.2a '[one pair of] hands', plurale tantum, semantic singular ruki, semantic plural ruki, numerative para (ruk)

Definition

'X's ruki I.2a grasping, exploring by touch, or manipulating $\{Y^1\}$ (or gesturing ($\{\text{to }Y_2\}$))' =

'human X's organ of grasping, of exploring by touch or of finely manipulating physical entity $\{Y^1\}$ (or of gesturing ($\{\text{to }Y^2\}$)) that consists of (two) flat articulated formations that are end parts of X's ruki I.1a (, that have fingers on them) and by means of which X does the grasping, exploring or manipulating (or gesturing)'

Lexical functions

one of R. : rukal.2b

Dimin : ručki I.2a; ručen'ki I.2a [hypocho-

ristic]; ručonki I.2a [depreciative]

QLabreal₁₂ : $der\check{z}at'$ 'hold' $[N_Y \ v \sim ax]$ [Ivan

deržal v rukax farforovuju vazu 'Ivan held in his hands a china vase'.]

deržat' 'hold' [N_Y]

ruki farforovuju vazu 'Ivan took in his hands a china vase'.] // vzjat'

 $[N_Y]$

Ver['manipulate']
: umelye 'skillful'

work-weary : natružennye 'work-weary'

 $F_1 = with more$

flesh than normal : puxlye 'plump'

AntiF₁ : xudye 'skinny'; kostljavye 'bony'

RUKA 1.2b

Definition

'X's ruka 1.26 X-a grasping, exploring by touch or manipulating $\{Y^1\}$ (or gesturing $\{\{to\ Y^2\}\}$)' =

'one 2 2 of the (two) components of X's ruki I.2a'

Lexical functions

QSyn : kist' (see Comment 7, p. 178)
Dimin : ručka 1.2b; ručen'ka 2.1b [hypocho-

ristic]; ručonka 2.16 [depreciative]

gesture carrying
the information
"not worth it"—
give a brusque
downward wave with

the R. : maxnut' [\sim oj] 'wave' [Vmesto

otveta Ivan tol'ko rukoj maxnul 'Instead of an answer Ivan just made a

gesture of helplessness'.]

 $\label{eq:QLabreal} {\tt QLabreal}_{12} \qquad \qquad : \quad der \check{z}at' \ \ \ {\tt `hold'} \ \ [N_Y \ v \ {\tt \sim}e] \ \ [\mathit{Ivan}$

deržal v levoj ruke farforovuju vazu 'Ivan held in his left hand a china

vase'.] // deržat' 'hold' [N_Y]

 $\label{eq:qperfLabreal} \mbox{QPerfLabreal}_{12} \qquad \qquad : \quad \mbox{vzjat}' \mbox{ `take'} \mbox{ } [\mbox{N}_{Y} \mbox{ } v \sim \mbox{u}] \mbox{ } [\mbox{Ivan vzjal}$

v ruku farforovuju vazu 'Ivan took in his hand a china vase'.] // vzjat'

'take' [N_Y]

 $F_1 = with more$

flesh than normal : puxlaja 'plump'

AntiF₁ : xudaja 'skinny'; kostljavaja 'bony'

① Optional components in definitions

The component "(or gesturing (to Y^2))" is optional since "[a human's] organ of manipulating ...' can be called *ruki* even if it is never used for gesturing.

The component "(to Y^2)" is optional because gesturing can be of two types: either a means of non-verbal communication (and then it has an addressee Y^2), or a manifestation of the person's inner state (and then it has no addressee).

2 Referential status of semantic components

The semantic component 'manipulating' appears in the definition twice, and in these occurrences it has different referential statuses:

in the first one, 'manipulate' refers to potential abstract manipulations – 'designed for manipulating'; in the second one, 'manipulate' refers to an actual specific act of manipulating. Therefore, the corresponding semantic structure should contain two nodes labeled with 'manipulate'. However, this is not done for the sake of simplicity.

3 The symbol Q in the name of a lexical function

The symbol \mathbb{Q} (= 'quasi-') in the name of a lexical function indicates that the semantic characterization of this function is very rough and does not claim the necessary precision.

4 'Ruka' as an incorporated participant

Several lexical-functional verbs that have one of lexemes Ruka as their keyword are semantically full and include the component 'ruka' in their meaning – for instance, deržat' 'hold', vzjat' 'take', sxvatit' 'seize', etc. (It is just the same with such well-known cases as the English verbs kiss, whose meaning includes the component 'lips', or kick, whose meaning includes 'foot'.) It is impossible to analyze here all interesting consequences of this fact.

9. Linguistic comments

Comment 1 (p. 158): RUKI 'a pair of hands + arms' vs. BROVI 'evebrows'

Not all paired body parts need two lexemes – one in the singular, the other in the plural – for their lexicographic description. Consider, for instance, BROV' 'eyebrow' = 'hairs growing in a line over the eye'. The plural form $\mathsf{brov}i$ 'eyebrows', unlike the plural form $\mathsf{ruk}i$, does not correspond to two different meanings: $\mathsf{brov}i$ means only 'more that one brov' '. The fact that a person has just two $\mathsf{brov}i$ is, as with $\mathsf{ruk}i$, purely encyclopedic knowledge; the corresponding component 'two' is a weak one in both definitions. However, unlike eyebrows, the arms of a person X constitute **one** X's organ – X's

organ for manipulating physical entities and gesticulating (see the definition above), while the eyebrows do not: they are not an organ with a clear-cut function. The semantic component 'organ of...' has to be included into the lexicographic definition of RUKI, and, as a result, we obtain two lexemes: RUKIPL, which denotes the organ, and RUKASG, denoting one of the *ruki*. But we don't need such two lexemes for BROV' (the same is true for ŠČEKA 'cheek' and SKULA 'cheekbone', which are not organs, either).

When dealing with the names of the body parts that are organs and with those of the corresponding artifacts in a lexicon, the lexicographer, following Zaliznjak (1967) suggestion, has to distinguish two lexemes: a plural one and a singular one, where the plural lexeme is semantically simpler. This practice was first introduced in Wierzbicka (1980: 77ff) and Mel'čuk and Zholkovsky (1984: 407-410) (Lyži 'ski'), to be continued in Mel'čuk et al. (1984-1988) (several paired body-parts names). The necessity of the distinction in question was explicitly formulated in Mel'čuk, Clas, and Polguère (1995: 111) and later discussed in some detail in Mel'čuk (2013: 375-376). The said distinction is systematically observed in the dictionary Apresjan (2014-2017).

Comment 2 (p. 159): singular nouns for the paired body parts

The proposed treatment of the Russian names of the paired body parts that denote functional organs – namely, considering the plural form to be the underlying, or semantically simpler, than the singular – is buttressed by the following interesting fact. In many languages that observe a strict distinction "singular *vs.* plural (of nouns)" the name of an organ-denoting paired body part, as well as the names of related artifacts (items of footwear and of clothing consisting of two objects), is in the singular, thus being the underlying form. The corresponding plural denotes several pairs of such body parts or several pairs of corresponding objects.

Such is the situation, for instance, in Hungarian and Turkish. Thus, Hungarian noun szem $_{SG}/\mathrm{sem}/$ means 'one person's pair of

eyes', with the regular plural form meaning 'more than one pair of eyes': $Istvánnak \ szeme + \emptyset_{SG} \ van \ fekete \ lit.$ 'To.Istvan his.eye is black' = 'Istvan's eyes are black' $\sim A \ Holocaust \ szeme + i_{PL} \ lit.$ 'the Holocaust its.eyes' = 'The Holocaust eyes' [a Hungarian documentary that shows faces of Holocaust victims]. To speak of one eye, Hungarian uses the derived noun Félszem 'half-eye'. But the meaning 'more than one (odd) eye' is expressed by the regular plural $szem + ek_{PL}$, which is thus two-way ambiguous.

Similarly:

(4) $kesztyű+O_{SG}/kestj\overline{u}/$ 'one pair of gloves' \sim $kesztyű+k_{PL}$ 'more than one pair of gloves' or 'more than one (odd) glove' \sim $fél\ pár\ kesztyű+O_{SG}$ lit. 'half pair glove' = 'one (odd) glove' \sim $félkesztyű+k_{PL}$ lit. 'half-gloves' = 'more than one (odd) glove'

Another series of examples can be cited from Breton (courtesy of François Louis).

- A pair of paired body parts is, as a rule, denoted by a special "dual" form, which has its own plural; for instance:
- (5) 'eyes' $\sim lagad + o\grave{u}_{PL}$ 'eyes' $\sim daou + lagad_{DU-SG}$ 'pair of eyes' $\sim daou + lagad + o\grave{u}_{DU-PL}$ 'pairs of eyes'
- (6) 'arms' $\sim brec'h + o\dot{u}_{PL}$ 'arm+s' $\sim div + vrec'h_{DU-SG}$ 'pair of arms' $\sim div + vrec'h + o\dot{u}_{DU-PL}$ 'pairs of arms'
- (7) 'legs' gar_{SG} 'leg' $\sim gar + o\dot{u}_{PL}$ 'leg+s' $\sim div + har_{DU-SG}$ 'pair of legs' $\sim div + har + o\dot{u}_{DU-PL}$ 'pairs of legs'

Interestingly, the Breton dual forms denoting a pair of paired body parts ('the two hands of a person') are formally different from free phrases meaning 'two (separate) hands'; for instance:

- (8) 'hands' $dorn_{SG}$ 'hand' $\sim daou + arn$ 'pair of hands (of one person)' $\sim daou \ zorn$ 'two (separate) hands'
- A pair of "paired" artifacts (such as shoes, etc.) can be denoted by a regular plural form preceded by a singular article: ur_{SG} bot+où_{PL} lit. 'a shoe+s' = 'a pair of shoes'; similarly: ul_{SG} loer+où_{PL} 'a pair of stockings', ur_{SG} maneg+où_{PL} 'a pair of gloves', etc. The meaning 'more than one pair' can also be expressed by so-called "double plural": bot+eier 'pairs of shoes', loer+eier 'pairs of stockings' and maneg+eier 'pairs of gloves'.

Comment 3 (p. 161): logical circles in the system of definitions

A. Wierzbicka (1980: 80ff) rejects the indication of function in the definitions of ARMS, HANDS, LEGS, FEET, etc. (although she defines these nouns in the plural). Her reason is to avoid logical circles in the system of lexicographic definitions – circles such as illustrated below:

```
'ears' = 'body part designed for hearing'
'hear' = 'perceive sounds by the ears'
```

However, is there a real logical circle? The important fact is that the two 'hear' in the first and the second definition have different referential statuses: the first one refers to a virtual, or potential, hearing, and the second, to an actual one. As one can see, there are no real logical circles here.

Moreover, in some cases circularity in lexicographic definitions cannot be avoided. For example, the definition of BLOOD must contain the component 'red liquid', and at the same time RED has to be defined as 'that has the color of blood'. But such cases are rather limited; they concern the meanings related to basic human physiology. If explicitly marked, these "legitimate" vicious circles will pose no problem.

Comment 4 (p. 162): Russian PAL'CY 'fingers'

Interestingly, PAL'CY 'fingers' should not be defined as 'part of ruka 1.2b':

'X's *pal'cy*' = '(five) movable appendages on X's *ruka* 1.2b by means of which is done prehension, exploring by touch and fine manipulating of physical entities'

Any 'part of $ruka \, 1.1b \, [\approx \text{`arm} + \text{hand'}] / \text{ of } ruka \, 1.2b \, [\approx \text{`hand'}]$ ' can be characterized as pravyj / levyj 'right/left': pravyj / levyj lokot' 'right/left elbow' or $pravoe / levoe \, zapjast'e$ 'right/left wrist'. However, one does not say * $pravye / *levye \, pal'cy$ 'right/left fingers', but only $pal'cy \, pravoj \, ruki / \, na \, pravoj \, ruke$ 'fingers of the right hand/ on the right hand'. Note that this is hardly related to the plural form of pal'cy: thus, $r\ddot{e}bra_{PL}$ 'ribs' can be pravye / levye, in spite of the plural form.

Comment 5 (p. 167): Russian pluralia tantum

Morphologically, the nouns *pluralia tantum* do not have a form of the singular, but semantically, some types of *pluralia tantum* distinguish both numbers (the subscript _{PL} indicates the morphologically plural form):

- (9) a. $odni \, sani_{PL}$ 'one sledge' $\sim neskol'ko \, sanej_{PL}$ 'several sledges'
 - b. $odni \ sutki_{PL}$ 'one day + one night' $\sim neskol'ko \ sutok_{PL}$ 'several days + several nights'
 - c. $odni \ vorota_{PL}$ 'one gate' $\sim neskol'ko \ vorot_{PL}$ 'several gates'

The expression of the semantic plural of a *plurale tantum* with a numeral in Russian presents some complications, requiring – for small numbers (i.e., 2-4) – the use of the so-called collective (= personal-quantitative) numerals or of the numerative PARA 'pair' or even being impossible:

- (10) a. $troe \langle *tri \rangle sanej$ 'three sledges' $\sim desjat' sanej$ 'ten sledges' $\sim *dvadcat' tri sanej$ 'twenty-three sledges' [a correct expression of this meaning is impossible]
 - b. troe (*tri; tri pary) brjuk 'three (three pairs of) pants' $\sim desjat' \langle desjat' \ par \rangle brjuk$ 'ten (ten pairs of) pants' $\sim dvadcat' \ tri \ pary \ brjuk$ 'twenty-three pairs of pants'
 - c. $troe \langle *tri \rangle sutok$ 'three days and nights' $\sim desjat'$ sutok 'ten days and nights' $\sim *dvadcat'$ tri sutok 'twenty-three days and nights' [a correct expression of this meaning is impossible]

In this respect, RUKI I.1a and RUKI I.2a are quite typical *pluralia tantum*; thus, they combine only with collective numerals:

- (11) a. *U menja toľ ko odni ruki!* 'I have only one pair of arms/hands!'
 - b. U menja ne dvoe ruk!'I don't have two pairs of arms / hands!'

Both (11a) and (11b) are linguistic clichés with informational content "I cannot do it alone in this time interval".

Comment 6 (p. 169): the semanteme 'one 22'

The semanteme 'one 22' (the lexicographic numbering is from $Long-man\ Dictionary\ of\ Contemporary\ English$) represents a complex enough meaning: \approx 'single element out of a set/of a mass'. This meaning is actually that of such singulatives as the Russian suffixes -in(a)/-ink(a) 'single element out of', as seen in Gorox 'peas' \sim Gorošina '[one] pea', kartofel' 'potatoes' \sim kartofelina '[one] potato', pesok 'sand' \sim pesčinka '[one] grain of sand' or sneg 'snow' \sim snežinka '[one] snowflake'.

Comment 7 (p. 171): the Russian noun $\kappa ist' \approx$ 'hand'

The noun κ IST' \approx 'hand' denotes the same body part as RUKA I.2b, but its linguistic meaning is strictly limited to anatomical "body part": κ IST' is not a functional organ! So one can say *amputirovat*'

kist' 'amputate a hand', vsja kist' v krovi 'the whole hand is covered with blood', izjaščnye kisti ruk 'elegant kisti of arms', but no *sxvatit' / *potrogat' / *pogladit' pravoj kist' ju 'seize / touch / caress with the right kist'. The contrast KIST' \sim RUKA I.2b shows that the component 'organ of ...' in the definition of RUKI I.2a is necessary and is communicatively dominant – that is, it is the generic component. At the same time this pair illustrates once again the fundamental difference between denotation and linguistic meaning.

Conclusions

This paper proposes the (incomplete) lexical entries for four lexemes – body-part senses – of the Russian vocable RUKA; this presents an opportunity to discuss the following lexicographic problems of rather general character, limited neither to body parts, nor to Russian.

- 1. Relevant physical properties of an object (in our case, of a body part) *vs.* relevant linguistic properties of the name of this object that is, denotation *vs.* linguistic meaning.
- 2. Two lexemes in one vocable, each one with its own definition, *vs.* one lexeme with a disjunctive definition that is, the Green-Apresjan criterion *vs.* the differentiating lexicographic information criterion.
- 3. The choice of the generic component in the definition in our case, the characterization of the function *vs.* the characterization of the form.
- 4. The role of weak semantic components in lexicographic definitions.
- 5. The specific "object" actant of (quasi-)predicative lexemes.
- 6. The plural form of a lexeme L as a different lexeme L': this is a particular case belonging to the general problem "morphology vs. lexicon."

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