The Prague Bulletin of Mathematical Linguistics
NUMBER 92 DECEMBER 2009 5–19

Event Structure in Russian: Semantic Roles, Aspect, Causation

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1. Decompositional semantic representations

More than three decades ago the idea of DECOMPOSITIONAL SEMANTIC REPRESENTATION (DSR) of a word was put forward (by Ch. Fillmore, Ju. Apresjan, A.Wierzbicka, J.McCawley, G.Lakoff, R.Jackendoff e.a.). The language under analysis in this paper is Russian but the problems are, to a great extent, independent of language. An example of semantic decomposition from Apresjan 1974, p. 108:

> A *dogonjaet* B (A *catches up* B) =
> 'A and B move in one direction, A is behind B, the distance between A and B diminishes'.

A bit later GRAMMATICALLY ORIENTED DSRs came into being, aiming at explaining morphosyntactic behavior of a word – structures uniting information about TAXONOMY, SEMANTIC ROLES, ASPECT and CAUSATION (Dowty 1979, Wierzbicka 1980). "Since verbs individuate and name events <…>, theories of predicate decomposition are often taken to be theories of the basic EVENT TYPES." (Levin, Rappaport Hovav 2005: 70).

An example from Fillmore 1970 – why *hit* and *break* behave differently:

(1) a. The boy *broke* the window with a ball; b. The boy *hit* the window with a ball.
(2) a. The window *broke*; b. *The window *hit*.

The answer is that *break* is a change of state verb, while *hit* belongs to a class of verbs involving contact: *hit* and *break* are verbs of different VERB CLASSES.

Two different semantic classifications of verbs are widely known.

1. There are traditional lexical classes – let's call them THEMATIC classes (see Wierzbicka 1987 on English speech act verbs; Levin 1993 on English verbs; about Russian verbs see Babenko 2001, Švedova 2007). Thematic classification distinguishes: verbs of MOVEMENT, EXISTENCE, PHYSICAL IMPACT, TREATMENT, CREATION, PERCEPTION,

Please cite this article as: Elena Paducheva, Event Structure in Russian: Semantic Roles, Aspect, Causation. The Prague Bulletin of Mathematical Linguistics No. 92, 2009, 5–19.

COGNITION, SPEECH, EMOTION, VOLITION, POSSESSION, PHYSIOLOGY; verbs of SOUND, etc.

2. On the other hand, there are Vendler's ASPECTUAL classes (STATES, ACTIVITIES, ACCOMPLISHMENTS, ACHIEVEMENTS), see Vendler 1967, Dowty 1979, Wierzbicka 1980, Jackendoff 1991, Paducheva 1996, Filip 1999 and many others. Vendler's classes have grammatical relevance; so it stands to reason to call them (taxonomic) CATEGORIES (T-CATEGORIES).

Thematic and category classifications are independent of one another.

In Dowty 1979 and many other postvendlerian classifications accomplishments and achievements are split into agentives and non-agentives. Only then do we arrive at an important category ACTION, missing among Vendler's classes: agentive accomplishments and agentive achievements are called ACTIONS (we have *napisat'* <*pis'mo*> 'write a letter', *vyigrat'* <*gonki*> 'win <the race>', etc.). Non-agentive achievements (*prostudit'sja* 'catch cold') are called HAPPENINGS; non-agentive accomplishments (*rastajat'* 'thaw') are called TELIC PROCESSES. Non-agentive activities (*kipet'* 'boil') are called NON-TELIC PROCESSES.

Agentivity has direct aspectual correlations. Cf. the verb *okružat'* 'surround' – when agentive, it is an accomplishment, when non-agentive, it is a state:

(3) a. Mal'čik pokazyvaet belogvardejcam fokusy, i, poka te smotrjat ego vystuplenie, krasnye *okružajut* stanciju i potom zanimajut ee. 'The boy presents tricks to the white guardians, and while they are watching the performance the reds *surround* the station and then occupy it' (example from National Corpus of Russian, `http://www.ruscorpora.ru`).

b. Daču *okružajut* lesa 'Forests *surround* the dacha'.

The role of the T-category in lexical semantics is similar to that of part of speech in grammar.

Meaning is flexible and context dependent; REGULAR POLYSEMY (Apresjan 1974) is widespread. Thus, not only MEANING but also MEANING CHANGE must be accounted for with the help of DSRs.

2. «Lexicographer» – a semantic database of Russian verbs and a theory of event structure

I'll speak about decompositional semantic representations contained in the Database of Russian verbs «Lexicographer»: `http://www.rusling.narod.ru` (see Kustova, Paducheva 1994, Kustova 2004, Paducheva 2004); main researchers – Galina Kustova, Elena Paducheva, Raisa Rozina, Elena Xasina. The database is conceived as a realization of a certain THEORY OF EVENT STRUCTURE.

The lexical entry in the DB «Lexicographer» is exemplified by the lexeme VYTERET' 1.2 'wipe' (the term LEXEME is here used to mean a word taken in one of its meanings, as in Mel'čuk 1974, Apresjan 1974).

The lexical entry of a verb in the database is divided into several domains. The domains are: Argument structure, T-Category, Decomposition, Thematic class, Aspect, Legend.

Let's begin with the ARGUMENT STRUCTURE of VYTERET' 1.2, see Table 1.

VYTERET' 1.2
'wipe dry <the dishes, one's hands>': *X vyter Y* (*Z-om*) '*X* wiped *Y* (with *Z*)'

Variable	Morphosyntax	Rank	Semantic role	Thematic class
X	Subject	Center	Agent	Person
Y	Object	Center	Patient	physical entity: with a surface
(Z)	Instrumental	Periphery	Instrument	physical entity
W	—-	Off Screen	Theme	liquid / substance

Table 1. Argument structure for vyteret' *1.2.*

A verb describes an event. Each participant of the event is represented by a VARIABLE – a Latin letter, which functions as a Name: a participant is called this name in the Decomposition. This is the 1^{st} column. The second column – MORPHOSYNTACTIC REALIZATION, i.e. syntactic POSITION of the participant (Subject, i.e. Nominative case; Object, i.e. Accusative; Other cases; prepositional phrases – PPs). The third column is called COMMUNICATIVE RANK (Croft 1991, Testelec 2001: 420). Three ranks are distinguished: **Center** (for participants occupying syntactic positions of Subject and Object); **Periphery** (for Instrumental case and Prepositional Phrases); and **Off Screen**. This last rank is ascribed to a participant that is not projected to the surface – as is the case with the participant W in the Argument structure of *vyteret'* 1.2. (Participant W shows itself in the lexeme *vyteret'* 1.1, which will appear later). The 4^{th} column – **Semantic role** (Agent, Patient, Theme, etc.) The 5^{th} column – **Thematic class** (person, physical object, body part, etc.; additional semantic specifications can be added, such as, e.g., "sharp edge" for the participant Instrument in the lexical entry for the verb *cut*).

NB the notion of diathesis: DIATHESIS is a correspondence between roles and their morphosyntactic realizations, see Mel'čuk, Xolodovič 1970. Causative alternation, for example, is a change of diathesis. Basically, diathesis is a role-POSITION and a role-rank correspondence. Participant W without morphosyntax (see Table 1) is a kind of riddle – this riddle will be solved when we come down to the lexeme *vyteret'* 1.1 and address diatheses.

T-CATEGORY has already been spoken about. The central domain in the lexical entry is DECOMPOSITION. Decomposition of a verb in the DB «Lexicographer» does not purport to be an exhaustive description of its lexical meaning. It is a SCHEMATIC decomposition: it represents exhaustively only GRAMMATICALLY RELEVANT (or, somewhat broader, STRUCTURALLY RELEVANT) aspects of the verb's meaning.

Decomposition is given not for a word but for a lexeme. The verb *vyteret'* 'wipe' has three lexemes: *vyteret'* 1.2 (about the dishes), *vyteret'* 1.1 (about the dust) and *vyteret'* 2 (about clothes on knees and elbows).

Lexicographer type semantic decomposition (LSD) of a lexeme is a sequence of syntactically independent semantic components: each component is, basically, a predication. Decomposition is a kind of scenario describing the event in question.

Components are divided into CATEGORIAL and THEMATIC.

See an example of Lexicographer type semantic decomposition in Table 2.

VYTERET' 1.2
'wipe dry (the dishes /one's hands)': *X wiped Y* =

K0	**Initial state** | before t < MS *Y* was in a state: *Y had W on its surface*
K1	**ipso facto** *the state of Y was not normal*
K2	–
K3	–
K4	**Activity** | at t < MS X acted with the Goal in mind
K5	**Manner of action** | *X acted upon Y*; **ipso facto** *upon W* (: with the help of Z)
K6	**Causation** | K4 was causing K7
K7	**Process in Object** | simultaneous with activity; has limit: *W was being removed from the surface of Y*
K8	**Result** | new state of Y came about & holds at the MS: *Y has no W on its surface*
K9	**Entailment** | *the state of Y is normal*
K10	**Implication** | *there is no W on the surface of Y;* **ipso facto** *W does not exist*

Table 2. Decomposition of vyteret' *1.2.*

Abbreviations and comments. MS – moment of speech (in the context of an utterance MS can be replaced by some other moment of reference). *Result* (of the activity of the Agent) is a state that corresponds to the Goal of the Agent, once it is reached. (So *Goal* need not be explicated – it coincides with the Result.) Result may correspond to the final state (= LIMIT) of a telic process *in* the Object (or *with* the Object; namely, a process which the Object participates in).

The domain LEGEND shows how different lexemes of a word are related to one another. Each lexical entry begins with EXAMPLES and ends with a COMMENTARY.

3. Event structure: taxonomy and semantic roles

3.1. Categories

Decompositions obey a certain FORMAT – different verb classes have different decomposition formats (DFs): all verbs of the same category have the same DF.

Verbs of Action are characterized by the following configuration of components:

(1) K4. **Activity** | X acted with the Goal in mind
K6. **Causation** | this caused
K8. **Result** | new state came about & holds at the MS.

This configuration is present in the decomposition of such verbs as *vyteret'* 'wipe', *razrezat'* 'cut <the water melon>', *vystirat'* 'wash', *postroit'* 'build', *pokrasit'* 'paint <the roof>', *svarit'* 'boil <an egg>', *vykopat'* 'dig out' etc.

There are different kinds of actions. Their decomposition formats differ from one another. But configuration (1) is present in all formats for actions.

3.2. Thematic classes

Category components constitute the CATEGORY FRAME of the decomposition. Thematic components are inserted in different places of the category frame. If we replace, e.g., the concrete state *sleep* – by its natural hyperonym PHYSIOLOGICAL STATE we are able to identify *razbudit'* as a verb belonging to the thematic class PHYSIOLOGY verbs. For *vyteret'* 1.2 'wipe' its thematic class TREATMENT is substantiated by the following configuration:

(2) K0. **Initial state** | the (functional) state of Y was not normal /desirable
K8. **Result** | the (functional) state of Y is normal /desirable.

Other verbs of treatment – *žarit'* 'stew', *varit'* 'boil', *gladit'*, 'iron'. Decompositions provide a semantic basis both for category and thematic classification of verbs.

3.3. Meaning shifts

– how can they be presented as operations on LSDs.

3.3.1. Deagentivization, a CATEGORY SHIFT

(3) a. Ivan *razbudil* menja grubym pinkom [*razbudil* 'woke up' – **action**]
Ivan$_{NOM}$ *wake*$_{PAST}$ me$_{ACC}$ rude$_{INSTR}$ kick$_{INSTR}$
'Ivan *woke* me up with a rude kick.'
b. Zvonok v dver' *razbudil* menja [*razbudil* 'woke up' – **happening**]
ringing$_{NOM}$ in door *wake*$_{PAST}$ me$_{ACC}$
'The ringing of the doorbell *woke* me up.'

Templates (#3a) and (#3b) below present two abbreviated LSDs of the verb *razbudit'* (corresponding to its different lexemes; T-category of the lexeme and thematic classes of the participants are given in brackets; components in parenthesis are optional).

(#3a) X *razbudil* Y [action : ordinary] =
K0. **Initial state** | before t < MS Y was in a state: *Y slept*
K4. **Activity** | at t < MS X acted with the Goal in mind [X is a person]
K5. (**Manner of action** | acted upon Y: applying Z)
K6. **Causation** | this was causing [causation as a process] / caused [causation as event]
K7. (**Process in Object** | synchronous; telic)
K8. **Result** | new state of Y came about & holds at the MS: *Y does not sleep*
K9, K10. **Entailment, Implication** |—

(#3b) X *razbudil* Y [happening] =
K0. **Initial state** | before t < MS Y was in a state: *Y slept*
K4. **Causer** | X took place [X is an event]
K5. (**Manner of action** |—)
K6. **Causation** | this caused [causation as event]
K8. **Effect** | new state of Y came about & holds at the MS: *Y does not sleep*
K9. **Entailment** |—
K10. **Implication** | this is bad for Y

The difference between action and happening lexemes consists in that:

1. In the template of a causative verb of action the Causer (see component K4) is the activity of the goal-setting Agent: 'X [person] acted with the Goal in mind', so component K8 is called "Result"; while in the template of a verb of happening the Causer is an event: 'X [event] took place' and what is caused is the effect.
2. Component Manner of action, though optional, is present in the semantics of *razbudit'*-action. In the template of a happening the parameter Manner of action loses its sense.

Optionality of the Manner of action component in the semantics of the agentive *razbudit'* (as well as *otkryt'* 'open', *razbit'* 'break', *razrušit'* 'destroy') is responsible for the easiness with which these verbs acquire happening interpretation: happening is an event type with no volitional agent. Not so with *vyteret'* 'wipe': *wipe* has Manner of action as an obligatory component. Or take the verb *razrezat'* 'cut': cutting presupposes the use of an instrument with a sharp edge, specific movements on the part of the Agent and, thus, a volitional Agent.

In Levin, Rappaport Hovav 1995: 103 the opposition is introduced of VERBS OF MANNER <of action> (such as *lock, cut, sweep*) and VERBS OF RESULT (such as *close, break*, which specify only the resulting state). Verbs of manner (of action) specify the activity of the Agent; the Agent's intentions and evaluations, instruments s/he uses, etc. They do not deagentivize.

There is another type of non-agentive subject of a causative verb. This subject appears in the context of the event type called "Happening with the subject of responsibility":

(4) Vanja razbil maminu čašku <nečajanno> 'Vanja broke mummy's cup <inadvertently>'.

The Causer is not the subject X but something that happened to X **not because he wanted it**. The Causer is non-specified. Decomposition format for *razbit'* 'break <unvoluntary>':

(#4) *X razbil Y* [happening with the subject of responsibility] =
K0. **Initial state** | before t < MS Y was in a state*: Y functioned in a normal way*
K1. **Exposition** | *X was doing something in the vicinity of Y*
K4. **Causer** | something happened to X (: *X acquired or lost contact with Y*)
K6. **Causation** | this caused [causation as event]
K8. **Effect** | new state came about & holds at the MS: *Y is broken / doesn't function normally*
K9. **Entailment** |—
K10. **Implication** | X caused damage; X bears responsibility for the damage

Happenings tend to have negative consequences. If it is something that happened to a person this person is responsible for the damage. Note that implications are cancelable.

Such verbs as *prolit'* 'spill', *porvat'* 'tear', *rassypat'* 'scatter', *peregret'* 'overheat' have the same format as *razbit'* 'break <unvoluntary>'.

3.3.2. Combined CATEGORY and DIATHETIC SHIFT

(5) a. *zapolnit'* 1.1: X *zapolnil* Y Z-*om* 'X filled Y with Z' [action] –
Ja *zapolnil* kotel vodoj 'I *filled* the boiler with water'; Mat' *zapolnila* škafy saxarom, mukoj i drugim prodovol'stviem 'Mother *filled* the shelves with sugar, flour and other stuff.
b. *zapolnit'* 1.2: Z *zapolnil* Y 'Z filled Y' [process] –
Voda *zapolnila* kotel 'Water *filled* the boiler'. Bezobraznye natjurmorty *zapolnili* inter'ery naspex postroennyx kvartir 'Ghastly still-lifes *filled* the interiors of quickly built apartments'.

Compare argument structures of *zapolnit'* 1.1 and *zapolnit'* 1.2.

Variable	Morphosyntax	Rank	Semantic role	Thematic class
X	Subject	Center	Agent	Person
Y	Object	Center	Location	container/physical object: has volume
Z	Instrumental case	Periphery	Theme	Mass

Table 3. Argument structure of zapolnit' *1.1 'X filled Y with Z'*

Variable	Morphosyntax	Rank	Semantic role	Thematic class
Z	Subject	Center	Theme	Mass
Y	Object	Center	Location	container/physical object: has volume

Table 4. Argument structure of zapolnit' *1.2 'Z filled Y'*

Two changes take place: 1) change of diathesis (Agent X goes Off screen and the Theme Z occupies the Subject position – in the Center); 2) a category shift: from action to process.

3.3.3. Combined DIATHETIC and THEMATIC SHIFT (a verb changes diathesis & thematic class)

(6) a. *vyteret'* pot so lba 'wipe sweat from the forhead' [*vyteret'* 1.1, REMOVAL; ANNIHILATION];
b. *vyteret'* posudu 'wipe the dishes' [*vyteret'* 1.2, thematic class – TREATMENT].

In the template of *vyteret'* 1.1, see Table 5, the participant W occupies the position of the Object, its semantic role is Theme, and the thematic class of *vyteret'* 1.1 is REMOVAL. Lexeme *vyteret'* 1.2 (see Table 6 = Table 1) is a derivate of *vyteret'* 1.1 (the derivation consists in the change of diathesis); the Object position is occupied by the participant Y, Location-Patient, participant W is Off stage, and the thematic class of *vyteret'* 1.2 is TREATMENT. This is how the change of diathesis results in a change of the thematic class.

(a) *vyteret' sljozy* 'wipe tears' (wipe 1.1) [REMOVAL; ANNIHILATION]

Variable	**Morphosyntax**	**Rank**	**Semantic role**	**Thematic class**
X	Subject	Center	Agent	Person
W	Object	Center	Theme	liquid / substance:
Y	s + Gen	Periphery	Location	physical entity: with surface
(Z)	Instrumental	Periphery	Instrument	physical entity

Table 5. Argument structure of vyteret' *1.1.*

(b) *vyteret' posudu* 'wipe the dishes' (wipe 1.2) [TREATMENT]

Variable	**Morphosyntax**	**Rank**	**Semantic role**	**Thematic class**
X	Subject	Center	Agent	Person
Y	Object	Center	Location-Patient	physical entity: with surface
(Z)	Instrumental	Periphery	Instrument	physical entity
W	—-	Off Screen	Theme	liquid / substance

Table 6. (= Table 1). Argument structure of vyteret' *1.2.*

This demonstrates the role of the parameter rank in the LSD. Object position expresses "aboutness": *wipe* 1.1 is ABOUT participant W, which is annihilated; so the thematic class of *wipe* 1.1 is ANNIHILATION ; *wipe* 1.2 is ABOUT participant Y (dishes), which changes its functional state, and the thematic class of *wipe* 1.2 is TREATMENT.

A COMMENTARY is needed here – W exists only while it is on Y; this fact explains annihilation component in the semantics of *wipe*: annihilation is a consequence of removal.

The same mechanism is responsible for the ambiguity of the verb *vymesti* 'sweep':

(7) a. *vymesti* dvor 'sweep up the yard' [*vymesti* 1.2, thematic class – TREATMENT];

b. *vymesti* musor 'sweep up litter' [*vymesti* 1.1, thematic class – REMOVAL];

The shift in example (7) is a kind of METONYMY: you may pay attention either to the yard (in the prominent Object position) or to sweepings in the yard. The same with the verb meaning 'wipe' in example (6) and many others verbs (cf. *ispravit'* 'correct'; *correct a document* [TREATMENT]; *correct a mistake* [ANNIHILATION], see Apresjan 1974: 206).

A similar relationship between diathesis and thematic class in the example from Fillmore 1977 about loading the truck with hay: in *load the hay* the thematic class of the verb *load* is MOVEMENT (of hay); in *load the truck* it is CHANGE OF STATE (of the truck). Thematic class of the verb depends on what participant occupies the position of the Object, i.e. is in the Center.

4. Event structure: aspect

It is a challenge for «Lexicographer» to predict, on semantic grounds, i.e. within the LSD, whether an agentive verb will behave as an accomplishment or achievement.

Accomplishments can undergo processualization – in the following sense. A derived Imperfective (Ipfv) of an accomplishment is also an accomplishment – but viewed in a SYNCHRONOUS PERSPECTIVE. Accomplishments describe a situation that has an internal limit in its development, and the limit is approached successively, step by step. This point can be illustrated by the following test.

(1) a. otkryval-otkryval [Ipfv], i otkryl [Pfv] [accomplishment];
b. *zamečal-zamečal [Ipfv], i zametil [Pfv] [achievement].

Usually, if both Manner of action component and the component «Process in the Object: simultaneous with the action of the Subject» are present in the LSD, then the event described by a verb can be looked upon from two perspectives, see the decomposition of *vyteret'* 1.2, Table 2: specified manner of action and simultaneity of the Subject's activity with the Process in the Object guarantees the progressive meaning of the derived imperfective of *vyteret'* 1.2.

A derived Ipfv of an achievement is either a perfective state, see example (2), or a tendency, see example (3) (note the absence of Manner of action specification):

(2) Ja *ponjal* 'I've understood' – Ja *ponimaju* 'I understand' [perfective state].
(3) John *vyigral* 'John won' – John *vyigryvaet* = 'most probably, John will win' [tendency].

On the other hand, there are several different semantic sources of instantaneousness (Paducheva 2004: 477–480), e.g., component 'Process in the Object: non-simultaneous with the activity'.

Take the verb *brosit'* 'throw', which lexicalizes causation of movement *by an initial impulse*: the activity of the Agent gives rise to a process that takes place when the activity is already over; this is so called BALLISTIC MOVEMENT (Wierzbicka 1988: 365, Rappaport Hovav 2008). Similar temporary delay of the Process in the object characterizes such events as *vzorvat'* 'explode', *otravit'* 'poison', *ubit'* 'kill'.

5. Event structure: causation

The last facet of event structure is causation. Table 2 seems to imply that causation is an indispensable component in semantic decompositions. Now what about decausativization? Sentence (1b) is said to be the result of decausativization (causative alternation) of (1a):

(1) a. Vanja *razbil* okno
Vanja$_{NOM}$ break$_{PAST}$ window$_{ACC}$
'Vanja broke the window'
b. Okno *razbilos'*
window$_{NOM}$ break$_{SJA.PAST}$
'The window broke'

See Haspelmath 1993, Levin, Rappaport Hovav 1995. Semantically, decausativization in Russian and English is very similar. Syntactically, decausativization in English is a semantic derivation, while in Russian decausative is one of many possible interpretations of the *sja*-form of a verb.

I take it for granted that in Russian derived decausatives exist only for those verbs that are either non-agentive in their primary use (such as *utomit'*, *rasstroit'*) or can undergo *deagentivization* (such as *razbudit'*, *razbit'*), see examples (3), (4) in section 3.

I argue that decausativization resembles passivization: the subject leaves its position in the Center and moves to the Periphery – wherefrom it can afterwards be deleted. For example.

(4) a. Bystraja ezda *utomila* moju lošad' 'fast ride *tired* my horse';
b. Moja lošad' *utomilas'* ot bystroj ezdy 'my horse *got tired* of fast ride'.

(#4.1) Y *utomil* X-a 'Y tired X' =
K0. **Initial state** | before t < MS X was in a state: *normal*
K4. **Causer** | at t event Y took place
K6. **Causation** | this caused
K8. **Effect** | (new state of X came about &) holds at the MS: *X is tired*
K8,9. **Entailment & Implication** |—

(#4.2) X *utomilsja* (*ot* Y-*a*) = 'X became tired (because of Y)'
K0. **Initial state** | before t < MS X was in a state: *normal*
K1. **Periphery causer** | at t event Y took place
K2. **Background causation** | this caused
K4. **New state** | new state of X came about & holds at the MS: *X is tired*
K9. **Entailment** |—
K10. **Implication** | Causer is not relevant

Transition from template (#4.1) to (#4.2) represents decausativization as a change of diathesis. In a diathetic shift participants change their syntactic positions and, consequently, COMMUNICATIVE RANKS.

In (#4.1), with a causative verb *utomit'*, the Causer occupies the position of the grammatical Subject – the first line K4 of the zone Center. In (#4.2) the Causer becomes a peripheral participant – so the two components – Causer and Causation – move from the Center to the Background. Thus, in (#4.2) the first line in the Center, K4 belongs to the participant Theme, which has now acquired the highest rank – Subject.

The Periphery causer and Background causation component are **optional**: they are included in the LSD of a verb in the context **of a sentence** on the condition that the syntactic position of the Periphery causer is filled by a PP. If there is no background Causer in the sentence – then there are no causal components in the meaning of the decausative. In fact, a non-obligatory participant cannot be Off-screen. In the presence of the Periphery causer the Implication is blocked.

Thus, «Lexicographer» can provide a derived verb of happening with a decomposition lacking causative component. Non-derived event types with no causation component also exist. They are represented by such verbs as *pojavit'sja* 'appear', *isčeznut'* 'disappear'.

6. Conclusion

The DB «Lexicographer» has proved to be a source of event structure representations containing information about thematic class, argument structure, aspect and causation. It is a source of explanations, predictions and generalizations (such as compatibility and non-compatibility with time adverbials). At the same time, LSDs can be used for description of meaning shifts of different kind. Here are my main points.

1. Format of definition can be looked upon as an approach to formalization of the notion of taxonomic category, or aspectual class. Thus, LSD predicts the category. Thematic class of a verb was demonstrated to be deducible from its LSD and dependent on the verb's diathesis in a predictable way.
2. One remark about semantic-syntactic interface. The main point in Levin, Rappaport Hovav 2005 is that morphosyntax of participants (argument realization) is deducible from semantic decomposition. As for the set of semantic roles of a verb, it IS determined by its semantic decomposition, while perspective, i.e. distribution of communicative ranks among participants, seems, at least to a certain degree, to be independent of semantic role. Communicative ranks seem to provide independent input information for the rules that determine argument realization. All the attempts to construct hierarchy of semantic roles that would determine their morphosyntactic realization (nine different hierarchies are enumerated in Liutikova e.a. 2006) have failed so far. It seems to be the case that, at least in some cases information about ranks should be the input of the rules of morphosyntax. Take, for example the verb *kišet'* 'swarm', which has

two diatheses: Location at the Periphery, which is its due place (as in *Besschetnoe kolichestvo zver'ja kišit v lesax i dolinax*) and Location in the Subject position (as in *Strana opjat' kišit špionami*). The second is seven times more widespread and is to be recognized as the basic one.

3. There are several parameters that characterize the meaning of a verb: Category, Thematic class, Argument structure, or Diathesis. It turns out that these very parameters undergo change in the course of semantic derivation. In many cases meaning difference between lexemes can be looked upon as a difference in the value of these parameters. Example with the verb meaning 'wipe' (lexemes *vyteret'* 1.1 and 1.2) demonstrates change of Diathesis and Thematic class (TREATMENT *vs.* REMOVAL); in Fillmore's example with hay loading – MOVEMENT *vs.* CHANGE OF STATE.
   Example with the lexemes of the verb *zapolnit'* 'fill' demonstrates change of Category (lexeme *zapolnit'* 1.1, action and *zapolnit'* 1.2, process) and change of diathesis (*Ja zapolnil kotel vodoj – Voda zapolnila kotel*), while their thematic class remains unchanged – CONTACT WITH THE SURFACE.
4. Several types of causation are to be distinguished: foreground causation (as a process and as an event) and background causation. A separate case is pseudo-causation: IPSO FACTO, i.e. entailment. The verb *zapolnit'* 1.2 'fill', process, demonstrates an event structure described with the help of a causative verb but with causation missing. There are two processes that constitute the event of filling Y with Z. One is the process in Z – it moves; another is the process in Y – it becomes filled with Z. The second process is not caused by the first (as is the case with ordinary actions): these two processes are just different ways of looking at one and the same event (situation). In «Lexicographer» this kind of relationship is described by means of a connector IPSO FACTO. This is a kind of entailment relation, but an entailment relation "at the heart" of decomposition. So it deserves special attention. Movement is more essential for what is going on, but it is not movement that measures the event (and licenses the form of Pfv) but the volume of the boiler. In «Lexicographer» pseudo-causation is used in description of rank shifts.[1]

[1]I am grateful to Barbara Partee, Galina Kustova and two anonymous reviewers for comments and suggestions.

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