LEXICAL FUNCTIONS IN LEXICOGRAPHIC DESCRIPTION

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I
Introduction

This paper attempts to state and illustrate, in a very preliminary manner, the important linguistic notion of Lexical Function (introduced in Žolkovskij - Mel'čuk 1966 and 1967 and developed, at some length, in Mel'čuk 1974: 78-109). Lexical functions were devised to describe a certain type of lexical collocation, italicized in (1) - a dozen sentences collected in ten minutes from one newspaper page:

(1)  a. The President clamped (= imposed) an overnight curfew on three areas... to stamp out (= put down) violence.
    b. The panel issued a report to the Secretary of State.
    c. President Reagan rejected plea to open talks with striking US controllers.
    d. Pope released from hospital [headline]. The Pope left the hospital yesterday, three months and one day after he was struck by two bullets. He said a brief prayer...
    e. The heaviest prison terms in Kentucky history (more than 1,600 years each) have been handed down against two men.
    f. South African troops have spread a dragnet across the country in a search for three heavily armed black guerrillas. The ANC has claimed responsibility for the attack launched last Tuesday in which four rockets were fired at an army camp.
    g. We are looking for senior consultants of proven competence to satisfy the demands of our growing business.

Texts - from colloquial to artistic to technological - swarm with expressions of this type.
To save space, I will impose the following three restrictions on my paper:
(1) Although lexical functions are crucial for the linguistic theory, I shun all theoretical discussion and cut short many explanations, even some necessary ones. ("Explanations take such a dreadful time!" - as Lewis Carroll's Gryphon said once.) I place all my hope in the examples and in both the intelligence and good will of my readers.

The work reported in this paper has been sponsored over the past three years by the Social Sciences and Humanities Research Council of Canada, under grant No.410-80-0345-R2.
(ii) Although lexical functions are universal, I exemplify them only from Russian. (Some French examples and a comparison with Russian are found in Iordanskaja et al.,'s paper published in this volume.)


II

Definition of Lexical Function

A lexical function (henceforth, LF) \( f \) is, like any mathematical function, a dependency that associates with a given "quantity" — its argument — a variable "quantity" — its value, the latter being controlled by the former. More precisely, an LF \( f \) associates with a lexical unit \( \tilde{m} \) (a word or a phrase) a set \( \{m\} \) of (more or less synonymous) lexical units that express — contingent on \( \tilde{m} \) — a specific idea (such as 'very', 'begin', 'implement') represented by \( f \). For example, the LF \( \text{Найт} \), which for the present can be glossed roughly as 'very', in conjunction with the Russian words непрекращаемо 'voltage' or температура 'temperature' is expressed by the adjectival вьюка 'high'; in conjunction with вьюка 'height', however, the same function is expressed by ограниченная 'constrained', большие 'great' or огромная 'enormous'; and in conjunction with вибрация 'vibration', by сильная 'strong' or интенсивная 'intense'. Thus we get вьюконо непрекращаемо 'high voltage', вьюкожа температура 'high temperature', ограниченная вибрация 'considerable (great, enormous) height', and сильная (интенсивная) вибрация 'strong (intense) vibration'; but we do not get *сил(о)не (ограниченное) непрекращаемо, *больше (огромная, интенсивная, сильная) температура, *интенсивная (сильная) вьюка, *вьюкожа (больше) вибрация, etc.

The importance of LF's consists in the discovery of the following fact: in all natural languages there is only a limited number (about several dozens) of meanings that resemble 'very' in that they also each determine an LF.

The exact meaning of the last statement will become clearer upon subsequent reading.

And now, a formal definition of lexical function.

A dependency \( f \) is called lexical function if and only if it associates with a lexical unit \( \tilde{m} \) — the argument of \( f \) — a set \( \{m\} \) of lexical units — the value of \( f \) — such that the following two conditions are simultaneously met:

For any two different \( \tilde{m}^1 \) and \( \tilde{m}^2 \), if \( f(\tilde{m}^1) \) and \( f(\tilde{m}^2) \) both exist, then:
1. Both \( f(\tilde{m}^1) \) and \( f(\tilde{m}^2) \) bear an identical relationship with respect to meaning and deep-syntactic role to \( \tilde{m}^1 \) and \( \tilde{m}^2 \), respectively. [This condition is language-independent.]
2. At least, in some cases, \( f(\tilde{m}^1) \neq f(\tilde{m}^2) \). [This condition is completely language-dependent; it means that in the given language, the value of \( f \) is phraseologically bound by its argument.]

An important proviso: A lexical function is not a genuine semantic unit, let alone a semantic primitive. LF's are introduced to describe restricted lexical cooccurrence and derivation, but by no means semantics. First, there are LF's that are semantically empty, their values being limited to purely syntactic roles (cf. \( \text{Посет} \), \( \text{ functi} \), \( \text{ labор} \) below). Second, the expressions making up the value of a given LF \( f \) for a given argument need not be perfectly synonymous; it suffices for them to share a rather general and abstract meaning '\( f \)' while differing in other components.

We will be interested in a particular type of LF, namely standard lexical functions, which form a proper subset of all lexical functions. A standard LF satisfies simultaneously two additional conditions:

3. \( f \) is defined for a relatively large number of arguments. In other words, \( f \) has a relatively large semantic cooccurrence: its meaning '\( f \)' is sufficiently abstract to be compatible with a large number of other meanings. [This condition is language-independent.]
4. \( f \) has a relatively large number of linguistic expressions as its possible values. In other words, the set of all \( \{m\} \), for a vast variety of \( \tilde{m} \), is relatively rich. [This condition is completely language-dependent.]

Let me illustrate my point with two examples. The meaning 'manufactured from very dark rye flour' in Russian has three expressions: \( \text{пчез} \) 'black', \( \text{чрез} \) 'red' and \( \text{через} \) 'black': and is \( \text{через} \) мук 'from rye flour', and these expressions are phonologically bound:
- Only zleb 'bread' or свеc 'rusk' can be called \( \text{чрез} \), while very dark rye булка 'bun', булка 'bagel', блн 'pancake', кор (к) 'a kind of) flat dense dry bread', лепешка 'flat cake' etc. cannot: \( \text{чрез} \) булка 'black bun', e.g., is readily understandable but grammatical.
- Only zleb 'bread' and лепешка 'flat cake' but nothing else can be called \( \text{чрез} \). (Notice that \( \text{чрез} \) веb is always \( \text{чрез} \) zleb, but \( \text{чрез} \) zleb can be свеc 'light', etc. as well as \( \text{чрез} \).
- Speaking of булки, булки, блн, кор и кор (к), Russian uses из \( \text{через} \) мук (but not with reference to свеc 'rusk') and hardly with reference to zleb: \( \text{чрез} \) веb/\( \text{через} \) веb, etc.
III
Lexical Functions and Deep Syntax

Lexical functions are crucially linked to what is known as Deep Syntax in the Meaning-Text Model approach (cf., e.g., Mel'čuk 1981). LF's appear only in deep-syntactic structures of sentences; they are used to state paraphrase relations that hold between sentences at the deep-syntactic level; the value of an LF is linked to its argument by a particular deep-syntactic relation; etc. Therefore, for a full explanation of LF's, a complete description of the deep-syntactic component of the Meaning-Text Model is a prerequisite; but such an undertaking is out of the question here. As a consequence, many important things cannot be explained at all, and again I appeal to the reader's good will and tolerance.

I will introduce only the most central notion of deep syntax, namely deep-syntactic actant. A situation, or a state of affairs, is a lexical reflection, by a particular language, of some chunk of the universe: an event; a state or a change of state; a process; a property or a relationship; etc. A situation is identified by its key word W: honest, red, like = [+ be like], spread = [+ X spreads (somewhere)], speak, destroy, etc. denote the situations 'somebody is honest', 'something is red', 'something is like something in some respect', etc. A situation can have several key words, which are then (exact or approximate) synonyms, converses, or syntactic derivatives of one another: honest = honestly = honesty; like = similar = similarity = as = [red as blood]; destroy = be destroyed = destruction.

Now, a situation has a number of participants: 'being honest/red' is a one-participant situation, 'love' is a two-participant one, and 'similarity' involves three participants [English is like Ohno in its morphology]. An actant of the lexeme W is a linguistic entity that corresponds to one of the participants of the situation identified by W. For any situation-identifying lexeme its semantic, deep-syntactic and surface-syntactic actants must be distinguished. The semantic actants of W are determined by the lexicographic definition of W and are (roughly) the variables we have to use in this definition. The surface-syntactic actants of W are actual phrases denoting its semantic actants and filling such surface-syntactic roles as (grammatical) subject, objects and complements. The deep-syntactic actants of W are generalized representations of its surface-syntactic actants that ignore all the details of the observable surface behavior of the latter. The deep syntactic actants are geared rather to meaning and can be construed as 'places', or arguments, of the predicate expressed by W. All the more so that the different deep-syntactic actants of the same lexeme are numbered: the first deep-syntactic actant of W, the second deep-syntactic actant of W, etc.

Now, the first deep-syntactic actant corresponds to the grammatical (surface) subject or to any of its transforms (John’s writing, John’s writings, writings of John), the second to the surface direct object or to a strongly governed indirect object of an intransitive verb, etc. To take a simple example, include, contain or inclusion have as their first deep-syntactic actant the name of the including set, and as their second deep-syntactic actant, the name of the included subset or element: Chapter 3 includes a section on fruit flies; opinion has three deep-syntactic actants:
his opinion of Joan as a brilliant researcher (because of He thinks of Joan that she is a brilliant researcher); etc.

The deep-syntactic acts of the same lexeme are distinguished by Arabic numerical subscripts. Therefore, it is important to constantly keep in mind that numerical subscripts accompanying the names of LL's in what follows ALWAYS REFER TO DEEP-SYNTACTIC ACTANTS of the corresponding lexeme (i.e., in the final account, to participants of the situation denoted; but remember that the same participant of a given situation can match any deep-syntactic actant depending on the lexeme in question. So with include, the including set is the first deep-syntactic actant, while with belong the including set will be the second actant.)

TV

List of Lexical Functions

A lexical function, noted by a boldfaced Latin abbreviation, is written before the parentheses enclosing its argument (a familiar mathematical functional notation). For example:

<table>
<thead>
<tr>
<th>Function Argument</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magna (shave)</td>
<td>close, clean</td>
</tr>
<tr>
<td>Magna (easy)</td>
<td>very, extremely, ..., as pie</td>
</tr>
<tr>
<td>Magna (mount)</td>
<td>very, intensely, ..., of the first water</td>
</tr>
<tr>
<td>Magna (cold)</td>
<td>very, terribly, ..., enough to freeze balls of a brass monkey</td>
</tr>
</tbody>
</table>

[Magna is from Lat. magnus 'great, big'.]

As stated above, LL's are one of the central notions to a new type of dictionary, the Explanatory-Combinatorial Dictionary. The simple standard lexical functions will be listed below in the order in which they appear in a lexical entry in such a dictionary.

1. Syn - synonym: Syno, Syni, Synj designate, respectively, synonyms with broader, with narrower, and with intersecting meanings. (Symbols , , and have the same meaning when used with Conv, Anti and other LL's.) Examples: Syn (streljat 'shoot') = palič 'fire'; Syni (streljat 'shoot') = obreljati 'fire upon; shell; machine-gun'; etc.

2. Conv: - conversive, i.e., a lexical item with the same meaning as the word in but with deep-syntactic acts i and j permuted: Conv (okljužat 'include') = prinadlat 'belong to'. Convj (pobeda 'victory') = poraziti 'defeat'.

3. Anti - antonym: Anti (pobeda 'victory') = poraziti 'defeat'.

4. Genus - generic concept such that 'Genus + N' = 'N' (where N is the key word); Genus (gas 'gas') = vazdušni 'substance' [cf. gas, vazdušne 'atmosphere' = gas, gazdušnæ 'gas-like substance' = gas, gazdušna].

5. Figur - standard metaphor for N: Figur (blokada 'blockade') = kol 'coke, lit. 'ring'; Figur (tuman 'fog') = pelena 'curtain'; Figur (tuman 'fog') = pelena 'curtain' [pelena tuma 'curtain of fog'].

6-9. Ao, Ad, Av, Vo - syntactic derivatives of N, that is, noun (substantival), adjective, adverb, and verb, respectively, which have the same meaning as N. Examples: Ao (streljat 'shoot') = strelja 'firing'; Vo (streljat 'shoot') = strelkov 'shooting', attack, etc.

10. Si - standard name of the i-th participant in the situation described by N: Si (uši 'teach') = učitelj 'teacher'; Si (uši 'teach') = učenik 'pupil'; Si (uši 'teach') = (učenj) (subject) matter [as in high school].

11-15. SiA (red), SiB (blue) - standard name of instrument, means, mode, location, and result of the situation described by N: SiA (streljat 'shoot') = osnosne 'ammunition'; SiB (strajakt 'shoot') = boeppiš 'ammunition';

16. Sing - 'one instance/unit of': Sing (gorošina 'pea') = gorošina 'pea'; Sing (korov 'kiss') = pokolovat 'give a kiss'.

17. Mult - 'aggregate of': Mult (korabli 'ship') = flot 'fleet'; Mult (student 'student') = studentevko 'student body'.

18. Cap - 'head of': Cap (univeritet 'university') = rektor 'president'; Cap (fakultet 'faculty, school') = dekan 'dean'.

19. Equip - staff/crow of: Equip (tvrtka 'corps') = tvrtka 'corps'; Equip (bolničar 'hospital') = personel 'personnel'; Equip (brdal 'marriage') = suprug 'spouse'.

20. Centr - center: Centr (les 'forest') = les 'the thing of the forest'; Centr (elava 'glory') = vrhina 'summit of glory'; Centr (bor 'struggle') = apoge 'apogee'; Centr (pravi 'true') = centrum 'center'.

21. A - determining property of the i-th participant of a situation characterizing him according to his role in the situation: A (mev 'anger') = v (mev 'in anger'); A (lud 'angry') = v (lud 'in anger') (compare skupski 'speed'); A (ekorov 'speed') = so (ekorov 'in tears') with a speed of '...'.

(compare skupski 'speed').
takoj skoroat'ju 'the descent with such a speed'; Aš (votraljat' 'shoot') = pod obtrelom 'under fire'.

22. Ablej - determining property of the 1st potential participant of a situation ('such that it can ... easily')/such that it can be... easily': Ablej (plakat' 'cry') = stesličnjak 'trembling'; Ablej (somovat'sja 'doubt') = somovat'nyj 'doubtful'.

23. Magaj - 'very', 'to a (very) high degree': Magaj (temperatura 'temperature') = nyakoča 'high'; Magaj (vasmat adjoc 'examine') = imotitel 'no attentively', prismat 'no fixedly, intensely'.

24-25. Plur. Mihaj - respectively, 'more' or 'less' (or 'to a greater/lesser extent') [than something else].

26-27. Plur. Mihaj refl - indicate that the comparison is made with a former state of the same object:
IncepRedefPlus (temperatura 'temperature') = povyšat'ja 'rise, increase' [for the LP's Incep and Redef see below].

28. Verb - 'as if it should be', [meeting intended requirements]: Verb (udoljenje 'surprise') = otkriven 'sincerely, not predicted', (vočud 'container') = očuj 'whole', (verjetjanja 'heretical', 'leak-proof', (učlenov 'instrument') = točnij 'precise'.

29. Bon - 'good' [a standard praise for W]: Bon (vovat' 'cut') = akkurate 'nestly, cleanly'; Bon (nuhod 'ship') = komfortabel 'comfortable'.

30. - a standard praise of one of the participants of the situation denoted by W [but not of the situation itself]: Bon (vočucja 'review') = polozitel'nja 'positive', while Bon (vočucja 'review') = xočoča 'good', vamovat'lja 'excellent', ...; bizhajča 'brilliant'; however, a bizhajča vočucja 'a brilliantly written review' may well be polozitel'nja 'positive' or otrizatel'nja 'negative'; that is, Bon or Anti-Posej.

NB: The LP's Magaj, Verb, Bon and Posej are often combined with Adv: Thus, for instance, Mihaj (temperatura 'temperature') = nyakoča 'high', and Anti-Magaj (temperatura 'temperature') = nizakoča 'low'; Posej (menjenje 'opinion') = polozitel'nja 'positive', and Anti-Posej (menjenje 'opinion') = otrizatel'nja 'negative'.

31. Adv - determining property of an action by the 1st participant of a situation according to its role in the situation: Adv (silly 'tears') = so [olezam] 'with tears'; Adv (akorot' 'speed') = so akorot' 'at a speed of...'; [cf. mets 'a go', so akorot' 'at a speed of...'] 'at a speed of...'; Adv (somovat'sja 'doubt') = podglad 'hysterically'.

32-34. Loc_in, Loc_ab, Loc_av - preposition governing W [= the name of the situation] and designating a type of localization in space with the respective meaning: position, moving away, moving toward. Examples: Loc_in (vyočoča 'height') = na [vyočoč] 'at a height'; Loc_av (vyočoča 'height') = na [vyočoč] 'to a height'; Loc_ab (vyočoča 'height') = s [vyočoč] 'from a height'.

35. Loc_temp - a preposition [analogous to Loc] with the meaning of temporal location: Loc_temp (arest 'arrest') = pri [arest 'while being [arrested]'; Loc_in temp (analiz 'analysis') = v xode 'in the course of [analysis]'.

36. Instruk - a preposition [analogous to Loc] with the meaning of introductory: Instruk (pistotet 'pistol') = in [pistotet 'lit with [a pistol]'; Instruk (masinka 'typewriter') = na [masinka] 'on a typewriter'.

37. Prep - a preposition with the meaning 'because of', 'as the result of': Prep (strav 'hate') = ot [strav 'from [hate]'; Prep (lyubov 'love') = in [lyubov 'because of [one's] love of...'] Prep (opyst 'experience') = na [svoim opyste] 'from [one's own experience].

38. Cкопу - a copula: Cкопу (voditel 'teacher') = byt', rabotat' 'work as [a teacher]'; Cкопу (primer 'example') = byt', javljajta 'appear' [primerom] 'be, represent, serve as [an example]'.

39. Prep - a verb meaning 'be W', i.e. semantically covering the syntactic combination of Cкопу (W) with W. Thus Prep is nothing but a 'fused' expression of Cкопу (W) + W (or 'fused' expressions see below) needed for the convenience of some syntactic transformations. For example, Prep (prjanje 'drunkard') = pijetnoval 'drink', Prep (nizam 'next to') = sosedstvovat 'to [next to] neighboring.'

The next three LP's are verbs which are semantically empty in the context of the entry lexeme (= their key word) and which serve to link, on the syntactic level, the name of a participant of a situation to W - the name of the situation itself. They play important semantic-syntactic roles and can be loosely called semi- auxiliaries.

40. Oper - the first deep actant (and the surface subject) of this verb is the 1st participant of the situation, and the second deep actant (or the first surface object) is W (furthers actants, if any, designate further participants of the situation): Oper (strav 'tears') = lit', protivat 'shed'; Oper (arest 'arrest') = protivat 'make [an arrest]'; Oper (arest 'arrest') = popadat 'fall [under arrest]'; podberat'ja 'arrested' [undergo [arrest]]; Oper (soprotivovlenje 'resistance') = otkriven 'show, put up'; Oper (soprotivovlenje 'resistance') = protivodit 'meet', natałkivat'ja [no soprotivovlenje] 'run into resistance'.

41. Funk - the first deep actant (and the surface subject) of this verb is W - the name of the situation, and the second actant of the situation (and the first surface object), the 1st participant of the situation: Funk (udoljenje 'surprise, astonishment') = otkriven 'lit', zeize 'i.e. the person is overcome by surprise, astonishment'. Funk (temperatura 'temperature') = razmatrati 'be equal to'; Funk (predloženje 'proposal') = izožit 'to drop [kogo-] stem from, come from [someone]'; Funk (predloženje 'proposal') = kanát 'to [someone]' 'concern [something]'. If there is no complement at
all, i.e. Func is an intransitive verb, the subscript a is used: Func\[dodd\]'rain') = idet, lit. 'walk' [cf. Engl. fall].

42. Labor 11 - the first deep actant (and the surface subject) of the verb is the i-th participant of the situation, the second deep actant, the j-th participant of the situation, and the third deep actant (implemented by the second surface object) is W itself. Examples: Labor 11, deproe 'interrogation' = podvergat' [kogo-1, doprovu] 'subject [someone to an interrogation]'; Labor 12, a'renda 'lease' = s'vadat' [x-1. v a'renda] 'grant [something on lease].

Oper, Func, and Labor can be paired in converse relations, that is, Oper 1 = Conv 1 (Func); Labor 12 = Conv 132 (Oper 1), and so on. These relationships may be diagrammed as follows:

Now we return to the survey of LF's.

43. involv - a verb that links a non-participant of a situation with the name of the situation acting on him: Conv 1, involv(what you think) = stojat' ['na vetru] 'stand [in the wind]'; Invce, involv(what you think) = potati' 'catch';

A2, involv(what you think) = v [metali] 'in a snowstorm'.

44-46. The following three LF's represent the meanings of what are often called phasal verbs: Incep - 'begin'; Conv 1 - 'continue'; Fin - 'end, cease'. They are connected by obvious semantic relationships: Fin(P) = Incep(nP); Conv 1(P) = nConv 1(nP). Incep, Conv 1, and Fin are used (at least in Russian) in combination with another LF's. Examples: Oberv 1 (vlast' 'power') = npevov' [vlast' 'power'] 'be under the power of'; Oberv 1, involv 1, involv 2 (vlast' 'power') = npevov' [vlast' 'power'] = involv 2 (vlast' 'power') 'be under the power of'; Fin(P) = Incep(nP); Conv 1(P) = nConv 1(nP).

47. Caus, 'cause', 'do something so that a situation occurs'. Caus is often used in combination with other verbal LF's. Examples: Caus, (meni 'opinion') = npevov' [kogo-1, k meni] 'lead [someone to an opinion]'; Caus, (nadehka 'hope') = v'vovat' [obed' 'obed'] 'move [someone]'; Conv 1 (obed 'dinner') = gotovit' ['ko-1, na obed] 'prepare [something for dinner]'; Caus, (obed' 'obed'] 'make, cook [the dinner].

With the LF Caus, the LF's Perm and Pgov are naturally associated: Pgov(P) = Caus(nonP); Perm(P) = nPerm(nonP). Both Perm and Pgov are usually used in combination with other verbal LF's.

48. Pgov = 'permit', 'allow': nonPgov, (kritica 'criticism') = o'vadat' [kogo-1, ot kritiki] 'protect [someone from criticism]'; Pgov, (eksamen 'exam') = dopov' ['kogo-1, k eksamen] 'allow [someone to take (take) an exam].
49. Liqy - 'liquidate', 'do something so that a situation does not occur or stops occurring'; liqyfunc (negromnotnuv, 'ill-literacy') = pokonit [s negromnotnuv'ju'] wipe out illiteracy'; liqyfunc (kost'd, 'campfire') = potu'dit [kost'd] extinguish a campfire'.

50-52. Now let us look at another trio of interrelated LFs: real, fact, and lebreal.

The LF's real, fact, and lebreal are syntactically analogous to the functions obey, func, and labor, respectively. This means that the names of the situation and of its -th participant fulfill with respect, e.g., to real the same syntactic roles as they do with respect to obey; etc. However, unlike the 'empty' LF's obey, func, and labor, the lexical functions which we are now concerned with correspond to a specific meaning - 'fulfill a demand or requirement of...'. The demands can differ for different W's. For example, the fulfillment, or realization, of a hypothesis is its confirmation; therefore, real(giptfasa 'hypothesis') = podver'dat [confirm] (gakt podver'dat giptfa, 'The facts confirm the hypothesis'), and fact(giptfasa 'hypothesis') = sootvet'sovat 'be in accordance with' (Giptfaa sootvetstvovat utsia, 'The hypothesis is in accordance with the facts'). Realization of an artifact is its utilization intended function; therefore, fact(nok 'knife' = rea't cut (nok nok rea't xorod 'This knife cuts well'). Further examples:

real (obsvanie 'accusation') = dokazvat [obsvanie 'prove [an accusation]]; real (ubodnoe wazden'naa 'educational institution') = prepodavat [v ubodnom wazden'naa 'teach [in an educational institution'].

real (obsvanie 'accusation') = soglasha't'sja [a obsvaniem] 'agree [with an accusation]; real (ubodnoe wazden'naa) = izda't'sja, prepodavat'sja [v ubodnom wazden'naa] 'be studied, be taught [in an educational institution]'; (while real (ubodnoe wazden'naa) = izda't'sja [v ubodnom wazden'naa] 'study [in an educational institution]'); real (soobl'ma 'temptation') = podv'anyu [soobla] 'yield [to temptation'].

fact (gsm nostalgic 'doubt') = podver'dat [sja 'be corroborated, o-prov'dvat'sja 'prove justified'; fact (nades'jaa 'hope') = izda't'sja 'be true'; fact (sud'sh 'ship') = p'lyto 'sail'.

fact (obished 'turn') = byt [sa kon.1.] 'be [someone's (turn)'] [Obered sa wam 'It's your turn']; fact (eksperiment 'experiment') = izda't'sja [kon. 1.] 'work out [for someone]'; fact (sud'sh 'ship') = ves'ti, perves'vati [gruy, passavikrov] 'convey, transport [cargo, passengers]'; fact (ubodnoe wazden'naa 'educational institution') = moderat [kato 1.] 'contain [something]'; lebreal (visel'cia 'gallows') = vazden'mut [kogo 1. na visel'ciu] 'string up [someone on a gallows]; lebreal (obied 'dinner') = eat' [kato 1. na obied] 'eat [something for dinner].

The LF's real, fact, and lebreal are superscripted with Roman numerals to indicate the degree of the realization or fulfillment: the superscript I means fulfillment only at the psychological level, with the superscript II meaning fulfillment at the physical level, cf. real (pribludenie 'invitation') = prinimat 'accept', while real (pribludenie) = sledovat 'follow'; or fact (wot'vu 'emotion') = govori't 'speak', podl'sovat 'tell', while fact (wot'vu) = sastavljat 'force'.

53. Manif - 'manifest itself', 'become apparent'; Manif (otka 'guilt', 'fault') = obnaruvat'sja 'become apparent'; Manif (wul'tenie 'amusement') = oskruzit 'lure'; Manif (negromnotnost 'ignorance') = profacit'sja 'manifest itself'.

Symt - 'symptom', i.e. a verbal expression denoting a bodily reaction that is the symptom of an emotional or physical state; in contrast to all other LF's, sympt is a two-argument lexical function (see Iordanskaja 1972): sympt (wul'tenie 'amusement', rot 'mouth') = ravnit 'rot open [one's] mouth wide'; sympt (straz 'fear', volo'y 'hair') = na vole'y volo'yat 'dumb [his] hair stood on end'.

Prepar - 'prepare', 'get (something) ready for normal use or functioning'; Preparfact (revolver 'gun') = sastavljat 'load'; Preparfact (revolver) = vasabit 'kurok 'raise the cock'.

Roman superscripts, in much the same manner as with real, fact, and lebreal, express the degree of readiness. Compare also: PreparObid (obied 'dinner') = nyasodit [k obed] 'appear for dinner'; PreparObid (obied) = podv'ani't [na obied] 'serve [something for dinner]'; PreparpObid (obied) = podv'ani't [obied komu 1.] 'serve [someone body dinner]'.

56. Prep - 'be about to / on the verge of': PrepObid (okas'vanie 'despair') = byt na grani [okas'vanija] 'be on the edge of [despair]'; PrepFunco (grosa 'thunderstorm') = sbrat'sja 'gather, brew'.

57. Degrad - 'degrade', 'become worse or bad': Degrad (mo-loko 'milk') = sklimut 'go sour'; Degrad (rjasno 'meat') = ispor'o't'sja, protv'mut 'go bad'; Degrad (disciplina 'discipline') = rasstavljat'sja 'decay'.

58. Son - 'em emit characteristic sound': Son (sobaka 'dog') = lazat 'bark'; Son (banknoty 'banknotes') = xsuet 'rustle'; Son (ngen 'snow') = skripet 'crunch'; Son (sodpad 'waterfall') = reoat 'roar'.

59. Imper - 'do W!': Imper (streljat 'shoot') = ogon; Imper (streljat 'shoot') = fire'; Imper (obrat' orudie 'set into arms') = v ruk' 'take up arms'; Imper (govori't 'speak') = 's and -s, e and -s, 'sh-n-h'; Imper (prat' 'take') = na(tis) 'take it', 'here!'; Imper - 'perfective', i.e. 'to carry out the process carried through to its natural limit': Perf (sobaka 'dog') = vvat' 'have stood up'; Perf (sobaki) 'be solving [a problem] = reobit 'have [it] solved'.

60. Imperf - 'imperfective', i.e. 'to carry out the process': Imperf (vat 'stand') = vvat'; Imperf (vrat') = vrat'.

61. Result - 'resultative', i.e. 'the state of affairs that normally results from the completion of the process': Result (po-kupat 'buy') = imet 'have'; Result (köbst 'lay down') =
440

ležat' 'be lying'; Result(navukš'taja 'have learnt') = umet
'know', 'have necessary skills'.

V

Concluding Remarks

Along with the LF's listed, two further types of LF's are ex-
tensively used in the Explanatory Combinatorial Dictionary: non-
standard and compound LF's.

A non-standard LF is a meaning that is idiomatically expressed
depending on a key word but has either a strongly limited semantic
combinability or a fairly limited range of expressions, or both.
In other words, it is too specific, too particular to be granted
the status of a standard LF. Non-standard LF's are written in
standardized natural language. Some examples:

Such that Y is confined to his home(arest 'arrest') = domaščij
'house' [arest];

Such that it is the result of a loss at cards that was not im-
mediately paid(dolg 'debt') = kartodolj 'card' [dolg], obsolete
[dolg] esteš 'debt of honor';

During a short time and/or non-intensively (with the purpose of
knowing Y somewhat better)(učiti 'learn') = #podučiti 'learn
'a bit of something'.

A compound LF is a combination of syntactically related simple
LF's that has a unique lexical expression covering the meaning of
the combination as a whole. I have presented numerous examples
of compound LF's above; let me give some more illustrations, with
the key word printed in boldface:

AntiMagnet : Židkie aplodimenty 'thin (lit. 'liquid') applau-
se', al'nye sovveny 'weak arguments', niskaja tem-
perature 'low temperature', nežabčit'nye poteri
'negligible losses',

Antiver : 'Seym jež 'false shame', klavove obozrenie
'false (lit. 'lying') promise', ob'moe pred-
stavlenie 'a wrong conception', benovovat'nye
opasenija 'unfounded misgivings/fears',

IncepOper_1 : priobretat' popularnost' 'acquire popularity',
upadať v otajanie 'sink into despair', vstavat' na put' predstavl'no 'take the path of treason',
persadit' v pilu 'go into a dive (as of an air-
craft)',

CausOper_2 : odoval' v eksplutoaciu 'put into operation',
svorat' v rabotno 'plunge into slavery', stav' pod
kontrol' 'put under control',

AntiReal_2 : provokacijà na atkrrame 'fail an examination',
ozvrgat' sovet 'reject a piece of advice', ot-
klonjat' xodat'sevko 'turn down an application'.

The following four remarks bearing on all LF's are in order:

1) An LF may have a fused expression, i.e. a lexical unit that
does not include the key word but covers both the meaning of
the function itself and that of its argument ('key word'). The fusion
is shown by the symbol // separating all the fused values (on its
right) from all the non-fused ones. For example:

Magnet(dolj 'rain') = protiernoj 'heavy' // lifen 'shower' [i.e.
lifen = protiernoj dolj]; cf. Eng. downpour = heavy rain.

Magnet(vkusno 'delicious') = odent 'very' // pal'ški obližat',
lit. 'You'll lick your fingers' [pal'ški obližat' = odent vkusno];
and the like.

2) Several LF's having simultaneously the same key word but
syntactically not related one to another may be expressed by one
lexical unit covering the meanings of all the LF's involved. This
is what we call a configuration of LF's (as opposed to compound
LF's, in which all the constituent simple LF's are syntactically
related). In a configuration of LF's, the "4" sign is used to se-
parate the constituents. For example, in the entry SUD'BA 1
'fate, destiny' the notation

Fact ++Antibon_2: presledovat' 'persevere'
means that fate really affects [= Fact] the person in question
(thedefendant, so to speak) and its verdict is bad [= Antibon_2].

Two further examples:

A (vozrikhivno 'delight') + Magnet(vozrikhivno) = preispolnovnymy
[vozrikhivno] 'full of delight';

Over (otkajno 'despair') + Magnet(otkajno) = byt' 'v. vlasti
[otkajno] 'be completely in [despair]'.

3) Some LF's (most often, Magnet or Real, with the latter's rela-
tives, Fact, and Labreal) may be subscripted with a semantic
component of the key-word's definition (in square brackets) to in-
dicate that the meaning of this LF interacts with exactly this
component of the key-word's meaning. Thus:

Labreal_12 ['zararnat' 'keep'](pamyat) 'computer memory') = xrant!
[v pamjati] 'store in memory';

Labreal_12 ['vydavat' 'output'](pamjat') = izvlekat' ['is pamjati]
'extract from the memory';

Magnet(pojat'ja 'be afraid'(strach 'fear') = džik 'wild',
žutik 'terrible';

Magnet(terjat' samokontrol') 'lose...self-control (strach)
= panikiški 'panic [adj.]', životni 'animal';
Antiver ['poražat' 'hit'](streljat'l 'shoot') = ploxo 'badly',
skorno 'poorly';

AntiReal_2 ['poručat' 'hit'](streljat'l 'shoot') = ploxo 'badly',
skorno 'poorly';

Nativer ['poručat' 'hit'](streljat'l 'shoot') = ploxo 'badly',
skorno 'poorly';
AntVer ['cel'] 'target'] [streljak] = v vazduh 'into the air'.

4) Furthermore, some LF's may be superscripted with semantic labels, like 'usual', 'locational', 'temporal', 'quantitative', to make their meaning more precise:

Mang temp (opyt 'experience') = dítial 'long';
Mang quant (opyt 'experience') = bol'soj 'considerable'.

In concluding this survey of LF's, I would like once again to call attention to the fact that they are used for two main purposes:

- for the description of idiomatic or restricted lexical cooccurrence or derivation relations;
- and for specifying universal synonymic transformations of utterances on the deep-syntactic level. It is clear, for example, that, in any language, (1) holds:

\[
\begin{align*}
(1) \ W & = \text{Oper}_1 \rightarrow S_2 (W) = \text{Oper}_2 \rightarrow S_2 (W) = \text{Func}_1 \rightarrow S_2 (W) \\
& = \text{Func}_2 \rightarrow S_2 (W) = \text{Labor}_{12} \rightarrow S_2 (W); \text{ and so on.}
\end{align*}
\]

[Numbers on the arrows stand for deep-syntactic actants: e.g., the key word of an \text{Oper} is its second deep actant, etc.]

The transformations presented in (1) can be exemplified as follows:

(2) \text{vlijat} 'to influence' = okazvat' \ [\text{Oper}_1] \ vlijanie \ [S_2] \ 'have influence' = byt', \ nazvidit'sja \ [\text{Oper}_2] \ pod vlijaniem 'be under influence', etc.

Compare (3):

(3) Ivan durno vlijat na Petra 'Ivan influences Peter in a bad manner' = Ivan okazvat na Petra durno vlijanie 'Ivan has a bad influence on Peter' = Pňtr nazvidit'sja pod durnym vlijaniem Ivan 'Peter is under the bad influence of Ivan.

Rules of type (1) allow one to establish a paraphrasing system for synonymic transformations of sentences and/or discourses.

Such a system can automatically produce, for any given text, a set of its synonymous or nearly-synonymous paraphrases. It also can automatically derive, for a set of synonymous texts, a canonical invariant. This indicates yet another promising direction for the practical use of LF's, namely in the domain of automatic text processing. (For more details about paraphrasing systems using LF's as a main tool see e.g., Žolkovskij - Mel'čuk 1967, Mel'čuk - Žolkovskij 1970, or Mel'čuk 1974: 190-206.)

Acknowledgments

I owe so much to Alec Zholkovsky and Jurij Apresjan, with whom I have been working on lexical functions in the Explanatory Combinatorial Dictionary of Contemporary Russian for more than ten years, that it is difficult to properly express my indebtedness to them. But speaking only of people whose participation has been decisive for the present text, I must express my heartfelt gratitude to (in alphabetical order) Cliff Goddard, Joe Grimes, Lidija Iordanskaja and Johanna Nichols. Nobody but myself is to blame for shortcomings and bugs that have managed to survive their scrutiny.

Notes

1. If there is no explicit indication to the contrary. In some cases, mentioned in Iordanskaja et al.'s article, this volume, antical subscripts may refer to deep-syntactic actants of a new situation, rather than directly to deep-syntactic actants of the key word.
2. Interesting examples of values of the LF Mult in English can be found, most unexpectedly, in The Book of Lists, by D. Wallechinsky, I. Wallace and A. Wallace, New York: W. Morrow, 1977, page 135:

<table>
<thead>
<tr>
<th>A murder</th>
<th>A rag</th>
<th>of colts</th>
</tr>
</thead>
<tbody>
<tr>
<td>clower</td>
<td>cats</td>
<td>drift</td>
</tr>
<tr>
<td>leap</td>
<td>leopards</td>
<td>charm</td>
</tr>
<tr>
<td>sloth</td>
<td>bears</td>
<td>trip</td>
</tr>
<tr>
<td>rafter</td>
<td>turkey</td>
<td>finches</td>
</tr>
<tr>
<td>smack</td>
<td>jellyfish</td>
<td>knot</td>
</tr>
<tr>
<td>skul</td>
<td>foxes</td>
<td>parliamet</td>
</tr>
<tr>
<td>labor</td>
<td>moles</td>
<td>troop</td>
</tr>
<tr>
<td>crash</td>
<td>rhinoceros</td>
<td>owls</td>
</tr>
<tr>
<td>siege</td>
<td>herons</td>
<td>geese</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

"Although not frequently heard in conversation, these terms are fully correct and appropriate ways of describing the animal listed" (ibidem).

References

