Actants in semantics and syntax I: actants in semantics*

IGOR MEL'ČUK

> The verbal node [in a clause] ... expresses a whole little drama. As a drama, it implies a process and, most often, actors and circumstances. The *verb* expresses the process.... *Actants* are beings or things that ... participate in the process.... *Circumstants* express the circumstances of time, place, manner, etc. (Tesnière 1959: 102 [translation mine, I. M.])

Abstract

The article characterizes the three types of actants: semantic, deep-syntactic, and surface-syntactic. The discussion, which is carried out in the framework of the meaning-text approach, is based on 1) the distinction between actants and actant slots, as well as 2) an in-depth lexicographic treatment of lexical units involved. Part I of the article deals with semantic actants. The concept of linguistic situation *SIT(L), specified by the lexical unit L, and that of* obligatory participants *of a SIT(L) are introduced. A* semantic actant slot *is defined by a semantic property (the correspondence to a participant of the SIT(L)) and a lexicosyntactic property (expressibility of this slot in the text). Optional semantic slots and phraseologically-bound circumstantials are discussed; five linguistic criteria are introduced for the choice between a treatment of "suspect" dependents via optional semantic slots or via nonstandard lexical functions (i.e. as phraseologically-bound circumstantials). The article considers obligatory/optional saturation of semantic actant slots, their blocking, and the diathesis of a lexical unit L — that is, the correspondence between L's semantic actant slots and deep-syntactic actant slots. Finally, the morphological processes used for increasing/decreasing the number of semantic actant slots of a lexical unit are examined.*

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1. Introduction

The notion of *actant* (often referred to also as *argument*, *term*, etc.) is crucial to linguistic theory and no less important in linguistic applications. However, this notion still is much less than clear, and, consequently, discussions of actants are often confusing: the concepts and the terms used are vague, the same concepts are designated by different terms and the same term is used for different concepts. The goal of this article is to introduce some order into the domain: to draw necessary distinctions, to supply definitions for basic concepts, and to stabilize the terminology.

To the best of my knowledge, the term *actant* was first introduced in Tesnière (1959: 102 ff.) to denote the major syntactic roles of nominals that directly depend on the main verb syntactically: subject, direct object, and indirect object (the semantic dimension being ignored). What is proposed here is a development, elaboration and, most importantly, generalization of Tesnière's ideas.

The distinction between semantic and syntactic actants was established in the earliest publications of the Moscow Semantic School (Žolkovskij et al. 1961; Žolkovskij 1964). Later, these two types of actants were exploited, in an explicit form, in meaning-text theory and, more specifically, in the writing of explanatory combinatorial dictionaries of Russian and French (Žolkovskij and Mel'čuk 1965, 1967; Mel'čuk and Xolodovič 1970; Mel'čuk 1999 [1974]: 85–86, 134–136; Apresjan 1998 [1974]: 199 ff.; Mel'čuk and Zholkovsky 1984; Mel'čuk et al. 1984–1999).

During the same period, many other researchers were also exploring the domain, using different terms for basically the same phenomena. Thus, *argument structure* refers rather to (the set of) semantic actants, *grammatical relations* or *grammatical functions* to (different types of) syntactic actants, etc. (cf. Plank 1990; Grimshaw 1990; Lehmann 1991; Lazard 1998 [1994], 1995, 1998; Müller-Gotama 1994; Wechsler 1995; Van Valin and LaPolla 1997: 242 ff.; Bonami 1999; Davies and Dubinsky 2001). The topic is central to a linguistic trend whose slogan is "(linguistic) valence"[1] (cf. Helbig and Schenkel 1983; Abraham 1978; Allerton 1982; Somers 1987; Mosel 1991; Helbig 1992; Feuillet 1998); a family of valence dictionaries was published (e.g. Engel and Schumacher 1976; Apresjan and Páll 1982; Engel et al. 1983) which describe actants of the entries. Heated discussions around the problem "complements vs. adjuncts" (in our terms, "actants vs. circumstantials") also belong to this topic (cf. Somers 1987: 12–28 and especially Bonami 1999). Fillmore's case grammar (Fillmore 1968, 1977; Somers 1987: 30 ff.) deals, in point of fact, with actants as well. Finally, a more direct relation links the present article and works by Russian linguists, such as, first of all,

Apresjan (1974), and then Boguslavskij (1985, 1990); Padučeva (1997, 1998: 87 ff., 2002); Plungjan and Raxilina (1990, 1998); and Raxilina (1990, 2000); cf. also several papers published in SiI (1998). The literature concerning the problem of actants is extensive; thus, the links between semantic relations and syntactic elements of the sentence expressing them has been a major issue within relational grammar, lexical-functional grammar, principles and parameters theory, etc. All this output cannot be reviewed here, and no parallels can be systematically drawn: such an undertaking would require a few volumes. I will limit myself to the references above, giving some more in appropriate places.

The forthcoming discussion is conducted in the framework of meaning-text theory (Mel'čuk 1999 [1974], 1988a: 43 ff., 1997a); the postulates and the underlying linguistic philosophy of this theory are taken for granted. However, the present exposition has been consciously made as theory-independent as possible; among other things, most of the relevant notions are introduced and fully explained here. No preliminary acquaintance with meaning-text theory is presupposed.

The present article is but a first sketch of the unified theory of actants; it still has many holes and loose ends in it. I have to rely on the patience and indulgence of my reader, for which I most kindly ask. To facilitate the reader's task, I supply the following table of abbreviations and notations used throughout the paper (the terms are explained where they are introduced):

-A	actant	S-	surface-
-A(L)	actant of the lexical unit L	-S	structure
AgCo	agentive complement	Sem-	semantic
D-	deep	SIT(L)	linguistic situation referred to by the LU L
DirO	direct object		
ECD	Explanatory Combinatorial Dictionary	Synt-	syntactic
		$\mathscr{U}$	a given utterance
GP	government pattern	Ψ	a given participant of a SIT(L)
IndirO	indirect object	$\oplus$	operation of linguistic union
L	a given lexical unit	(X)	X is an optional SemA
L('X')	lexical unit expressing the meaning 'X'	[X]	X is a SemA that cannot be expressed as a direct Synt-dependent of L
$\mathscr{L}$	a given language		
LF	lexical function	{X}	X is a SemA that corresponds to a constant participant and can be expressed only if it has a modifier
LU	lexical unit		
MV	main verb		
-R	representation		
-Rel	relation		

My proposals must be judged from the viewpoint of the main task I set for myself:

> To elaborate a formal, exhaustive, coherent, and easy-to-handle lexicographic description of lexical units [LU] of a language — such that it can be efficiently used in text SYNTHESIS or PARAPHRASING, that is, going from a semantic representation [SemR] to all the sentences that express it, via their deep- and surface-syntactic representations [DSyntR/SSyntR].

I mean of course the elaboration of *Explanatory Combinatorial Dictionaries* [ECD] (Mel'čuk and Zholkovsky 1984; Mel'čuk 1988b; Mel'čuk et al. 1995).

An ECD must ensure accurate paraphrasing within a language or between languages; in other words, coupled with an appropriate grammar, it must supply all necessary (more or less equivalent) means for the expression of a given meaning. More specifically, it must supply all the necessary lexical logistics for the SemR ⇔ DSyntR ⇔ SSyntR transitions.

I believe that the problems that actants generate can be solved only within the frame of reference brought about by this task of developing an exhaustive, semantically-based, and sufficiently formalized lexicon. Consequently, to evaluate the distinctions and the definitions set forth in this article, the reader has to check whether they contribute to the fulfillment of this task. (This is a bit like solving a crime: the very first question is *Cui prodest?* 'For whom is this useful?') Thus, the problem of actants on all levels of linguistic description is considered within a lexicographic approach geared, in its turn, to text synthesis/paraphrasing.

2. Three major types of actants: semantic, deep-syntactic, surface-syntactic

In sharp contrast to many other approaches to actants, the subsequent discussion is characterized by the three following features:

1) It is fully based on DEPENDENCY rather than CONSTITUENCY. I assume that in semantics, as well as in syntax, the structures in which actants appear are formed by labeled dependency relations between terminal elements; this assumption conditions to a high degree the outcome of my research. Again, the problem "dependency vs. constituency" is too vast to be entered into, and again I can give only some basic references: Tesnière 1959; Hays 1964; Hudson 1980, 1993; Sgall and Panevová 1988–1989; Mel'čuk 1974, 1988a, 2002.

2) It strictly observes two important distinctions:
   - The distinction between three major types of actants: SEMANTIC, DEEP-SYNTACTIC, and SURFACE-SYNTACTIC actants of a lexical unit

[LU] L. These types will be designated, respectively, as SemAs, DSyntAs, and SSyntAs; for "...-actant of L," I write SemA(L), DSyntA(L), and SSyntA(L).

• The distinction between ACTANT SLOTS and ACTANTS, based on two complementary viewpoints:

– considering the LU L in language, that is, in the lexicon;

– considering the LU L in speech, that is, in an utterance $\mathscr{U}$.

Informally, an actant slot of L in the lexicon is an "empty place" or "open position" foreseen in the lexicographic description of L — namely, in the definition and the government pattern of L (see below). While constructing an utterance out of a starting SemR — or, more precisely, under this SemR's lexicalization — each of L's slots has to be "filled," or "saturated," with a linguistic entity of a particular type; this entity can be a meaning (at the semantic level) or an LU (at a syntactic level). An actant of L in the given representation of $\mathscr{U}$ is the meaning '$\mathscr{P}$' or the LU $\mathscr{P}$ that semantically/syntactically depends on L in a particular way, namely, by filling the corresponding actant slot in L's lexicographic description.[2]

3) It is 100% lexicon-based: SemAs of the LU L are specified by the lexicographic definition of L, namely, by a decomposition of 'L'; D- and S-SyntAs of L are specified by L's *government pattern* [GP]. In other words, the foundations of our proposals concerning actants are in the ECD. Let me indicate just two points to make this clearer.

First, as is well-known, syntactic actants of L are opposed to other syntactic dependents of L, that is, to L's circumstantials/modifiers. This division is anchored in the lexicon:

> Actants are entities specified by the lexicographic definition or the Government Pattern of L, whereas circumstantials/modifiers are entities not mentioned in the definition or the GP of L.

This opposition induces a partition of the elements of the sentence: any immediate constituent of a clause (in most languages a phrase depending directly on the main verb [MV]) is either the MV's actant or its circumstantial. The same partition applies to the dependents of a nominal N: each dependent of an N is either its actant or its modifier (a circumstantial $\approx$ a modifier).

Second, the lexicon presents the correspondence between SemAs(L) and DSyntAs(L), called the *diathesis* of L. The diathesis of L plus the correspondence between DSyntAs(L) and SSyntAs(L) is given by L's GP.

Terminological note. As indicated before, the corresponding terminology is not at all unified. Somers (1987: 189) gives a table of different terms

used in linguistics for what I call actants and circumstantials; I reproduce this table below, adding to it the opposition 'term ~ non-term.'

Actant	*Circumstantial*
participant	circumstantial
inner/internal participant	outer/external participant
argument	adjunct, Fr. *ajout*, satellite
complement	adjunct, modifier
term	non-term

I chose the term *actant* over other terms for the following three reasons:

• First, to emphasize the parallelism between all three types of actants. I want the same term on all levels of representation, and it is preferable to speak of semantic and syntactic *actants* rather than semantic and syntactic *participants/arguments/terms/complements*.

• Second, to avoid the inflated polysemy of such terms as *argument* and *term* in linguistics. The term *argument* is often used in a vague sense of "a particular type of complement," without making clear whether it is considered from the viewpoint of semantics or syntax. For instance, Whaley (1997: 69) says that in any language, a verb can have "no more than three arguments," while from his text it is clear that he means the subject, the direct object, and the indirect object. Godard (1996) sets out to prove that a completive clause depending on a noun (*her desire* ***that he cease to talk***) is not an argument of this noun, but nothing is said explicitly as to what an argument is; I believe that Godard means "semantic actant," but it is impossible to be sure.

• Third, to reserve the other terms for a more specific and precise usage. Thus:

– *Participant* does not go well with *lexical units*: **a participant of the LU L*. I keep the term *participant* to refer to participants of a situation — on the conceptual level of representation (i.e. deeper than the SemR).

– *Argument* is used in logic to refer to a particular role of an element with respect to a predicate in the logical sense: *argument of a predicate*, but not **argument of an LU*. I will follow this well-established usage.

– *Complement* belongs to the syntactic level — **semantic complement*; it will be used exclusively for syntactically defined sentence elements.

The term *actant*, launched by Tesnière (1959), has no misleading connotations and can be made quite clear.

The article is organized as follows. First, it discusses the three types of actants, then considers possible correspondences between them, and finally, describes the GP of a lexical unit. Part I includes Sections 1–3; Sections 4–7 constitute Part II (in *Linguistics* 42[2], forthcoming).

3. Semantic actants

3.1. *Basic concepts*

To introduce the concept of semantic actant of a L(exical) U(nit) L, the concept of predicate (in the logical sense) is needed. In logic, a *predicate* is a "binding" meaning, having open *slots* for other meanings and binding them into a coherent complex meaning. Special semantic quotes are used to indicate meanings: 'A' or 'X' are meanings; a predicate is represented as 'P(; ... ;)'. A meaning that is not binding, because it has no slots for other meanings, is a *semantic name*, or a *semantic term*. The class of predicates is thus opposed to the class of terms. The concept of predicate as used here (in accordance with the meaning-text approach) is based on the corresponding logical concept but actually is different from it; a few explanations follow.

A meaning 'X' filling a slot of a predicate meaning 'P' in 'P(; X ; ... ;)' is an *argument* of 'P', and 'P' is a *predicate* of 'X'. Note that:

– 'X' can be a predicate or a name (= term);

– a predicate 'P' can have more than one argument;

– in the SemR of an utterance, 'X' can be an argument of more than one predicate;

– the term *predicate* is ambiguous: 'α is a predicate' is different from 'α is a predicate of β'. '[To] be a predicate' is a unary property characterizing a CLASS of meanings, while '[to] be a predicate of ...' is a binary relation characterizing the ROLE of one meaning with respect to another. In the first sense, *predicate* is opposed to *semantic name/term*; in the second, it is a conversive of (*be an*) *argument of*.

Predicates denote FACTS: actions, activities, events, perceptions, processes, states, relations, properties, quantities, localizations, and so forth; another convenient name for a fact is *situation*. For instance:

'build(John ; [a] house)'	=	*John builds a house*; *John's building a house*
'smoke(John ; [a] pipe)'	=	*John smokes a pipe*; *pipe smoking by John*
'die(John)'	=	*John dies*; *John's death*
'taller.than(John ; Mary ; an inch)'	=	*John is taller than Mary by an inch*
'pretty(girl)'	=	[*the*] *pretty girl*/[*The*] *girl is pretty*/*the prettiness of the girl*
'fast(walk(John))'	=	*John walks fast*/*John's walking is fast*; *John's fast walking*

'hundred(books)'	= *hundred books*; *a hundred of books*
'here(sit(John))'	= *John sits here*; *John's sitting here*

(The word *fact* has in linguistics and logic other senses as well: 'a mental reflection of what is taking place; something real, true — as opposed to beliefs'; etc. I warn the reader that from now on, the term *fact* is used only in the sense defined above.)

Some meanings referring to ENTITIES (rather than to facts) — physical objects, beings and substances — also have argument slots, because the corresponding entities are essentially related to particular situations from which they borrow the arguments. Such are the meanings of the names of artifacts (instruments, weapons, vehicles, etc.), the names of parts (of something), the names of social functions and institutions, the relational names such as kinship terms, etc. For instance:

'train(Paris ; Munich)'	= *train* [*going*] *from Paris to Munich*
'truck(John ; bricks)'	= *John's truck (loaded) with bricks*
'medication(John ; headache)'	= *John's medication against headache*
'leg(John)'	= *John's leg*
'minister(John ; finance ; Canada)'	= *John is the finance minister of Canada*
'hospital(– ; children ; tuberculosis)'	= *tuberculosis hospital for children*
'father(John ; Mary)'	= *John is Mary's father*

All such meanings are *quasi-predicates*.[3]

For this discussion, the only relevant property of lexical meanings is whether they do or do not have arguments. Therefore, I will not distinguish between predicates and quasi-predicates, referring to both as *predicative meanings* or even — where this cannot lead to confusion — as *predicates*.

Predicative meanings can be expressed by LUs of any part of speech: all verbs, all nonpronominal and nonrelational adjectives/adverbs express predicates,[4] as well as all prepositions and conjunctions (OVER, AFTERWARDS, IF, WHEN, etc.), numerals (THREE, DOZEN, MILLION), and particles (ONLY, EVEN, JUST); among nouns, most also express predicates ([*an*] ATTACK, PROFESSOR, CONTINUATION, PURSUIT, HOSPITAL, HEAD, BELLY, etc.). Meanings of these LUs can be represented by the expressions of the form 'L(; ; . . . ;)'; all of them have arguments, so that the corresponding LUs have semantic actants.

Informally speaking, a *semantic actant* [SemA] of an LU L that has a predicative meaning 'L(; ; . . . ;)' corresponds to an argument of 'L': thus,

if X and Y are SemAs of L, then 'L(X ; Y)'; vice versa: if 'L(X ; Y)', then X and Y are SemAs of L. As implied above, the expressions *(semantic) argument* and *semantic actant* are completely synonymous, but are in complementary distribution: *argument of a predicate* ⟨**argument of an LU*⟩ vs. *semantic actant of an LU* ⟨**semantic actant of a predicate*⟩. Strictly speaking, only a lexical meaning 'L' can be a SemA of another lexical meaning 'L′'; however, as an abbreviation, we will say that L is a SemA of L′. In the sentence *John sees Mary*, the LUs JOHN and MARY are SemAs of the LU [*to*] SEE: 'see'('John' ; 'Mary'). Another form of representing SemAs (adopted in the meaning-text theory) is as follows:

'John' ←1— 'see' —2→ 'Mary'.

The arrows show the Sem-dependencies: the predicate-argument relations; the numbers distinguish different arguments of the same predicate.

In the lexicographic definition of L, which is a semantic decomposition of the meaning 'L', all L's SemA-slots are represented by variables: X, Y, Z, etc. The variables correspond to the numbers on the arrows of Sem-dependencies in a straightforward way: X ≡ 1, Y ≡ 2, Z ≡ 3, etc. ("≡" stands for 'are equivalent [at the same level of representation]'; for details on this numbering, see 3.4.2.3). Any variable can be *typed*, or semantically constrained: 'person X', 'substance Y', 'sharp-edge artifact Z'; such constraints limit the range of possible instantiations of the variable. (As we will see, a variable can be constrained even to one lexeme: 'eyes Z', 'lips Z', etc., 3.2.3, Subcase (iii).)

The subsequent discussion of SemAs draws heavily on the classic work by Apresjan (1974: 119 ff.; cf. also Apresjan 2000a: xix). Parallels with and direct borrowings from this source are many; I will not indicate them in detail, hoping that this remark puts everything in the right perspective.

3.2. *Sem-Actant slot: preliminary characterization (prototypical case)*

The number and the nature of the SemA-slots of an LU L are determined by three major types of linguistic factors — semantic, syntactic, and lexical. More specifically:

– semantic considerations have to do only with the analysis of the meaning 'L', that is, with its *semantic decomposition*; this is the lexicographic definition of L;

– syntactic considerations concern the ability of a semantic chunk to be actually expressed in the utterance by an LU that bears a particular syntactic role with respect to L or is linked to L by a particular paradigmatic relation;

– lexical, or restricted co-occurrence, considerations deal with the cases when a meaning is expressed idiomatically with respect to L, that is, to put it differently, is phraseologically-bound by L.[5] (These considerations are relevant only in case of optional SemA-slots, see 3.3.)

Let me take up these three types of considerations one by one; but first I need to introduce two additional notions, on which that of SemA is based: *linguistic situation* and its *participants*.

3.2.1. *Linguistic situation and its participants.* The number and the nature of SemA-slots in the lexicographic definition of an LU L are determined based on the following two underlying notions:

– *linguistic situation* denoted by L [SIT(L)];
– *participants* of the linguistic situation denoted by L.

SemA-slots will be defined as corresponding to participants of the SIT(L); in other words, a SemA-slot in the definition of L necessarily corresponds to a participant of the SIT(L), while the inverse is not true: as will be shown, a participant of a SIT(L) may correspond to no SemA-slot in 'L'.

I have no definition for *linguistic situation*[6] and I will limit myself to a short characterization. What is meant here is by no means a real-life situation, that is, NOT a state of affairs in the universe; it is rather a situation strictly as it is portrayed by the language, that is, by the LU L, and reflected in possible uses of L. A linguistic situation SIT(L) is a complex fact (in the sense introduced above) — a set of facts and entities linked by dependency relations into a unified structure that is referred to by the predicate 'L', which is the meaning of L. L can be of any part of speech, but the SIT(L) is better characterized by a sentence with the main verb L; if L is not a verb, then SIT(L) can be specified by a sentence that contains either a verb semantically close to L or an "empty" (= "light") verb taking L as one of its complements. Note that a SIT(L)'s participant can be not only a person or an object, but an event, an act, or a process as well.

Starting from this, participants of a linguistic situation SIT(L) can be defined. In the prototypical case, one deals with OBLIGATORY participants of SIT(L)s only, and that is what is defined below. Later on, I will introduce the notion of OPTIONAL participant and thus define participants of a SIT(L) *tout court*. Until then, we can reason in terms of obligatory participants, because whatever is affirmed about them will apply to optional participants as well.

Definition 1: obligatory participant of a SIT(L)

An element Ψ of the situation denoted by L is called its *obligatory participant* if and only if it satisfies the following condition: if Ψ is re-

moved from SIT(L), then what remains either cannot be denoted by L or ceases to be a situation.

NB: "Removing Ψ from SIT(L)" is not the same as "omitting its lexical expression L(Ψ) from the corresponding sentence;" Ψ can be not mentioned verbally, but it still has to be necessarily thought of as present in the situation under discussion. "Removing Ψ from SIT(L)" has to be interpreted as "Ψ is not thought of at all."

Examples

1. The classical illustration is [*to*] RENT: *person X rents commodity Y from person Z for money W for duration T*. If, for example, T is not taken into account, the resulting situation is not *renting*: it must be called *buying*. On the other hand, if there is no W, this is not renting, either — this is *borrowing*. (In the text, owner, money and duration are easily omitted: *I rent an apartment in the downtown* is a perfect sentence; however, if I use the verb [*to*] RENT, I thereby imply 'from an owner Z for money W for a duration T').

2. What are the obligatory participants of the situation denoted by the verb [*to*] LIE, as in *John was lying on the floor*? The surface on which X is lying certainly is an obligatory participant: if John is in a horizontal position, but is not supported by a horizontal surface underneath him, his state cannot be referred to as *lying*: he is suspended, floating, planing, etc., but not *lying*. Thus, *X is lying* presupposes 'being supported by surface Y': *X is lying on Y* (cf., however, below); even the surface Y is not mentioned it is thought of.

3. Consider [*to*] EAT: [*a*] *being X eats substance Y*. If there is substance Y but no one chews and swallows it, this is not a situation — it is simply some substance Y. (If a person chews and swallows with his mouth empty, that is, if there is X and some X's action but no Y, the resulting situation can by no means be referred to as *eating*.)

Now, two more complex examples (discussed in Iordanskaja and Mel'čuk 2002).

4. Take the Russian verb ISTOŠČIT′SJA '[to] become exhausted/depleted'; (1) shows that the Cause of becoming depleted is semantically constrained and must be part of the SIT(ISTOŠČIT′SJA):

(1) Rus. *Kazna istoščilas′ ot vojn/*ot vorovstva činovnikov*,
lit. 'The treasury became depleted because of wars/*because of fraud by officials'.

If the cause of X's depletion is not an activity that uses up resources of X, the verb ISTOŠČIT′SJA cannot be used (you have to say, for example, *Kazna*

opustela 'The treasury became empty'). The definition of ISTOŠČIT′SJA looks as follows (the constraint on the cause is underlined):

X *istoščaetsja ot Y* ≡ 'X becomes depleted, which is caused by *activity* Y *that uses resources of X*'.

As a result, cause is an obligatory participant of the SIT(ISTOŠČIT′SJA): if it is not taken into account, the verb cannot be used to refer to this situation.

5. The Russian verb PLAKAT′ '[to] cry/weep' shows the same properties:

(2) Rus. *Ot radosti*/**Ot vetra ona zaplakala*,
lit. 'She started crying from joy/*from the wind'.

The reason/cause of crying is also semantically constrained by the lexeme PLAKAT′ and therefore must be an obligatory participant of the SIT(PLAKAT′) as well:

X plačet ot Y-a ≡ 'X has tears in X's eyes (and produces a particular sound), which is caused by a strong *emotion* Y of X'.

If tears appear for a reason other than a strong emotion you cannot call this PLAKAT′ (you have, for instance, to use the expression *Slëzy tekut iz glaz*, lit. 'Tears flow from [the] eyes').

Thus, in many cases, to establish the obligatory participants of a SIT(L), we need a fairly detailed semantic analysis of L. When deciding whether an element is an obligatory participant of a linguistic situation or not, it is useful to have recourse to the following heuristic principle.

Obligatory participant inheritance principle. Let there be the lexicographic definition of L: 'L' ≡ '$L_1 \oplus L_2 \oplus \cdots \oplus L_i$'.

SIT(L) INHERITS all obligatory participants of all SIT(L_i) that correspond to the predicative meanings 'L_i' which compose 'L'.

Every predicative meaning in the decomposition of 'L' brings along all its own obligatory participants. However, the number of participants of SIT(L) is not necessarily equal to the sum of the numbers of participants of all predicative Sem-components 'L_i' of 'L': some of the latter may coincide, that is, some 'L_i' may have the same participants.

The number and the nature of obligatory participants of a linguistic situation do not depend on how a particular person perceives or analyzes it, that is, with more or with less detail. Obligatory participants in a SIT(L) are imposed by the language, namely by the LU L that refers to the SIT(L). For instance, people (and domestic animals) drink, as a rule, from a vessel; is the vessel an obligatory participant of the situation '[to] drink'? No, because *X drinks Y* (with only two participants, without the

mention of a vessel) satisfies both Definition 1 and the Obligatory Participant Inheritance Principle:

– one can drink water from a drinking fountain or a river; there is no vessel involved and still in English such a situation must be called *drinking*;

– the decomposition of '[to] drink' does not contain a predicate which involves a vessel as one of the obligatory participants of the corresponding SIT(L): 'X introduces liquid Y into X's mouth/beak and swallows Y'.

Obligatory participants of a SIT(L) fall into two subclasses: *constant* participants — entities that are "fixed," or fully specified, in 'L'; and *variable* participants — entities for which 'L' specifies only their semantic class. Thus, in SIT(RAIN$_{V/N}$) the entities 'water' and 'sky/cloud' are constant obligatory participants; but in SIT(EAT) the entities 'eater' and 'food' are variable obligatory participants: any living being can eat, and every solid substance can (at least, in principle) be eaten. Several SIT(L)s that consist in the causation of a movement of an object have a constant participant, which is the starting point (or the end point) of this movement (see Raxilina 1990: 98–101): thus, in 'X puts Y in/on/under ... Z' the starting point of Y's movement is always 'in X's hands'; in 'X takes Y from Z', 'in X's hands' is the end point of Y's movement.

Remarks

1. For an obligatory participant of SIT(L) it is not relevant whether it can be expressed in the sentence along with L or not. Thus, constant obligatory participants of SIT(L) usually are not expressible.

2. For an obligatory participant which is expressible it is not relevant whether it is expressed idiomatically or not. Thus, a tool is an obligatory participant of the situation '[to] cut' and '[to] write', although tools and instruments are expressed rather not idiomatically — for instance, in English, by using the preposition WITH, regardless of the verb.

3. A situation normally takes place somewhere and at a given moment: space-time coordinates characterize most situations. But exactly because of that, location and time as such are not obligatory participants of linguistic situations — they are not distinctive. Location or time CAN be an obligatory participant only of some very specific linguistic situation: for instance, *Alain is BASED in Singapore* ('X is based in location Y') or *2001 SAW Alain in Singapore* ('X is the time in which P(Y)'). This is possible with some (rather rare) LUs, whose meaning foresees such an obligatory participant (e.g. [*to*] FOUND ONESELF [somewhere] or [*to*] LIVE [somewhere]). But generally speaking, location and time constitute a necessary frame in which a SIT(L) takes place without being SIT(L)'s participants:

they are SIT(L)'s circumstants. In the same vein, speed characterizes every movement, but it is not an obligatory participant of any corresponding linguistic situation.[7]

4. In anchoring the notion of actant in the notion of linguistic situation, I am following a respectable tradition of the Moscow Semantic School, where the triple distinction has been observed almost from the very beginning: participant of the situation ~ semantic actant ~ syntactic actant (cf. also Padučeva 1997: 19–21, 1998: 87–92, where this trichotomy is explicitly drawn).

Now I can introduce the defining properties of a Sem-Actant slot. They are of two types: semantic and lexicosyntactic. The second type accrues actually to the EXPRESSIONS that implement the slot; however, *par abus de langage*, the lexicosyntactic property of the expressions corresponding to SemA-slots will be referred to as a property of the slot themselves.

3.2.2. *The semantic property of SemA-slots.* Prototypically, a SemA-slot in the meaning 'L' corresponds to one variable obligatory participant Ψ of SIT(L). However, generally speaking, a SemA-slot of 'L' may correspond to more than one participant of SIT(L); it may correspond to a constant Ψ (Subsection 3.2.3, Subcase [iii]); and later on (Subsection 3.3.2), I will introduce the notion of optional participant of SIT(L), so that the modifier *obligatory* also proves irrelevant (cf. Definition 4, Subsection 3.3.3). Therefore, the SEMANTIC defining property of SemA-slots can be formulated as follows:

> A SemA-slot in the meaning 'L' must correspond to a participant Ψ of SIT(L).

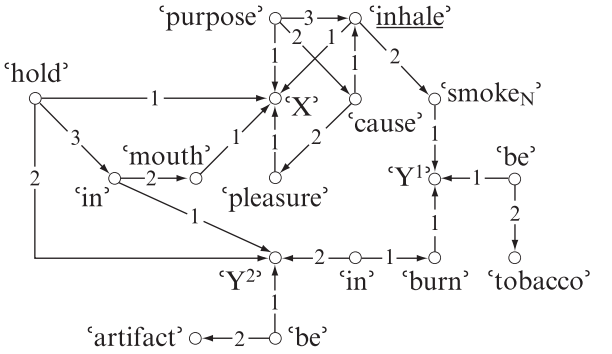
The following example is sufficiently complex to illustrate difficulties encountered when deciding on the SemA-slots of a lexical meaning: the verb [*to*] SMOKE (as in *John was smoking a cigarette*). The situation referred to by this LU implies three variable obligatory participants: the actor (who enjoys smoking), the substance (that burns), and the artifact (in which the substance burns). The meaning of [*to*] SMOKE is represented by its *lexicographic definition*, that is, its *semantic representation* [= SemR] that satisfies a number of conditions; in particular, it must contain a *semantic decomposition* of the meaning 'L', carried out in terms of other lexical meanings, most of which are also predicative.[8] Here is the SemR of the verb [*to*] SMOKE:

(3) a. 'X smokes Y' ≡ 'X inhales the smoke of tobacco Y^1 burning in an artifact Y^2 that X is holding in X's mouth, with the purpose that this gives X pleasure'.[9]

The variable Y in the *definiendum* (= 'X smokes Y') corresponds to variables Y^1 or Y^2 in the *definiens* (= the decomposition of the meaning); we have here a *split variable*: $Y = Y^1/Y^2$. The technique of split variables allows us to cover by the same definition such different expressions as *Alain smokes a pipe/cigars/a narghileh ... Gauloises/Trenton/ ...* vs. *Alain smokes Turkish tobacco/Capstain*, etc. The variable Y corresponds to two different participants of the situation '[to] smoke', whose expressions are, however, incompatible in one sentence; since these participants are semantically linked in a particular way (by a metonymic link: 'Y^1 [tobacco]' ← 'IS IN' → 'Y^2 [artifact]'), they need not to be represented by two different variables, that is, to correspond to two different SemA-slots (see below, 3.4.2.2 and Note 20). More will be said about the correspondence "participant of SIT(L) ~ SemA-slot of 'L'" later.

Using semantic networks of the meaning-text theory, (3a) can be represented as (3b):

(3) b.



The semanteme 'inhale' is underlined to indicate its communicatively dominant status: '[to] smoke' is a particular case of '[to] inhale' (for the notion of communicatively dominant node, see Mel'čuk 2001: 31 ff.).

Although the situation referred to by [*to*] SMOKE has three (variable) participants, the meaning '[to] smoke' has only two Sem-actant slots: a SemA-slot(L) can correspond to more than one participant of the situation SIT(L); in this case, Y correspond to the substance and to the artifact. (The inverse is not true, since a participant of SIT(L) may give rise to no more than one SemA-slot in 'L'; in particular, it may give rise to no SemA-slot.)

Corresponding to a participant of SIT(L) is thus a necessary, but not sufficient condition for a semanteme 'σ' to be a SemA of 'L': 'σ' must also BE EXPRESSIBLE IN THE TEXT IN A PARTICULAR WAY. This brings us to the lexico-syntactic considerations that underlie the decisions on SemA-slots.

3.2.3. *The lexico-syntactic property of SemA-slots.* The verb [*to*] COST (as in *The book cost him $50*) describes the situation of selling/buying in which you have to pay, so that the Payee as an obligatory participant is unquestionable: Definition 1 guarantees the presence of the Payee participant in SIT(COST); the *obligatory participant inheritance principle* also requires it, since the meaning '[to] cost' includes '[to] pay' and '[to] pay' presupposes the Payee. However, it is impossible to express the Payee in a clause with [*to*] COST: *The book cost him $50 *to ⟨for, with⟩ John*. Therefore, the lexicographic definition of [*to*] COST must not have a SemA-slot for the Payee — the Payee is represented in the definition of '[to] cost' by a constant, namely, a very general meaning 'person who furnishes …'. Cf.:

(4) 'X costs Y [to] Z' ≡ 'merchandise or service X is paid by person Z money Y to the PERSON who furnishes X to Z'.

Thus, an obligatory participant Ψ of the situation denoted by L does not automatically determine a SemA-slot in 'L': Ψ may have no corresponding SemA-slot, because this slot would not be expressible in the sentence alongside L. Such a participant is not identified in the definition of L by a variable; it is represented there only by a constant.[10]

Now, what does it exactly mean that a Ψ is/is not expressible in the text alongside L? The answer is given by Definition 2. In its formulation and discussion below, the notion of lexical function [LF] plays a crucial role. It is, however, impossible to introduce or even explain LFs here, so that the reader is kindly asked to refer to Mel'čuk (1988a: 61 ff., 1988b, 1992, 1996, 1998); cf. also short remarks in Subsection 4.1.

Definition 2: to be expressible in the text

We say that a participant Ψ of SIT(L) *is expressible* in the text if and only if one of the following three conditions is satisfied:

Syntagmatic conditions

1. The phrase L(Ψ) is syntactically linked to L either directly or via a particular syntagmatic Lexical Function of L (namely, support verbs $Oper_i$, $Func_{0/i}$, $Labor_{ij}$ and realization verbs $Real_i$, $Fact_{0/i}$, $Labreal_{ij}$, as well as complex LFs having these verbs as their last component):
   $L(\Psi) \xrightarrow{synt} L$ or $L(\Psi) \xrightarrow{synt} LF(L) \xrightarrow{synt} L$.
2. The phrase L(Ψ) is the syntactic (perhaps indirect) governor of the syntactic governor of L:
   $L(\Psi) \xrightarrow{synt} L' \xrightarrow{synt} L$.

A paradigmatic condition

3. The phrase L(Ψ) is a value of a particular paradigmatic lexical function of L — one of *actantial nouns* S_1, S_2, S_3, ... (on actantial nouns, see below).

I will comment on each of these conditions in turn.

Condition 1: L(Ψ) and L are linked either a) by a direct syntactic dependency or b) indirectly — via a syntagmatic LF.

a. L(Ψ) and L are linked by a direct syntactic dependency, that is, either L(Ψ) ← L or L(Ψ) → L.

L(Ψ) syntactically depends on L: L(Ψ) ← L. Two cases are distinguished here: L(Ψ) is a SSynt-actant of L or L(Ψ) is not a SSynt-actant of L.

Case 1. L(Ψ) is a SSynt-actant of L (= a subject, an object, or a complement):

Mary ← sees → John; *the cost → of the book*; *is renting → for three months*.

This is the PROTOTYPICAL instance of expressibility of Ψ alongside L.

Three complications are to be noted: (i) the set of L(Ψ)s may be very small (even just one LU); (ii) L(Ψ) may be phraseologically-bound by L; and (iii) L(Ψ) may be a 'restricted' SSyntA.

Subcase (i)

(5) Rus. PREDAT′ '[to] betray' vs. PREDATEL′ 'traitor' (an example of T. Bulygina):
predat′ rodinu '[to] betray motherland' ⟨*druzej* 'friends', *nauku* 'science', *Mašu*, ...⟩
vs.
predatel′ ***rodiny*** 'traitor of-motherland' ⟨**druzej, *nauki, *Maši*, ...⟩

With the noun PREDATEL′, the betrayed can be expressed only by few nouns, in the first place, by RODINA 'motherland' (e.g. even the quasi-synonym OTEČESTVO 'fatherland' is impossible: **predatel′ otečestva*). This, however, does not prevent us from saying that Ψ = Betrayed is expressible with PREDATEL′: even a unique possibility of expression is taken to be sufficient.[11]

Subcase (ii)

Not infrequently, L(Ψ) forms a collocation with L, that is, L(Ψ)'s expression is selected as a function of L; this means that the SemA that corresponds to Ψ is LEXICALLY BOUND by L. Thus, *health insurance* is

called in French *assurance maladie*, lit. 'illness insurance' ⟨**assurance santé* 'health insurance' and **illness insurance*⟩. How can one account for such data? The propositional form of [*to*] INSURE is roughly as follows: *person X insures X's Y* [= Thing insured] *against Z* [= Calamity] *with the company W*. The lexical entry for INSURANCE must then contain the following statement: if $\Psi' =$ Calamity (what you insure against) is 'illness', this Ψ' is not expressed, but the SemA corresponding to $\Psi'' =$ Thing insured must be 'health'. For Fr. ASSURANCE (its propositional form being identical to that of the English equivalent) we need the opposite statement: if $\Psi' =$ Calamity is 'illness', it is expressed, but $\Psi'' =$ thing insured is left unexpressed. Similarly, one has to state explicitly that for the noun LEAVE, the Reason (of the leave, i.e., SemA Z) which is 'illness' is expressed as SICK (*sick leave*), while in French we have MALADIE 'illness' (*congé maladie*/*de maladie*), and in Russian, PO BOLEZNI, lit. 'in accordance with illness' (*otpusk po bolezni*); or *maternity leave* ~ Fr. *congé maternité*/*de maternité* 'of maternity' ~ Rus. *dekretnyj* 'decree' *otpusk*.

Another case of lexical boundness is the use of an element of the value of an LF(L) to express a Ψ of (L) — that is, to be used as an actant. Thus, in French, with the verb PAYER '[to] pay', if the amount paid is very high (= LF Magn), it is expressed as [*payer*] *les yeux de la tête* ⟨*la peau des fesses*⟩ 'the eyes of the head ⟨the skin of the buttocks⟩'; etc. We will see other examples of this phenomenon later.

Subcase (iii)

L(Ψ) is a 'restricted' SSyntA — it expresses a CONSTANT obligatory participant of SIT(L). Thus, one can see only with one's eyes, kick only with one's foot, and kiss only with one's lips; therefore, eyes, foot and lips are *constant participants* of the corresponding SIT(L)s (see above, 3.2.1): they are fixed and normally cannot be expressed alongside L. Four types of constant participants of SIT(L) have to be distinguished:

– a constant participant that cannot be expressed;

– a constant participant that can be expressed, but only if it is characterized explicitly;

– a constant participant that can be expressed even if it is not characterized explicitly;

– a constant participant that must be expressed.

• A constant participant of Type 1 cannot be expressed in the sentence at all, even if the speaker wants to characterize it explicitly. Thus, the targets of Rus. POŠČËČINA '[a] slap on a cheek', that is, ŠČEKA 'cheek', and PROPOLOT′ '[to] weed', that is, SORNJAKI 'weeds', cannot be expressed:

(6) a. Rus. *Ivan dal emu poščëčinu *po levoj ščeke* ⟨**v levuju ščëku*⟩, lit. 'John gave him a slap-on-the-cheek on the left cheek'.

If you absolutely need to mention the cheek, you have to say *udaril ego po levoj ščeke* 'hit him on the left cheek'.

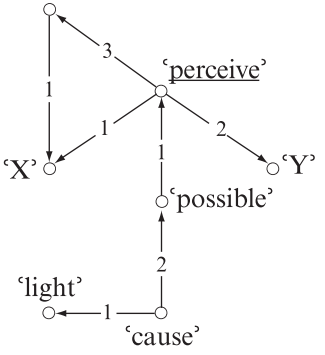
(6) b. *Ivan propolol ogorod *ot sornjakov*,
lit. 'Ivan weeded [the] vegetable-garden *from weeds'.

• A constant participant of Type 2 can be expressed under the condition that the speaker characterizes it explicitly: *She sees this only with her* left *eye* or *She kissed him with her* chocolate-smeared *lips*. Therefore, such a constant participant of SIT(L) must be considered expressible alongside L, even if conditionally. Let me elaborate the example with [*to*] SEE:

(7) a. 'X sees Y {with Z}' ≡ 'X perceives Y with X's eyes {Z}, this perceiving being made possible by light'

Curly brackets around the variable {Z} indicate that this is an INSTANTIATED variable: the respective obligatory participant is constant and can be expressed only if it has its own explicit characterization. The semanteme 'perceive' in the Sem-decomposition (7b) is underlined as communicatively dominant node (roughly speaking, 'see' is a particular case of 'perceive'); cf. (1b).

(7) b. 'eyes {Z}'



• A constant participant of Type 3 can be expressed even without an explicit characterization. Thus, with the verb Rus. OTŠLËPAT' '[to] spank', which also has a constant target — 'buttocks' — this target can be expressed at will, just the same as in English. The French verbs SE MOUCHER '[to] blow one's nose' and SE TORCHER '[to] wipe one's behind' also admit the expression of their constant targets:

(8) a. Rus. *Ivan otšlëpal ego po* (*tolstoj*) *popke*, lit. 'Ivan spanked him on [his] (fat) behind'.
b. Fr. *Il s'est mouché le nez*, lit. 'He blew-his-nose to-himself the nose'.

c. Fr. *Il s'est torché le cul*, lit. 'He wiped-his-behind to-himself the behind'.

• A constant participant of Type 4 must be expressed. Thus, the Russian verb RASKVASIT′ '[to] make the nose bleed by hitting it' "incorporates" its target: one can *raskvasit′* only the nose; yet it requires this target to be expressed; in *Ja raskvasil emu nos* 'I made his nose bleed', NOS 'nose' is not omissible (**Ja raskvasil ego* 'I made him bleed from the nose'; cf. *Ja pocarapal emu nos* 'I scratched his nose' and *Ja pocarapal ego* 'I scratched him'). Similarly, you can stub only a toe; nevertheless, you have to say *I stubbed my toe*, rather than **I stubbed* (*myself*).

Thus, we see that some constant obligatory participants of SIT(L) can or even must be expressed alongside L under some circumstances; therefore, such an obligatory participant has to be reflected in L's definition as a SemA, that is, it gets a SemA-slot in 'L' (cf. Padučeva 1998: 89–90 and 2002: 187–188 on constant actants, which she calls "incorporated").

Case 2. L(Ψ) is a SSynt-modifier or a conjunct of L — that is, a non-actantial SSynt-dependent: *American* ← *help*; *Mongol* ← *invasion*; (*thick*) *French* ← *accent*; *weekly* ← *rent*; *Iraqi-* ← *occupied* [*territory*]; *try* → *and write* [*this letter*]; Rus. *izlovčilsja* → *i ukusil*, lit. '[he] managed and bit' (I. Boguslavskij's example). All these L(Ψ)s are DSynt-actants.

This combinability can be highly restricted lexically:

(9) Rus. MERY 'measures' admits the expression of the action that constitutes these measures only via a few pronominal adjectives, especially the interrogative one: *Kakie mery Vy prinjali?* 'What measures have you taken?' (Krejdlin and Raxilina 1984).[12]

Cf. as well *sledujuščie mery* '[the] following measures' or *èti mery* 'these measures'.

But again, even a lexically unique possibility of expressing L(Ψ) as an immediate Synt-dependent of L is sufficient to consider it expressible alongside L. (By the way, there is another reason to have this SemA-slot with MERY: it is expressible with the LF $Func_1$, for example, *mery*, sostojaščie *v tom, čto* ... 'measures that consist in ...', see below; cf. as well *V kačestve mery presečenija* naznačit′ *podpisku o nevyezde* 'As a preventive measure I order a written pledge of nondeparture', where *podpiska* 'written pledge' expresses the SemA 1 of MERY.)

L syntactically depends on L(Ψ): L(Ψ) → L. This happens in a standard way when L is an adjective or an adverb (including among adverbs the prepositions and conjunction). In point of fact, the defining feature of the adjectival/adverbial word classes is exactly this property — taking their

only or first SemA as their syntactic governor and becoming a DSynt-attribute of the latter (see Mel'čuk 1988a: 105 ff. on possible cases of opposite orientation of semantic and syntactic dependencies):

'interesting' —1→ 'book' ⇔ BOOK —ATTR→ INTERESTING
'fast' —1→ 'run' ⇔ [*to*] RUN —ATTR→ FAST
'tonight' —1→ 'run' ⇔ [*to*] RUN —ATTR→ TONIGHT
'painting' ←1— 'on' —2→ 'wall' ⇔ PAINTING —ATTR→ ON —II→ WALL
'read' ←1— 'when' —2→ 'enter' ⇔ READ —ATTR→ WHEN —II→ ENTER
[*John was reading when Mary entered the room.*]

Moreover, the expression of an obligatory participant of L may be the syntactic Governor of L in an "exotic" case of SemAs expressed phraseologically by the main verb, see below, 3.4.1, (18).

b. L(Ψ) and L are linked via a syntagmatic lexical function of L.

L(Ψ) can be a DSynt-actant of a particular *syntagmatic* lexical function of L linked to L; this LF must be a support or realization verb: Oper_i, etc. or Real_i, etc. Let us consider two examples.

• The noun DANGER in the sense of 'something dangerous' (the lexeme DANGER2 in *Longman Dictionary of Contemporary English*): 'X is a danger for Y'. This noun cannot take the expression of the first participant — dangerous element — as its immediate Synt-dependent: suppose that John is dangerous for someone; still you do not have **John's danger* or **danger by* ⟨*from*⟩ *John*. But some of its LFs — support verbs — can link the name of the first participant to the noun:

(10) a. *John* represents *an enormous danger for our plans*
[*represent* = Oper_1(DANGER)].
b. *The main danger for our plans* comes *from John*
[*come from* = Func_1(DANGER)].

• The pair WIDOW/WIDOWER: the expression *John's widow* is normal, but **Mary's widower* is hardly acceptable[13] (this example was first introduced in Russian by T. Bulygina); does this mean that 'widow' has two SemA slots ('X is widow of Y' ≡ 'X is a woman, now unmarried, whose husband Y died', while 'widower' has only one ('X is widower' ≡ 'X is a man, now unmarried, whose wife died')? It would, if it were not for a perfect sentence (11):

(11) *She died of cancer and* left *John a widower with three children.*

In (11), the verb [*to*] LEAVE is an LF of WIDOWER, namely — the support verb Labor_{21}: *She left him a widower* necessarily means that she was his wife. So the meaning 'late wife' of a widower can be expressed alongside

the noun WIDOWER on the surface — via an LF; therefore, this meaning corresponds to a SemA-slot, and we have 'X is widower [of Y]' ≡ 'X is an unmarried man whose wife [Y] died'. But in sharp contrast to WIDOW, with WIDOWER this SemA cannot be freely expressed as a DSyntA (this is shown by brackets around the corresponding SemA-slot variable).

Condition 2: L(Ψ) can be expressed as the syntactic governor (maybe indirect) of syntactic governor of L.

This is possible for some focalizing particles, which behave similarly to quantifiers. Take, for instance, ONLY:

'only X P(X)' ≡ 'the set under consideration to which X belongs contains no α different from X such that P(α)'

(cf. the discussion of the meaning of Rus. TOL′KO 'only' in Boguslavskij 1985: 83–120). In sentences (12a) and (12b) the obligatory participant Ψ [= P] of the SIT(ONLY) is realized as the Synt-governor of the noun that is the Synt-governor of ONLY:

(12) a. *Only* ← *Alain*[= X] ← *came*[= P(X)].

b. *Alain reads*[= P(X)] *only* ← *novels*[= X].

As can be seen, Definition 2 is aimed at constraining the concept of "being expressible alongside L" to the cases when L(Ψ) is implemented in a specific syntactic frame. If an obligatory participant Ψ can be expressed in the sentence no matter how, but not as a specific syntactic element of the sentence linked to L, it is not considered as expressible and the corresponding SemA-slot is not postulated. Thus, the set from which X is selected in the meaning of ONLY can be expressed in many loose ways:

(13) a. Here *only Alain reads a lot* [the set: people who are here].
b. Take my family: *only Alain reads a lot* [the set: my family].
c. As for them, *only Alain reads a lot* [the set: they].

As a consequence, this variable obligatory participant of the SIT(ONLY) does not give rise to a SemA-slot of ONLY.

Condition 3: L(Ψ) can be expressed as a value of a particular *paradigmatic* lexical function of L — of an ACTANTIAL NOUN: *nomen agentis* S_1, *nomen patientis* $S_{2/3}$, ...

Consider Rus. (O)GRABIT′ ≈ '[to] mug and rob', which does not admit the expression of the Thing taken by the robbers: *Ivana ograbili *šuboj* ⟨**ot šuby*, **na šubu*, ...⟩, lit. 'They robbed Ivan of his fur coat', nor **U Ivana ograbili šubu*, lit. 'At Ivan, they robbed his fur coat'. However, the

Thing taken (i.e. the loot) has in Russian a special name: NAGRABLENNOE, DOBYČA 'loot'; this is S_3((O)GRABIT′). Therefore, (O)GRABIT′ is considered to have a SemA-slot for the loot:

'X ograbil Y-a [v otnošenii Z-a]' = 'X robbed Y [with respect to Z]'.

Square brackets around a variable in the propositional form of the definition of L indicate that this variable is not directly expressible with L. (Compare this with [*to*] COST above. (4): English has no special name for the person to whom Z of COST has to pay Y.)

Similarly, the noun STORE has S_2 = GOODS, MERCHANDISE (≈ 'what the store sells') and S_3 = CUSTOMER (≈ 'the person to whom merchandise is sold'); cf., in this connection, an idiomatic expression of the meaning '[the store] has/does not have [the merchandise Y]': *Sorry, we do not carry cross-country skis*; here *carry* = $Fact_2$(STORE). The noun RESTAURANT has S_2 = CLIENT, PATRON; the verb [*to*] SHOOT has S_2 = TARGET; etc. The existence of such S_2s and S_3s is an argument in favor of the corresponding SemA-slot.

Summing up, here is the LEXICO-SYNTACTIC defining property of a SemA-slot: a Sem-slot in the meaning 'L' must be expressible in the text.

Until now, I have been dealing only with obligatory participants of SIT(L), and I have practically obtained the definition of OBLIGATORY SemA-slot. However, before the "real" definition of SemA-slot and that of SemA could be formulated, the notion of optional participant needs to be introduced, which will, in turn, allow for the notion of OPTIONAL SemA-slot.

3.3. *An optional participant or a circumstantial of a SIT(L)?*

In more or less clear cases discussed so far, a meaning suspected of being a SemA of 'L' corresponds to an obligatory participant of the situation SIT(L), which can be variable or (in some special cases) constant; all the other elements of SIT(L) are deemed to be its circumstants. However, very often we have an "actant-like" meaning 'X' which does not correspond to an obligatory participant of SIT(L), but whose lexicalization depends on L: 'X' is expressed in a very idiomatic, or phraseologically-bound, way — as a function of L. As a result, the lexical entry for L has to carry information on the presence/absence and the form of the lexical unit that expresses the meaning 'X' — L('X'). This makes the meaning 'X' a possible candidate for a SemA(L) and the corresponding element in the SIT(L) a candidate for a participant role (rather than a circumstant). How are we to treat such suspicious meanings and their sources in linguistic situations? Let me start with two examples.

1) Consider the road sign *Brake for moose!* The phrase $\mathscr{P}$ = *for* N is not used freely with *brake*; for instance, it cannot be translated into Russian while preserving the same structure (**Tormozi dlja/na/iz-za losej*; a translation could be, for instance, *Tormozi: losi!*, lit. 'Brake: moose!'). The possibility of the phrase *for* N with *brake* must be specified in the lexical entry of [*to*] BRAKE. But the entity which the driver has to brake for is by no means an obligatory participant of SIT(BRAKE): when you press on the brake to stop your car in front of your house, you do not brake for anything; cf. below, 3.3.2. Is then this entity a circumstant in the linguistic situation of braking?

2) Suppose I ask in Russian: *Kak pisat' vyraženie* /n'ixvatájit/ — *v odno slovo* [=$\mathscr{P}^1$] *ili razdel'no* [=$\mathscr{P}^2$]*?* 'How do you spell the expression /n'ixvatájit/: as one word or as two words?' The phrases $\mathscr{P}^1$ and $\mathscr{P}^2$ are very idiomatic with PISAT', lit. '[to] write': Russian says "*into* one word" and "separately" (rather than "as one word," "as two words." And again, neither $\mathscr{P}^1$ nor $\mathscr{P}^2$ obviously corresponds to an obligatory participant of the linguistic situation PISAT' '[to] write/spell'. But are they its circumstants? (With English [*to*] SPELL, things look differently: the indications of how to spell might be obligatory participants of the SIT(SPELL), due to the special meaning of this verb.)

Confronted with such cases, we have two options:

– Solution I: we treat $\mathscr{P}$ as a syntactic circumstantial/modifier that does not correspond to a SemA(L) nor to a participant of the SIT(L), but is phraseologically-bound by L; the use of $\mathscr{P}$ is described by means of a lexical function of L. In *Brake for moose!*, the phrase *for moose* is then syntactically a circumstantial of goal, not an actant; its phraseological character is captured by a nonstandard LF; see 3.3.1. In the corresponding SIT(L), the braked-for entity would be a circumstant, not a participant.

– Solution II: we broaden the notion of participant of SIT(L), admitting optional participants, which underlie optional SemA-slots; we then treat '$\mathscr{P}$' as an optional SemA(L). In the corresponding SIT(L), the braked-for entity is then a participant (although an optional one).

Boguslavskij (1990) has shown that, in some cases, Solution II is inapplicable (cf. the analysis of examples (14)–(16), next subsection); I will show that in some cases, Solution I is inapplicable, too. It follows that both solutions are needed — for different cases; for a principled choice between the two solutions some special criteria are necessary.

3.3.1. *Lexical functions for phraseologically-bound circumstantials.* Russian has a series of idiomatic expressions of the type of *pisat' **s** zaglavnoj/stročnoj bukvy*, ***lit.*** '[to] write *from* a capital/lowercase letter' = '[to] spell with a capital/lowercase letter', or *pisat'* čerez *defis/bukvu O*, lit. '[to]

write *through* a hyphen/the letter O' = '[to] spell with a hyphen/the letter O' (examples from Plungjan and Raxilina 1998: 118); cf. as well *pisat'* slitno/vmeste/v odno slovo, lit. '[to] write fusedly/together/into one word', vs. *razdel'no/v dva slova*, lit. 'separately/into two words'. The choice of these prepositions and special adverbials must be specified under PISAT' '[to] write' in its lexical entry. However, the expressions *s zaglavnoj/stročnoj bukvy* and *čerez defis/bukvu O*, etc. do not correspond to obligatory participants of SIT(PISAT') and do not require corresponding SemA-slots in its definition. This belief is of course intuitive: I simply do not want all these various expressions to be mentioned in the definition of PISAT'. Whether I am right or wrong is irrelevant: my point is to insist that IF these expressions are not reflected in L's definition, THEN they are not SemAs(L). The definition of L must cover, with its SemA-slots (= Sem-variables X, Y, Z, . . .), all and only SemAs of L but nothing else. If a variable X appears in the definition of L, the meaning '$\mathscr{P}$' corresponding to this variable is a SemA(L); if '$\mathscr{P}$' is not a SemA(L), it should not correspond to a variable in the definition of L. The inverse is also true: If '$\mathscr{P}$' is a SemA of L it has to have a corresponding SemA-slot (= a variable) in the definition of L. Therefore, I posit the following principle: only a SemA of L may have, and any SemA of L must have, a SemA-slot in the definition of L.

The question asked in Plungjan and Raxilina (1990) "Circumstantials in the definition?" thus receives a clear negative answer, "By no means." No circumstantial of L can have a slot in the definition of L and be represented by a variable — even if this variable is of a different type than those used for the actants. (We mean, of course, syntactic circumstantials that do not correspond to SemAs(L), since a SemA can be implemented by a syntactic circumstantial, as in *John behaved* poorly or *John stayed* home.)

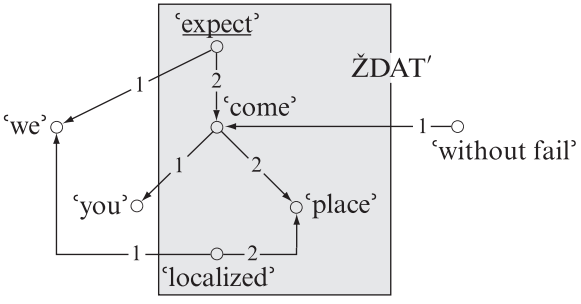
But then, as we just saw, L can have highly idiomatic syntactic dependents that are not L's SemAs, and yet still must be indicated in L's lexical entry. Therefore, a technique is needed to describe the nonactantial subset of phraseologically-bound dependents of L in L's entry, but outside of L's definition and government pattern. Such a technique exists: this is the use of lexical functions, already mentioned above, 3.2.3.

As soon as we get a Synt-dependent $\mathscr{P}$ of L that has an idiomatic expression as a function of L but is not a SemA of L, a (standard or nonstandard) LF can be introduced to specify the form of $\mathscr{P}$ in L's lexical entry. Let me show how this can be done, using an example from Boguslavskij (1990: 148), where some obvious circumstantials of L are phraseologically-bound by L.

(14) Nepremenno/Objazatel'no *ždëm vas v četverg*,
lit. 'Without fail/Obligatorily we-expect you on Thursday',

which means of course, 'We expect you to COME [where we will be] on Thursday without fail'.

In the starting SemR of sentence (14), the meaning of *nepremenno/objazatel'no* characterizes the predicate '[to] come', that is, this meaning is a predicate that has 'come' as its argument. Under lexicalization of this SemR, the semanteme '[to] come' becomes a component inside the definition of ŽDAT′ '[to] expect someone to come'. In sentence (14) itself, *nepremenno/objazatel'no* is syntactically a circumstantial of ŽDAT′, while semantically it continues to bear on the semanteme '[to] come', which is INSIDE the meaning of ŽDAT′: 'come ←1— without.fail' (in Boguslavskij's terms, *nepremenno/objazatel'no* has in (14) an INTERNAL scope).



Importantly, such a use of circumstantials is highly restricted lexically:

– Other similar verbs, even semantically very close to ŽDAT′, such as PRIGLAŠAT′ '[to] invite' ≈ '[to] ask to come', do not admit these circumstantials:

(15) a. **Nepremenno/*Objazatel'no priglašaem vas v četverg*,
lit. 'Without fail/Obligatorily we-invite you on Thursday'.

– Other similar adverbs are not admitted with ŽDAT′ as circumstantials of the above type:

(15) b. **Bez opozdanija/*Navernjaka/*Zaprosto ždëm vas v četverg*,
lit. 'Without coming late/Surely/Without ceremony we-expect you on Thursday'.

– Even with a different form of ŽDAT′ or with a different DirO of ŽDAT′, these circumstantials may be impossible:

(15) c. (i) *My *nepremenno/*objazatel'no ždali vas v četverg*,
lit. 'Without fail/Obligatorily we-expected you on Thursday'.

(ii) **Nepremenno*/**Objazatel′no ždëm ix v četverg*,
lit. 'Without fail/Obligatorily we-expect them on Thursday'.

The impossibilities in (15c) are due to the fact that in order to accept this type of circumstantial, ŽDAT′ must be used in a sort of speech act with a "hidden" imperative: 'Come without fail/obligatorily!'

All these complex conditions on the use of NEPREMENNO and OBJAZATEL′NO with ŽDAT′ can be naturally accommodated in the formalism of LFs — by using the following nonstandard LF:

ŽDAT′ '[to] expect Y to come' ['X ždët Y-a' ≡ 'X expects that Y will come where X is']

....

`X being 1st person and Y 2nd person, so that there should be no probability of Y's not coming`	:	nepremenno, objazatel′no | Ž. in pres/fut, ind, affirmative sentence [= in a speech act of invitation]

Boguslavskij (1990) also considers another type of circumstantial that has an internal scope, but is lexically unrestricted:

(16) *My ždali tebja zavtra/s ženoj/iz Moskvy,*
lit. 'We were expecting you$_{SG}$ tomorrow/with [your] wife/from Moscow'.

Again, such circumstantials semantically bear on the semanteme 'come', which is within the meaning 'expect N to come', and again they are restricted to the verb ŽDAT′. Thus, they do not combine, for example, with PRIGLAŠAT′ '[to] invite': **My priglašali tebja* zavtra/iz Moskvy (*My priglašali tebja s ženoj* is, however, okay). These circumstantials also need to be specified in the lexical entry of ŽDAT′, and this can also be done by means of other nonstandard LFs:

ŽDAT′ '[to] expect Y to come'

....

`the moment of Y's coming being T`	:	Loc_{in} N=T, ADV_{temp}=T
`Y coming with/without W`	:	s 'with'/bez 'without' N=W
`Y coming from W`	:	Loc_{ab} N=W

As far as I can judge, all examples from Boguslavskij (1990) are covered by this technique in a systematic and homogeneous way.

In point of fact, Boguslavskij (1990) raises a very important general question, developing further, in a sense, a fundamental observation of J. McCawley about internal scope of some adverbials (McCawley's famous example — borrowed from J. L. Morgan — is *He almost killed John*.

This sentence has three readings contingent on which semantic component of [*to*] KILL the adverb ALMOST bears: 1) he almost tried to hit John, 2) he almost hit John, and 3) John almost died as a result of being hit: McCawley (1970: 241). This question is: how do we carry out the lexicalization of semantic elements that bear on a semantic element that is INSIDE a configuration of semantemes lexicalized as a whole, by an LU?

Suppose the SemR has a configuration 'σ_1' → 'σ_2' that can be lexicalized by the LU L: 'L' = 'σ_1' → 'σ_2'. Now, 'σ_2' has another semantic governor: 'σ_2' ← 'σ_3'; what about the lexicalization of 'σ_3'? In some cases L('σ_3') can become a circumstantial of L. Thus, in Rus. *Ivan vkusno poel*, lit. 'Ivan ate tastily' = 'Ivan ate tasty food', VKUSNO 'tastily' [= 'σ_3'] semantically bears on the understood object of EST′ '[to] eat', that is, on 'food' [= 'σ_2'], while syntactically it is a circumstantial of EST′. If we use a causative of EST′ and say *Maša vkusno nakormila Ivana*, lit. 'Masha tastily fed Ivan', VKUSNO becomes a circumstantial of KORMIT′ '[to] feed' = '[to] cause to eat', continuing semantically to characterize 'food'. However, in a similar situation with UMERET′ '[to] die', UBIT′ '[to] kill' ≈ '[to] cause to die' (where 'die' = 'σ_2') and the adverbial V UŽASNYX MUČENIJAX 'in terrible sufferings' [= 'σ_3'], the same operation is impossible: *Ivan umer v užasnyx mučenijax*, lit. 'Ivan died in terrible sufferings', but not **Maša ubila Ivana v užasnyx mučenijax*, lit. 'Masha killed Ivan in terrible sufferings'. This is so because the phrase V UŽASNYX MUČENIJAX must semantically bear on the SemA X of 'die', whose expression must be the syntactic subject of the clause: V UŽASNYX MUČENIJAX is syncategorematic. A third case is presented in *Ivan napilsja do čërtikov*, lit. 'Ivan drank himself into seeing little devils': the phrase DO ČËRTIKOV [= 'σ_3'] semantically also bears on the SemA X of 'drinking', but the latter, namely, the person drinking, need not to be realized as the syntactic subject of the clause for the phrase DO ČËRTIKOV to be acceptable; therefore, DO ČËRTIKOV can be a syntactic circumstantial of the corresponding causative: *Maša napoila Ivana do čërtikov*, lit. 'Masha made-drink Ivan into seeing little devils'.

I mention all these facts in order to show to what extent Boguslavskij was right in 1990, when he was saying that a new type of rules is needed to cover circumstantials under lexicalization, especially — circumstantials that are phraseologically-bound. I believe that these rules are nothing else but nonstandard lexical functions in the entry of the LU controling these circumstantials. Thus, VKUSNO is a nonstandard LF of EST′ (note that you do not have **On vkusno popil* 'He drank (a) tasty drink(s)'), V UŽASNYX MUČENIJAX is a nonstandard LF of UMERET′ (**On pogib v užasnyx mučenijax* 'He died a violent death in terrible sufferings'), and DO ČËRTIKOV, that of NAPIT′SJA and NAPOIT′ (note again the impossibility of **On pil do čërtikov*, lit. 'Ivan was drinking himself into seeing little devils').

In (14)–(16), it is not advisable to use SemA-slots to describe the data presented (see Boguslavskij 1990: 145–147), at least for three reasons:

– The dubious sentence elements are, as far as their meaning and role are concerned, typical circumstantials. (There is no doubt that they are circumstantials with '[to] come'.)

– They do not correspond to obligatory participants of the SIT(L); they are not even characteristic of the prototypical SIT(L). True, SemAs that correspond to optional participants of SIT(L) will be admitted (see 3.3.2 below); but the elements in question cannot be shown to be even optional participants.

– They are syntactically compatible alongside the same L (*Nepremenno ždëm tebja zavtra s ženoj k obedy* 'We expect you without fail tomorrow with your wife for lunch'), which would entail too many different SemActants.

Here is one more example in which Solution I seems necessary.

(17) Rus. PISAT′ '[to] write/[to] spell', considered above; nonstandard LFs work here all right: PISAT′ '[to] write' [= *X writes Y with Z on W*]

```
....
making the first letter of Y a capital   : s bol′šoj/zaglavnoj/propisnoj bukvy,
                                           lit. 'from a capital/uppercase letter'
making the first letter of Y lowercase   : s malen′koj/stročnoj bukvy,
                                           lit. 'from a small/lowercase letter'
using a letter U                         : čerez 'through' N=U
using a hyphen                           : čerez defis 'through a hyphen'
leaving a space between two letter       : razdel′no, v dva slova,
strings                                    lit. 'separately, into two words'
leaving no space between two letter      : vmeste, slitno, v odno slovo, bez
strings                                    probela, lit. 'together, fusedly, into
                                           one word, without space'
```

To cover all these phraseologically-bound expressions by SemA-slots in the definition of PISAT′ is linguistically unacceptable: this would create too many different SemAs, which semantically do not at all resemble what we intuitively perceive as SemAs.

Thus, in some cases the technique of LFs for describing phraseologically-bound circumstantials is necessary. It is so powerful that it CAN be used in all cases when the researcher needs to express the restricted syntactic and/or lexical co-occurrence controlled by an LU L. However, another question is when it SHOULD be used. Very often the problematic X seems to be an actant rather than a circumstantial. When confronted with

such a difficulty, the researcher might prefer the other technique: an *optional actant slot*, based on an optional participant of SIT(L).

3.3.2. *Optional participants of a SIT(L).* Consider three cases in which the use of an optional participant of the SIT(L) — and consequently of an optional SemA-slot — seems warranted to describe the behavior of a phrase $\mathscr{P}$ phraseologically-bound by L.

'*Eat/drink*' *verbs and the container of food/drink*. This is a typical case of a dependent $\mathscr{P}$ of L for which it not immediately obvious whether it is a SemA(L) or simply a circumstantial phraseologically-bound by L: the name of the container from which food or drink is taken by an eater and which depends on a verb meaning '[to] eat' or '[to] drink'. Russian says *est'* iz *tarelki* '[to] eat *from* a plate' and *pit'* iz *stakana* '[to] drink *from* a glass', while in French, the container of the food/drink is introduced with DANS 'in': *manger* dans *une assiette*, *boire* dans *un verre*. The preposition DANS is phraseologically-bound by 'eat/drink': it remains with all sort of occasional containers, like *est'* iz *ruk/manger* dans *les mains* '[to] eat *from* the hands (of someone)'.[14] Therefore, DANS has to be given in the entry for 'eat'/'drink'. Since the container is by no means an obligatory participant of the respective situations, it can be treated as a circumstant; the phrases *iz tarelki/dans une assiette/from a plate* are then described as circumstantials (that do not correspond to a SemA) and the preposition is specifed by a nonstandard LF:

	Rus. EST′	Fr. MANGER
`taking Y from the container Z :`	iz N=Z	dans N=Z

However, the name of the food/drink container does not feel like a circumstantial! In particular, if it is a circumstantial, then what type of circumstantial? Circumstantials form a hierarchy:

Sentential Adverbs > Time (including Duration) > Place > Manner > Cause > Goal > Means > Instrument

Circumstantials ⟵⟶ Actants

This is an ordering according to the degree of "circumstantial character" of the element under analysis. The prototypical circumstantials are situated towards the left-hand side of the hierarchy, sentential adverbs being the most "circumstantial" among circumstantials. The elements at the right-hand side of the hierarchy are closer and closer to actants, the instrument being more often an actant. Strictly speaking, the container

phrase with 'eat/drink' does not correspond to any one of the circumstantials on the list. Loosely speaking, however, the container might be categorized as an instrument of eating/drinking; but that is exactly what makes it be perceived as an actant.

True, the meanings 'eat'/'drink' do not presuppose a container for food/liquid. Yet the PROTOTYPICAL situation of eating/drinking by humans is to eat/drink using a container; even domestic animals eat and drink from something: a manger, a bucket, a trough, etc. So why not declare the food/drink container as an optional participant of eating/drinking and introduce the corresponding optional SemA-slot into the definitions of the verbs? As a result, we have something like 'X eats/drinks Y (from Z)'; the component in parentheses is an optional SemA-slot.

There is another important consideration that makes this solution almost inevitable. A noun like PLATE or GLASS (≈ 'artifact designed to be eaten/drunk from') necessarily has an LF Labreal$_{12}$: [*to*] EAT/[*to*] DRINK, that is, [*to*] *eat* [N] *from a plate*/[*to*] *drink* [N] *from a glass*; in this use, EAT/DRINK takes the name of the container as its SemA. Do we want to say that in (i) *John ate some rice*, (ii) *John ate some rice from my plate*, and (iii) *John was eating from my plate* we see different verbs [*to*] EAT? If we do not and in *eat from a plate*, PLATE is a SemA, the container from which food is taken must be a SemA in (i)–(iii). This consideration is introduced as a criterion for optional participants/SemAs, Subsection 3.3.3, Criterion 5b.

'*Die*' *verbs and the cause of dying*. Consider the sentence *John died of cancer*/*of a stroke*. German expresses the same thing as *an* [lit. 'on'] *Krebs*/*infolge* [lit. 'due to'] *eines Schlaganfalls* ⟨or: *an einem Schlaganfall*⟩ *sterben*; Russian says *umeret' ot* [lit. 'from'] *raka*/*ot insul'ta*, while in Polish, this becomes *umrzeć na* [lit. 'on'] *raka*/*na wylew krwi*.[15] Cf. as well *She died in childbirth*, Germ. *Sie ist bei* [= 'at'] *der Geburt gestorben*, Rus. *Ona umerla pri* [= 'at'] *rodax*, obsol. *rodami* [INSTR], Pol. *Zmarła przy* [= 'at'] *porodzie*, Fr. *Elle est morte en couches*; *John died in a car accident* or Fr. *Jean est mort dans un accident de voiture*; or else *die of natural causes*, Rus. *umeret' estestvennoj*/*svoej smert'ju*, lit. '[to] die [by] natural/one's own death$_{INSTR}$', Germ. *eines natürlichen Todes sterben*, lit. '[to] die a natural death's', Fr. *mourir de mort naturelle*/*de sa belle mort*, lit. '[to] die of natural death/of one's beautiful death'. The choice of the preposition or the whole expression of the cause is phraseologized and must be specified in the lexical entry of the 'die' verb. (Even more so, since many higher or lower synonyms of [*to*] DIE do not readily admit the expression of the cause: **Ona skončalas' pri rodax*/*estestvennoj smert'ju* 'She passed

away in childbirth/of natural causes', **On okočurilsja ot insul'ta* 'He croaked from a stroke'.) But the semantic decomposition of '[to] die' does not require the slot for the cause of death; therefore, the following nonstandard LFs can be used:

[to] DIE

. . . .

`which is caused by Y` : of N=Y | Y = illness; giving birth, in childbirth | Y = birthing

`which has no external cause` : of natural causes

(the same schema is applied to other languages).[16]

But again as above, although the Cause of death is not an obligatory participant of the linguistic situation denoted by [*to*] DIE[17] and does not give rise to an obligatory SemA-slot, in a prototypical linguistic description of human dying the Cause plays an important role. It seems preferable to make it into an optional participant/optional SemA-slot and write something like this: 'X dies (of Y)' ≡ 'X ceases to be alive (which is caused by Y)', where parentheses show the optionality of this SemA-slot.

A strong additional argument may be quoted in favor of this solution — the same as with [*to*] EAT/DRINK and the food/drink container. With names of illnesses and wounds, [*to*] DIE is a Real_1: *die of cancer*, *die of one's injuries*. Here the Cause of death is a SemA of [*to*] DIE; therefore, it must be a SemA with all other uses of DIE.

Note that, as illustrated in the examples above, the SemA 'cause' with DIE can be phraseologically-bound: *die* of *cancer*/in *childbirth*/of *natural causes*. But a phraseologically-bound expression of a SemA is a known phenomenon: cf. 3.2.3, Subcase (ii).

[to] *BRAKE and the purpose of braking*. Let us return to the road sign *Brake for moose!* Since the phrase *brake for* [N] is not free (the choice of the preposition FOR is constrained), it must be specified in the lexical entry for [*to*] BRAKE. However, *for* [N] by no means refers to an obligatory participant of 'braking'. Therefore, it must not be obligatorily reflected in the definition, that is, it does not necessarily get a SemA-slot. It can be described by a nonstandard LF:

[*to*] BRAKE

. . . .

`in order to avoid colliding with Z` : for N=Z

But it can as well be described by an optional SemA-slot:

'X brakes Y (for Z)' ≡ 'X causes that vehicle Y that X is driving stops (in order to avoid a collision of Y with Z)'

The expression *for* N will then be supplied in the government pattern (see Part II, 7) of [*to*] BRAKE. Thus, both descriptions are plausible; criteria allowing for a choice are offered below.

The technique of optional SemA-slots was proposed and used in Apresjan (1974: 124–125) and Mel'čuk (1974: 127) (optional Sem-slots for the Teacher and the School in the definition of UČIT'SJA '[to] learn'). It may help make our description more elegant without losing anything.

3.3.3. *An optional SemA-slot or a (nonstandard) lexical function?* The problem with optional participants/SemA-slots is that they seem to be arbitrary: one can add them at will, as soon as a situation of restricted lexical co-occurrence is encountered. Moreover, the use of an optional SemA-slot is formally equivalent to the use of an LF. Therefore, criteria are needed that would serve as a kind of formal clue for the researcher forced into a choice between the two descriptive techniques. I can propose five such criteria.

In an utterance, the phrase $\mathscr{P}$ is syntactically linked to (in most cases, depending on) L and phraseologically-bound by L. $\mathscr{P}$ can be described:

– either as a value of an LF(L) — Solution I;
– or as corresponding to an optional participant of SIT(L)/an optional SemA-slot of L — Solution II.

The choice is made according to the five criteria that concern:

1. the semantic role of $\mathscr{P}$ with respect to L;
2. the semantic homogeneity of different possible $\mathscr{P}$s;
3. the lexical boundness of $\mathscr{P}$ by L;
4. the semantic boundness of $\mathscr{P}$ by L;
5. the existence (in language $\mathscr{L}$) of some particular LFs relating L and $\mathscr{P}$.

I will take up these criteria in turn. They are formulated in such a way as to give a positive indication for Solution II.

1. Semantic role of $\mathscr{P}$

Prototypical circumstantials express the semantic roles that form the hierarchy mentioned above, 3.3.2; the "circumstantial character" of a sentence element $\mathscr{P}$ diminishes toward the right-hand end of the hierarchy, where circumstantials blend with actants.

Criterion 1

> The closer to the right-hand end of the circumstantial hierarchy the semantic role of $\mathscr{P}$ (with respect to L) is, the more preferable is Solution II, that is, the use of an optional SemA-slot to describe the choice of $\mathscr{P}$.

In the case of *Brake for moose!*, $\mathscr{P}$ = *for moose* is over the line to the right-hand side of the circumstantial hierarchy: Solution II is preferable.

2. Semantic homogeneity of $\mathscr{P}$s

Generally, an LU L can have less different Sem-actants than different circumstantials. Sem-actants are also more homogeneous than circumstantials in the following sense: a SemA corresponds to a semantically homogeneous class of expressions that all play the same semantic role with respect to L; a circumstantial corresponds to a heterogeneous class of expressions that play with respect to L rather different semantic roles. Different circumstantials of the same type (two locations, two times, two manners, etc.) can be combined with each other, that is, they can co-occur as codependents of the same L without being coordinated. However, if two actants co-occur they are of different types or else they are coordinated.

Criterion 2

> The less varied, or less heterogeneous, the $\mathscr{P}$s in question are the more preferable is Solution II, that is, the use of an optional SemA-slot.

Thus, in case of [*to*] BRAKE, we have just one homogeneous class of expressions (all phrases *for* N play the same role in the situation of 'braking'), while for PISAT′ we have many different heterogeneous $\mathscr{P}$s, which, in addition, are easily combinable: *Èto slovo pišetsja s zaglavnoj bukvy slitno čerez "o"* 'This word is spelled 1) using a capital letter, 2) as one word, 3) with an "o"'. According to Criterion 2, *for* N with [*to*] BRAKE is a SemA (an optional one), while the above $\mathscr{P}$s with PISAT′ must be described via LFs — otherwise we would have to introduce too many different SemA-slots.

3. Lexical boundness of $\mathscr{P}$s by L

In the prototypical case, the expressions of a SemA of L are controlled GRAMMATICALLY (= syntactically/morphologically) rather than lexically: L imposes the use of a structural word (preposition, conjunction) that introduces $\mathscr{P}$ or the morphological form of $\mathscr{P}$, but lexically $\mathscr{P}$s are free expressions (except for general semantic restrictions on L's corresponding SemA-slot). Phraseologically-bound circumstantials, on the other hand, tend to be LEXICALLY constrained by L, as we have seen in Boguslavskij's (1990) examples. Therefore, Criterion 3 can be posited:

Criterion 3

> The less lexical restrictions are imposed on $\mathscr{P}$s (i.e. $\mathscr{P}$s are restricted rather grammatically than lexically), the more preferable is Solution II (an optional SemA-slot).

For [*to*] BRAKE, the goal phrase is obligatorily introduced by the preposition FOR; otherwise, $\mathscr{P}$ is lexically not bound at all: [*to*] *brake for children* ⟨*dogs*, *drunken soldiers*, *old/young couples*, *fallen trees*, . . .⟩. But for PISAT′, with several $\mathscr{P}$s mentioned above, the choice of lexical units is restricted: *vmeste/slitno/v odno slovo* 'as one word' ⟨**kak odno slovo*, **odnim slovom*⟩, *razdel'no* 'as two words' ⟨**kak dva slova*, **dvumja slovami*⟩, etc.

We have, however, seen that the expression of a SemA can be lexically bound as well (3.2.3, Subcase (ii)); Criterion 3 — like the others — is not absolute.

4. Semantic boundness of $\mathscr{P}$s by L

The expression of a SemA is often constrained semantically, which means that a given SemA-slot can be filled exclusively by elements of a particular semantic class:

- you drink a LIQUID Y (from a CONTAINER Z);
- you write an EXPRESSION/SYMBOL Y with an INSTRUMENT Z on a SURFACE W;
- you pay a PERSON/ESTABLISHMENT Z MONEY Y; etc.

The need for such a semantic constraint leads to prefer having the corresponding variable in the definition of L, so that the suspected $\mathscr{P}$ is rather a SemA(L), which can well be optional.

Criterion 4

> If $\mathscr{P}$ is semantically constrained, then Solution II is preferable, that is, $\mathscr{P}$ is to be described rather as a SemA(L), its variable being semantically constrained in the definition of L.

Thus, with EAT/DRINK (3.3.2), $\mathscr{P} =$ *from* N is semantically constrained: it must be a container; with DIE, $\mathscr{P} =$ *of* N is also constrained: it is an illness or another internal cause (cf. examples (1) and (2), Subsection 3.2.1).

Technically, however, such semantic constraints still can be included into the corresponding LF, so that Criterion 4 again signals no more than a preference.

5. Semantic links between $\mathscr{P}$ and LFs of L

Criterion 5

Presence (in the lexicographic description of L) of some special LFs:

a) A name for the whole family of $\mathscr{P}$s which is an actantial noun — $S_i(L)$.

An actantial noun S_i for L is a general name for the corresponding DSyntA *i* of L. Thus, S_1 is the general name for the DSyntA I — *nomen agentis*, S_2 is the name for the DSyntA II — *nomen pacientis/objectis*, etc.

> If language $\mathscr{L}$ has a noun N such that any $\mathscr{P}$ can be referred to by N and N can be described as $S_i(L)$, then Solution II is to be preferred: $\mathscr{P}$ is rather a $SemA_i(L)$.

Thus, in Russian one eats *iz tarelki* 'from a plate', *iz bljudca* 'from a saucer', etc., and drinks *iz stakana* 'from a glass', *iz čaški* 'from a cup', etc. All these $\mathscr{P}$s have a common name N = POSUDA 'tableware; dishes, cups and crockery'; POSUDA can be described as S_3(EST′/PIT′), that is, 'what people eat and drink from'. This is a consideration in favor of treating *iz tarelki, iz bljudca*, etc. as an optional participant of the linguistic situation of eating/drinking and as an optional SemA(EST′/PIT′).

Similarly, in *lovit′ rybu udočkoj na červja/na motylja*, lit. '[to] catch fish [Y = II] with a rod [Z = III] on worm/on fly [W = IV]', all baits have a special name: NAŽIVKA 'bait' (just like in English), which can be described as S_4(LOVIT′ [*rybu*]) '[to] fish'. Consequently, *na červja*, etc. is a SemA(LOVIT′ [*rybu*]). (It is an optional participant/optional SemA-slot: one can fish with a rod without a bait.)

This criterion is again not absolute:

- in some cases, S_i is not very idiomatic, so that its existence cannot be used as a weighty argument in favor of an actantial treatment. Thus, for *to die*, S_2(DIE) = CAUSE, which is not idiomatic;
- worse, in other cases S_i does not exist at all. Thus, for [*to*] BRAKE we do not have an S_2: English has no word to denote the entity for which one brakes.

b) L is (a value of) a particular syntagmatic LF of $\mathscr{P}$.

> If in one of its uses L is such a value of an LF($\mathscr{P}$) that $\mathscr{P}$ is a DSyntA(L) [= L —i→ $\mathscr{P}$ and L = LF($\mathscr{P}$)], L must have an optional SemA-slot for the whole class of $\mathscr{P}$s' uses; therefore, Solution II is to be preferred.

In the phrase *drink from a glass*, L is [*to*] DRINK, GLASS being $\mathscr{P}$; DRINK = $Labreal_{12}$(GLASS): *drink* —III→ *glass*; therefore, in its lexicographic defini-

tion, [*to*] DRINK must have an optional SemA-slot for a vessel — in order to avoid discrepancy between the description of [*to*] DRINK in its general use and in its use as a Labreal_{12} with names of vessels. Similarly:

– in *sleep in a bed*, [*to*] SLEEP = Real_1(BED), so that *sleep* —II→ *bed*, and [*to*] SLEEP must have an optional Sem-slot for a 'sleeping' piece of furniture (or something with the same function, such as a sleeping bag or a hammock);

– in *die from cancer*, [*to*] DIE = Real_1(CANCER), so that *die* —II→ *cancer*, and [*to*] DIE must have an optional Sem-slot for a cause of death (in this case, illness).

None of the criteria (except maybe for 5b) is decisive. But the sum of their indications allows the researcher to make an appropriate decision, that is, to distinguish between optional participants and circumstants of linguistic situations. Thus, suppose a semantic element 'σ' expressed with L is actant-like but does not correspond to an obligatory participant of the SIT(L); then we try the five criteria on it: if they concur to single 'σ' out as an optional SemA, we take 'σ' to be a SemA and the corresponding entity, an optional participant of SIT(L); otherwise, this entity is a circumstant and we have recourse to lexical functions in order to describe the expression of 'σ'.

Now I can formulate the definitions of the optional participant of SIT(L) and that of participant of SIT(L).

Definition 3: optional participant of a SIT(L)

An element Ψ of the situation denoted by L is called its *optional participant* if and only if its expression in the sentence L(Ψ) satisfies most of the above five criteria (≈ is an optional SemA-slot(L)).

Definition 4: participant of a SIT(L)

An element Ψ of the situation denoted by L is called its *participant* if and only if it is its obligatory or optional participant.

Only semantic considerations are relevant to accepting an element Ψ of the situation SIT(L) as its obligatory participant: the impossibility to use L if Ψ is not taken into account. For optional participants a set of linguistic criteria is needed, both of semantic and lexico-syntactic nature; they have been presented in Subsection 3.3.3. Informally speaking, an element of the SIT(L) is an obligatory participant if without it L cannot be used to denote the situation; an element of the SIT(L) is an optional

participant if, although L can be used even without it, its expression is linked to L (in the utterance) in a way that satisfies our five criteria.

With the notions of optional participant and of participant of a SIT(L), the whole machinery is in place for a direct assault on the definitions of SemA-slot and of SemA.

3.4. *Sem-Actant slot and Sem-Actant*

3.4.1. *Definitions.*

Definition 5: Sem-Actant slot in a lexicographic definition

An SemA-slot for the meaning 'X' is introduced into the definition of L if and only if the following two conditions are simultaneously satisfied:

1) 'X' corresponds to a participant Ψ of SIT(L) [the semantic condition];
2) 'X' is expressible in the text [the lexico-syntactic condition].

A SemA-slot corresponding to an obligatory participant of the SIT(L) is, naturally, an *obligatory* SemA-slot; a SemA-slot corresponding to an optional participant of the SIT(L) is an *optional* SemA-slot.

Definition 6: active semantic valence of L (cf. Lehmann 1991: 16)

The set of all SemA-slots (obligatory+optional) of L constitutes the *active semantic valence* of L.

Now the concept of Sem-Actant is easy to define.

Definition 7: semantic actant

An LU $\mathscr{P}$ is a Sem-Actant of L in utterance $\mathscr{U}$ if and only if, in the semantic structure of $\mathscr{U}$, the meaning of $\mathscr{P}$, that is '$\mathscr{P}$', fills a SemA-slot (no matter obligatory or optional) of 'L'.

Examples

1. The English noun STOVE. A stove is an artifact where some fuel Ψ [obligatory!] burns (to be used for heating and/or cooking); since one can say *wood/charcoal/oil stove*, the meaning 'stove' has a SemA-slot for fuel: 'fuel X stove'.

2. The Russian noun SERDCEII 'heartII' in the sense 'presumed organ of feelings':

(18) a. *Ona razbila emu serdce*,
lit. 'She broke to-him [the] heart'. =
'She caused him utmost LOVE PAINS'.

b. *Kogda on vidit takoe, ego serdce oblivaetsja krov'ju*,
lit. 'When he sees such things his heart is bleeding profusely'. =
'Seeing such things causes him utmost PSYCHOLOGICAL PAIN'.

c. *Èto sogrevaet ego serdce*,
lit. 'This warms up his heart'. =
'This causes him JOY'.

d. *Ot ètogo u nego na serdce koški skrebut*,
lit. 'From this, at him on [the] heart cats are-scratching'. =
'This causes him utmost ANXIETY AND WORRY'.

e. *Kogda on uvidel Mašu, serdce u nego ušlo v pjatki*,
lit. 'When he saw Masha [the] heart by him went to [the] heels'. =
'Seeing Masha caused him utmost FEAR'.

f. *Èto emu kak maslom po serdcu* [pronounced /'pós'ircu/, rather than 'regular' /pas'ércu/],
lit. 'This to-him [is] as with-butter over heart'. =
'This causes him utmost PSYCHOLOGICAL PLEASURE'.

An expression including SERDCEII has at least two SemA-slots: X that causes a feeling (= *ona* 'she', *kogda on vidit* 'when he sees', *èto* 'this') and Y that experiences this feeling (= *on* 'he'). But what about the feeling itself? In each sentence of (18) a different feeling is expressed, and this corresponds to a different verb: RAZBIT′ '[to] break' means '[to cause] love pains', OBLIVAT′SJA KROV′JU '[to] bleed profusely' means 'psychological pains', etc. We have to conclude that this is a third SemA: Z, the feeling involved. As a result, SERDCEII has three SemA-slots:

serdce čeloveka Y [= II], *reagirujuščee na fakt/lico X* [= I] *čuvstvom Z* [= III],
lit. 'individual Y's heartII that reacts to fact/person X by feeling Z'.

True, the SemA-slot Z is expressed in a rather unusual way — by the main verb; this, however, does not contradict Definition 5. Moreover, the expressions of Z are phraseologically-bound by SERDCEII: they are values of its different LFs. For instance:

SERDCEII

`Z being joy,` Real_1	:	sogrevat′ [$\sim N_{dat}$=Y]	'[to] warm up'
`Z being love pains,` Real_1	:	razbit′ [$\sim N_{dat}$=Y]	'[to] break'
`Z being fear,` Fact_2	:	ujti v pjatki [u N_{gen}=Y]	'[to] go to heels'

This also, even if not widespread, is a known phenomenon: expression of a SemA by a phraseologically-bound expression; cf. 3.2.3, Subcase (ii).

3.4.2. *Some comments and examples.*

3.4.2.1. *No SemA-slots by analogy*. LUs that are very close semantically — near-synonyms, near-antonyms, near-conversives, different derivatives of the same lexeme — may have different Sem-valences. Consider, for instance, Russian verbal derivation with the circumfix *do-. . .-sja*. When a verb meaning 'X L-s Y' takes this circumfix, the resulting verb *do-L-sja* means '[to] suffer some bad consequences Z from having L-ed excessively', as in *do+čitat'+sja* [*do golovnoj boli*] '[to] suffer a headache from having read excessively', *do+žalovat'+sja* '[to] suffer some bad consequences Z from having complained excessively', *do+boltat'+sja* '[to] suffer some bad consequences Z from having chatted excessively', etc.; the pattern is extremely productive. Interestingly, the derived verb *do+L+sja* in most cases does not have all the SemA-slots of L (except for the 'subject' slot)*: čitat' romany* '[to] read novels', but *dočitat'sja *romanov*, *žalovat'sja roditeljam* '[to] complaint to the parents', but *dožalovat'sja *roditeljam*, *boltat' s sosedom* '[to] chat with the neighbor', but *doboltat'sja *s sosedom,* etc. The *do+L+sja* verb does inherit all the obligatory participants of 'L', but not the corresponding SemA-slots: they are BLOCKED by a sort of dummy, something like 'whoever/whatever it is' — a constant participant of the corresponding SIT(L). Thus, 'X boltaet s Y-om' ≡ 'X chats with Y', but 'X doboltalsja do Z-a' ≡ 'X suffered some bad consequences Z of having excessively chatted with whoever it was'.

Three more examples of a similar kind (from Plungjan and Raxilina 1998):

1. Rus. UČENIK2, lit. 'school student', has a SemA-slot for the school, while its very close synonym ŠKOL′NIK 'school kid' does not (because here 'school' is a constant):

(19) 'X, učenik2 Y-a' ≡ 'X, child or adolescent that goes to school Y'
= '(school) student' (*učeniki 276-oj školy* 'students of school 276')
vs.
'X, škol′nik' ≡ 'X, child or adolescent that goes to school'
= 'schoolkid' (**škol′niki 276-oj školy* 'schoolkids of school 276')

2. Rus. UČENIK1 'disciple', which is a *nomen agentis* of the verb UČIT′SJA '[to] study Z with Y', does not have all the SemA-slots which the verb has (although its SIT(L) has the same paticipants):

(20) 'X učitsja u Y-a Z-u' ≡ 'Person X studies Z with the person Y' (*Maša učitsja lingvistike u Apresjana* 'Maša studies linguistics with Apresjan')
vs.
'X, učenik1 Y-a' ≡ 'X, person who studies something with person Y' (*učenik Apresjana* 'Apresjan's disciple', but not *učenik *lingvistiki/*po lingvistike/*v lingvistike*)[18]

3. A different case is Rus. ÈMIGRANT 'emigrant', a *nomen agentis* of the verb ÈMIGRIROVAT′ '[to] emigrate' ('person X emigrates from country Y to country Z'):

(21) a. 'X èmigriruet iz Y-a v Z' ≡ 'X leaves X's country Y in order to settle permanently in a country Z'.

However, with the noun ÈMIGRANT, the target country Z cannot be expressed as its direct Synt-dependent:

(21) b. *èmigrirovat′ v Ispaniju* '[to] emigrate to Spain', but **èmigranty v Ispaniju* 'emigrants to Spain', **ispanskie èmigranty* 'Spanish emigrants'

[the expression *ispanskie èmigranty* is correct, but it means 'emigrants *from* Spain', not *'to Spain'; with ÈMIGRANT, an adjective referring to a country expresses the SemA Y].

Nevertheless, Russian has some expressions in which the name of the target country is linked to ÈMIGRANT via an "admissible" syntagmatic LF (a complex LF with $Oper_i$):

(21) c. *Kanada oxotno* prinimaet *èmigrantov iz Evropy*,
lit. 'Canada gladly receives emigrants from Europe',
where PRINIMAT′ is $Perm_3Oper_3$(ÈMIGRANT).

This is sufficient to posit a SemA-slot for the target country in the definition of ÈMIGRANT: 'X, emigrant from Y [to Z]'.

The obvious conclusion — in agreement with Plungjan and Raxilina (1998) — is that we should not ascribe SemA-slots to an LU by analogy with other LUs, no matter how similar they are in semantic or syntactic terms. In Mel'čuk (1974: 135) I gave the wrong impression that SemA-slots could be inherited or transferred to L from L's semantic parents. What I really meant were participants of the situation considered: these ARE inherited, which, however, does not necessarily mean the inheritance of SemA-slots. The meaning of Rus. PROMAXNUT′SJA '[to] miss [while shooting at something]' has the same participants as STRELJAT′ '[to] shoot': the Shooter, the Target, the Weapon, the Projectile; but it has a

SemA-slot only for the Shooter: *Ivan vystrelil v medvedja iz karabina, no promaxnulsja*, lit. 'Ivan fired at the bear from [his] carbine, but missed' vs. *Ivan promaxnulsja *v medvedja *iz karabina*, lit. 'Ivan missed at the bear from [his] carbine'. A synonymous expression *ne popast'* 'do not hit [while shooting at something]' has these SemA-slots: *Ivan ne popal v medvedja iz karabina*, lit. 'Ivan did-not hit the bear from [his] carbine'. Note that, for instance, [*to*] MISS — the English equivalent of PROMAXNUT'SJA — has two SemA-slots, one for the causer [= Shooter], the other for the undergoer [= Target]: *Ivan fired, but missed the animal*.

3.4.2.2. *Split variables*. English says [*to*] *comb Mary's hair* ⟨*[*to*] *comb Mary*⟩, while in Russian we have *pričësyvat' Mašu*, lit. '[to] comb Masha', or *pričësyvat' Mašiny volosy*, lit. '[to] comb Masha's hair', or else *pričësyvat' Maše volosy/golovu,* lit. '[to] comb [the] hair/head to-Masha'. This is taken care of as follows:

Eng. 'X combs Y with Z' ≡ 'X arranges the hair Y on the head of a person with a comb Z'.
Russ. 'X pričësyvaet Y Z-u W-om' ≡ 'X arranges the hair Y^1 on the head Y^2 of a person Z with a comb W'.

The variables Y^1 and Y^2, which appear in the Russian definition, are split variables (Subsection 3.2.2): they correspond both to one SemA-slot Y and are used to show that this slot can be saturated either by the designation of hair or by that of the head. The SemA-slot Y corresponds to two different participants of the situation '[to] comb' — the hair and the head — but it is only one SemA, since the expressions for hair and for head are incompatible in one sentence and there is a contiguity, or metonymic, semantic link between 'hair' and 'head'. (On incompatibility of the expressions of two SemAs, see Part II of this article (forthcoming), 4.4.2.) We have seen an example of split variables before — with [*to*] SMOKE; here is another one:

[*to*] HIT
(22) 'X hits Y with Z on W' ≡ 'Person X causes that X's body part Z^1 or an object Z^2 that X is holding in X's hand comes in a violent contact with the body part W of a being Y'
(*John hit the horse on the back with his fist/with a stick*).[19]

3.4.2.3. *Numbering of SemA-slots*. The SemA-slots(L) are numbered as follows: the number *i* of the given SemA-slot(L) A_i is determined by the predicate meaning (inside 'L') of which A_i is a SemA. Thus, for [*to*] HIT, *X hits Y*, X is a SemA of 'cause', that is, a Causer: 'X causes that X's

body part or an object …'. Similarly, for [*to*] LOVE, *X loves Y*, X is a SemA of 'experience', that is, an Experiencer: 'X experiences a feeling caused by Y …'; etc. The number 1 is attributed to the SemAs bearing the following semantic roles (the list is far from exhaustive):

the Causer	:	'John' ←1— 'hit' —2→ 'Mary' (*John hits Mary*)
the Experiencer	:	'John' ←1— 'love' —2→ 'Mary' (*John loves Mary*)
the Localized	:	'John' ←1— 'be2' —2→ 'Paris' (*John is in Paris*)
the Characterized	:	'John' ←1— 'weighs' —2→ '70 kilos' (*John weighs 70 kilos*; *John's weight is 70 kilos*)
	:	'John' ←1— 'is.handsome' (*John is handsome*)
the Moving (body)	:	'John' ←1— 'goes to' —2→ 'Paris' (*John goes to Paris*)
the Essant[20]	:	'John' ←1— 'be1' —2→ 'boy' (*John is a boy*)
the Comparand	:	'John' ←1— 'taller' —2→ 'Mary' (*John is taller than Mary*)
the Whole	:	'John' ←1— 'head' (*John's head*; *the roof of the house*)
the Possessor	:	'John' ←1— 'own' —2→ 'car' (*John owns a car*)

Other SemA-slots of the same L are numbered consecutively (without "holes"), based on the same type of conventions. The counterparts of the semantic roles considered — namely, the Undergoer (of a causation), the Object of experience, the Location, etc., are SemAs 2. The SemA that "follows" the SemA 2 is given the number 3; etc. (Thus, in *John tells Mary the story*, 'John' as the Causer is the SemA 1, 'story' as the Undergoer is 2, and 'Mary' as the Addressee is 3.)

Remarks

For a discussion of the Sem-roles, their ordering and fine-grained meaning analysis, see, for example, Wechsler (1995: 9 ff.). For the present approach, these problems are rather marginal.

Names of Sem-roles are introduced here exclusively for the ease of presentation. They do not appear in utterance representations and are never used in formal reasoning; these names are no more than pedagogically convenient abbreviations.

3.4.2.4. *Three case studies.* To illustrate the decision-making process with respect to SemA-slots, here are three cases where the SemA status of a sentence element is not obvious (examples have been proposed by E. Raxilina; the "suspicious" sentence element is boldfaced). Let me em-

phasize that in these cases, the key to the solution is a sharper distinction of lexicographic senses: a phrase $\mathscr{P}$ whose actantial status is dubious with respect to an "untreated" lexical item turns out to be a SemA, and often an obligatory one, as soon as we properly distinguish the lexical units.

Case 1. Rus. LOVIT′ '*[to] catch*' *and* BROSIT'SJA '*[to] throw oneself*'

(23) Rus. *lovit′* [*rybu*] ***na červja/na motylja*** [$=\mathscr{P}$] '[to] fish with worms/ with grubs'.

The treatment of $\mathscr{P}$ in (23) via a nonstandard LF is of course possible. But here the expression $\mathscr{P}$ seems to be a Sem-actant even more than a container with 'eat'/'drink':

– semantically, $\mathscr{P}$ does not fit at all into the picture of circumstantials: Criterion 1;

– the $\mathscr{P}$s are homogeneous and are not lexically bound (*na muxu* 'with a fly', *na strekoz* 'with dragon flies', *na kusoček kolbasy* 'with a piece of sausage'): Criteria 2 and 3;

– $\mathscr{P}$ is not semantically constrained in the definition of LOVIT′, so that Criterion 4 gives us no indication;

– as I said above, Russian has a name for all possible baits: NAŽIVKA (Criterion 5a); and *lovit′* is Labreal_{12}(NAŽIVKA) (Criterion 5b).

All criteria that apply provide converging positive indications — the bait must have a SemA-slot:

'X lovit rybu Y Z-om (na W)' ≡ 'X is trying to catch fish Y with a tool Z (with bait W)'.

Since bait is not obligatory in the situation of fishing, this is an optional participant/an optional SemA-slot.

The type of description proposed presupposes a fine sense discrimination — that is, a very detailed analysis of each lexical item into separate lexemes. Thus, LOVIT′ in *lovit′ rybu* '[to] fish' must have a separate lexicographic entry. Among other things, this LOVIT′ has some derivatives that other verbs LOVIT′ do not have, and vice versa: thus, Russian has *rybnaja lovlja*, *rybalka* 'fish-catching' ($=\text{S}_0$(*lovit′ rybu*), *rybolov* 'man actually engaged in fishing', *rybak* 'fisherman', etc., but no **nasekomaja/* **babočkovaja lovlja* 'insect-catching, butterfly-catching', **nasekomolov/* **babočkolov* 'insect-catcher, butterfly-catcher'; *lovlja nasekomyx/baboček* 'insect/butterfly catching' is fine and neutral, but **lovlja ryb* 'fish-catching' does not exist, while *lovlja ryby* refers to a regular, professional occupation.

Similarly, consider Rus. *brosit'sja* ***pod poezd*** ⟨***pod mašinu***⟩, lit. 'to throw oneself under [a] train/[a] car [as a way of suicide]'; German, for instance, says it differently: *sich* ***vor*** *einen Zug* ⟨***vor*** *ein Auto*⟩ *werfen*, lit. '[to] throw oneself in-front-of a train/a car'. Do Rus. BROSIT'SJA and Germ. SICH WERFEN have a SemA-slot for a moving vehicle or would it be better to introduce a nonstandard LF for these verbs? Criteria 1–4 are in favor of Solution II (a SemA-slot): here $\mathscr{P}$s are not typical circumstantials, they are semantically homogeneous, not lexically bound and semantically constrained ('a moving vehicle'); Criterion 5 does not give positive indications: Russian and German do not have a special name for the vehicle used as a tool of suicide; and obviously the verbs in question are not LFs of the vehicle names. But since most criteria suggest a SemA-slot, we conclude that the phrase Rus. POD N_{acc}/Germ. VOR N_{acc} is a SemA of the respective verb. This conclusion is justified: in all probability, the LU in question is a special sense of the verb under analysis, that is, a separate lexeme with the meaning 'X throws himself under moving vehicle Y with the goal of committing suicide', where the name of the vehicle Y is even an obligatory SemA-slot. With, for instance, *brosit'sja s balkona/s mosta*, lit. '[to] throw oneself from [a] balcony/[a] bridge' [also in order to commit suicide], the preposition *s* is not selected as a function of the verb: *prygnut' s balkona/s mosta* '[to] jump from [a] balcony/[a] bridge'. On the other hand, one can *brosit'sja s balkona/s mosta v vodu* without any intention to commit suicide. However, *vybrosit'sja iz okna*, lit. '[to] throw oneself from [a] window' can mean only an attempt at a suicide; here *iz okna* is also a SemA of this particular sense of VYBROSIT'SJA.

Case 2. Rus. OŠIBAT'SJA *'[to] make a mistake'*

The Russian verb OŠIBAT'SJA '[to] err' = '[to] make a mistake' can be used without any dependent: *Ja ošibsja* 'I made a mistake', *On ošibaetsja* 'He is wrong'; this is quite a typical use. On the other hand, it admits three types of Synt-dependents which refer to the domain/the entity with respect to which the mistake was made:

(24) a. *On ošibsja* ***v nej*** [= $\mathscr{P}$], lit. 'He erred in her'. = 'He was wrong in his opinion of her', but not **v Moskve* '[He was wrong in his opinion] of Moscow'.

b. *On ošibsja* ***v rasčëtax*** ⟨***vyčislenijax***, ***vykladkax***, ***diagnoze***⟩ [= $\mathscr{P}$],
lit. 'He erred in [his] calculations ⟨diagnosis⟩',
but not **v doroge* 'in [his] road', **vo mnenii* 'in [his] opinion', *v *rešenii* 'in [his] solution'.

c. *On ošibsja* ***dver'ju*** ⟨***adresom***, ***nomerom*** [***telefona***]⟩ [= $\mathscr{P}$],
lit. 'He erred by door [INSTR] ⟨by address, by phone number⟩'. =
'He entered/knocked on a wrong door ⟨used a wrong address, dialed a wrong number⟩', but not **drugom* '[took] a wrong friend', **mneniem* '[shared] a wrong opinion'.

On the one hand, these $\mathscr{P}$s are semantically constrained, on the other, they look rather heterogeneous; what are they with respect to the verb? I think they are SemAs, but of three different lexemes of the verb OŠIBAT′SJA. The semantically constrained character of $\mathscr{P}$s does not interfere with their Sem-Actant status; on the contrary, according to Criterion 4 it is a positive indication. And if OŠIBAT′SJA is split into three lexemes, they cease to be heterogeneous! More specifically: OŠIBAT′SJA 1 is semantically related to NAPRASNO, lit. 'to be wrong in ...':

(24) d. *On ošibsja v nej* ≈ *On naprasno dumal o nej tak, kak on dumal,*
lit. 'He was wrong in thinking of her so'.

OŠIBAT′SJA2a has a S_0 = OŠIBKA1, with $Oper_1$ = DOPUSTIT′, so that OŠIBAT′SJA2a ≡ DOPUSKAT′ OŠIBKU1:

(24) e. *On dopustil ošibku v rasčëtax* ⟨*vyčislenijax, vykladkax, diagnoze*⟩,
lit. 'He admitted a mistake in [his] calculations ⟨diagnosis⟩'.

OŠIBAT′SJA2b has no such paraphrase, but admits another one, with PO OŠIBKE 'by mistake':

(24) f. *On vošël v ètu dver′ po ošibke,* lit. 'He entered this door by mistake';
On nabral ètot nomer po ošibke, lit. 'He dialed this number by mistake'.

Russian has another noun OŠIBKA — OŠIBKA2, also meaning 'mistake', with $Oper_1$ = SOVERŠIT′; for this OŠIBKA2 there is no verb (OŠIBAT′SJA cannot be used in the corresponding contexts):

(24) g. ***Pojdja tuda****, ja soveršil ošibku* 'Going there I made a mistake', but not *Pojdja tuda, ja *ošibsja*.

OŠIBKA2 also has two SemA-slots, and the SemA Y is expressed in (24g) by a *deepričastie* phrase. Another expression of this SemA-slot is by an infinitive via the LF $Oper_1$(OŠIBKA2) = BYT′ '[to] be':

(24) h. ***Pojti tuda*** *bylo ošibkoj* 'To go there was [a] mistake'.

For all three verbs OŠIBAT′SJA, the domain of mistake is an obligatory participant, so that here the $\mathscr{P}$s in question are SemAs beyond any doubt. (The above semantic analysis of OŠIBAT′SJA follows the main lines of Apresjan 2000b.)

Case 3. Rus. PET′ *'[to] sing' (Plungjan and Raxilina 1998: 117)*

The Russian verb PET′ '[to] sing' can be used in the following way:

(25) *On pel* ***dlja škol′nikov*** ⟨***dlja pensionerov***, ***dlja ranenyx soldat***⟩ [= $\mathscr{P}$]
'He sang for schoolkids ⟨retired people, wounded soldiers⟩'.

Does the phrase meaning 'for Z' correspond to a SemA-slot of PET′? In my opinion, it does, but again, only with a special sense (= lexeme) of PET′: 'person X sings musical piece Y for the benefit of public Z'. (Here the SemA-slot Z is obligatory.) Similar polysemy is observed with the verbs TANCEVAT′ '[to] dance' and IGRAT′ '[to] play music'; all these verbs have an additional sense '... performing for Z'. Note that *čitat′ stixi* '[to] recite poetry', *žonglirovat′* '[to] juggle', *pokazyvat′ fokusy* '[to] do conjuring tricks' and *vystupat′* '[to] perform' also have the (obligatory) SemA-slot 'public Z', which is realized in a different way: *čitat′ stixi* and *pokazyvat′ fokusy* take an indirect object N_{dat}, while *žonglirovat′* and *vystupat′* govern the prepositional phrase PERED 'before' + N (*DLJA 'for' + N). All criteria of Sem-actanthood supply positive indications:

– the semantic role of $\mathscr{P}$ (= addressee) is not typical for circumstantials;

– $\mathscr{P}$s in (25) are very homogeneous and lexically not bound;

– they must be semantically characterized in the definition of the verb as a possible audience;

– there are a special S_0 = VYSTUPLENIE ≈ 'performance' and a special S_3 PUBLIKA 'public', SLUŠATELI 'listeners'/ZRITELI 'spectators';

– the generic verb for this family — VYSTUPAT′ [*pered* N] '[to] perform [for N]' — is a $Real_1$(PUBLIKA, SLUŠATELI, ZRITELI).[21]

3.5. *Diathesis of the lexical unit L: SemA-slots(L) ⇔ DSyntA-slots(L)*

Our next step must be an examination of the correspondence between semantic (= Sem-) and deep-syntactic (= DSynt-)actant slots of the same LU L, that is, of L's diathesis.

Definition 8: diathesis

> The correspondence between the SemA-slots(L) and DSyntA-slots(L), that is, SemA-slots(L) ⇔ DSyntA-slots(L), is called the *diathesis* of L.

This formulation also covers, of course, the cases where either a SemA-slot(L) does not correspond to a DSyntA-slot(L) (see 3.7), or a DSyntA-slot(L) does not correspond to any SemA-slot(L) (see Part II, 6.2). Note that even when a SemA-slot corresponds to a DSyntA-slot, the latter can be blocked, that is, its saturation by an expression on the surface may be impossible (under particular conditions); yet this DSyntA-slot is present in the diathesis as such. Formally, the diathesis of an LU L is described by L's *government pattern* [= GP(L)]; for a detailed discussion of the notion of GP, see Part II, 7. (See Padučeva 1997, 1998, 2002 for a similar, but different concept of diathesis. The major difference is that Padučeva includes in the notion of diathesis a third correspondence, namely that with communicative ranks of the elements in question. I completely agree that the diathesis — even in my narrower sense — is intimately and essentially related to the communicative structure of the utterance, but I am not sure that these links should be part of the diathesis itself. For the time being, I prefer a poorer, that is, simpler, notion of diathesis supplied — so to speak, on the outside — with communicative specifications.)

The association between SemA-slots and DSyntA-slots of an LU can, at least partially, be subject to some general regularities concerning the link between the semantic role of a given SemA and the type of the DSyntA that expresses it: in language $\mathscr{L}$, with a verb of such and such a type, the actor corresponds to the DSyntA I, the experiencer to the DSyntA II, etc. Then the following question can be asked: to what DSyntA-slots(L) can a SemA-slots(L) with a given semantic role correspond in principle?[22]

This relationship is known as *linking*, or *alignment* (see, e.g., Davis and Koenig 2000). Although the linking is not one of the goals in this article, I will allow myself three remarks.

- The regularities controlling the linking of SemA-slots to DSyntA-slots of L include the following: In English, the SemA-slot 'experiencer' of a verb V cannot be expressed by the DSyntA II of the corresponding present participle $V_{part.pres}$ in a $N+V_{part.pres}$ compound (Grimshaw 1990: 15–16).

This claim can be illustrated by the contrast in (26):

(26) **man-frightening god* vs. *man-hating god*
**parent-satisfying fun* vs. *fun-adoring parents*.

In MAN ←—II— FRIGHTEN, 'man' is the experiencer of 'fright', and the $N+V_{part.pres}$ compound is impossible; in MAN ←—II— HATE, 'man' is the object/source of 'hate', and the compound is fine. The SemA 'patient' or 'perceived' can also be expressed by a DSyntA II in $N+V_{part.pres}$ com-

pounds: *man-eating tigers*, *gift-bringing visitors*, *bird-watching tourists*, etc.

• Generally speaking, SemA-to-DSyntA linking is far from regular: a lexeme can have two different diatheses, that is, two types of linking; cf. well-known examples:

(27) *supply food* [= II] *to the peasants* [= III]
~ *supply peasants* [= II] *with food* [= III]
load hay [= II] *on the truck* [= III] ~
load the truck [= II] *with hay* [= III]
spray paint [= II] *on the wall* [= III] ~
spray the wall [= II] *with paint* [= III]

Here, the same SemA-slots correspond to different DSyntA-slots. (Formally, either such a lexeme has two different GPs or there are two different, but semantically very close lexemes.)

Numerous facts of this nature make it impossible to describe linking by general rules; the GP, where linking for the headword L is specified by direct listing is a necessity.

• The linking characteristic of L, that is, L's diathesis, can be changed by inflection/derivation applied to L. Two cases have to be distinguished:

– Linking is changed without changing the semantic valence of L; in other words, no SemA-slots are added to or subtracted from L, so that we have a "pure" diathesis modification. The best known diathesis-modifying inflectional category is *voice* (see Mel'čuk 1997b).

– Linking is changed together with changing the semantic valence of L: SemA-slots are added or subtracted. The most common morphological categories that involve the modification of the Sem-valence of L are:

1) adding SemA-slots to L: *causative*, *applicative*, and *possessedness*;
2) subtracting SemA-slots from L: *decausative*.

For more details on changing the semantic valence, see below, 3.8.

3.6. *Obligatory/optional saturation of SemA-slots*

The obligatory/optional character of the saturation, or EXPRESSION, of a SemA-slot by a DSyntA has been widely discussed (cf., for instance, Mosel 1991: 244–250, Helbig 1992: 103 ff.). Obligatory expression is even commonly taken as a defining property of actants in their opposition to circumstantials (= nonactants). However, most discussions do not state explicitly exactly what kinds of actant slots/actants are in question. In this article, the statement "expression of ... is ⟨is not⟩ obligatory" concerns

only SemA-slots: for each SemA-slot it must be indicated whether its expression by a DSyntA is obligatory or it can remain verbally unsaturated, perhaps under specific conditions.[23] (There is no need to characterize DSyntA-slots from this viewpoint: if a SemA-slot is obligatorily expressed, this simply means that the corresponding DSyntA-slot is obligatorily expressed.) Thus, a SemA-slot can be:

– obligatorily expressible,
– optionally expressible,
– not expressible at all, that is, blocked (under particular circumstances, see below).

The following six clarifications are in order:

1. The optionality of a SemA-slot AS SUCH — the optionality of its PRESENCE in the definition of L, or its *semantic optionality* — must be carefully distinguished from the optionality of its EXPRESSION, or its *syntactic optionality*:

– a SemA-slot A_i of L is OPTIONAL if it corresponds to an optional participant of SIT(L);
– a SemA-slot A_i of L is OPTIONALLY EXPRESSIBLE if the corresponding $DSyntA_i$ can be absent from (the DSynt-Structure of) the sentence.

For instance, the SemA-slots for instrument, surface, and language are obligatory with the verb [*to*] WRITE (*Dick writes a letter with a fountain pen on a small piece of paper in Japanese*), because they correspond to the obligatory participants of the linguistic situation 'write'; however, they are optionally expressible: the sentence *Dick wrote me a letter* is grammatically perfect, although it does not say with what, on what and in what language Dick wrote.

2. Optionality of a Synt-element in a sentence is orthogonal to the actantial status of this element: any element, whether or not it is an actant, can be optional or obligatory ("omissible/nonomissible," in the current parlance).

Firstly, not only SemAs, but also some obvious modifiers can be obligatory in particular constructions (obligatory circumstantials/modifiers are boldfaced):

(28) a. Fr. *On lui a fait des funérailles* ***magnifiques*** ⟨***luxueuses***⟩
'He was given a magnificent ⟨luxurious⟩ funeral'.
vs.
**On lui a fait des funérailles le 1 avril ⟨à Paris⟩*
'He was given a funeral on April 1st ⟨in Paris⟩'.

b. Rus. *ženščina* ***redkogo*** *uma*
'woman of rare intelligence'

vs.

**ženščina uma*

'woman of intelligence'

c. Rus. ***Nad polem*** ⟨***Nad izboj***⟩ *klubilsja dym*

'Smoke curled over the field ⟨over the house⟩'.

vs.

**Včera* ⟨*Kol'cami*⟩ *klubilsja dym*

'Smoke curled yesterday ⟨in rings⟩'.

Secondly, a sentence element can be obligatory for purely communicative reasons, and not because it is syntactically obligatory:

(29) a. *John was born in France/on October 19* ⟨*with all his family present, into a wealthy family*⟩.

vs.

b. #*John was born*.

The expression (29b) is linguistically fine: *After so many worries and troubles, finally John was born*; it can be unacceptable pragmatically — because it is not clear what exactly it communicates (see Goldberg and Ackerman (2001) for a detailed analysis of numerous cases where syntactic circumstantials are communicatively obligatory).

Therefore, the obligatoriness of a sentence element cannot serve as a criterion for determining whether it is an actant or not.

Obligatoriness of an actantial expression is explicitly indicated in the GP(L).

3. It is sometimes said that SemA-slots of nouns are never obligatorily expressed. This is, however, false (as noted, e.g., in Helbig 1992: 116):

(30) German:

a. *Durch die totale Beherrschung* ***der Presse*** *war er sehr mächtig*

'Thanks to complete mastery over the press he was very powerful'.

b. *Durch die Berücksichtigung* ***dieses Tatbestandes*** *hat er Erfolg gehabt*

'Thanks to consideration of the facts he was successful'.

Without the boldfaced adnominal complements, sentences (30a) and (30b) are ungrammatical, and this is not for communicative reasons: even if the preceding text makes it quite clear what is meant, these complements cannot be omitted.

4. The words "is obligatorily/optionally expressed" must be understood *cum grano salis*. Thus, we have to distinguish different types of optional expression:

– The presence of $\mathscr{P}$ is optional if the preceding context specifies $\mathscr{P}$ completely; this is *contextually-bound optionality* (Mosel 1991: 246). Thus, Rus. REŠIT′SJA '[to] decide [on N], dare, make up [one's] mind' requires the expression of the SemA 2, but in an appropriate context, the SemA 2 can remain unexpressed:

(31) a. **Ivan rešaetsja/rešilsja* 'Ivan is deciding/has decided on something'.
vs.
b. *Ivan kolebletjsa: on vsë rešaetsja* 'Ivan is hesitating: he is still making up his mind'.
c. *Ivan bojalsja prygnut′ v vodu. Nakonec, on rešilsja*
'Ivan was afraid to jump into water. Finally, he made up his mind'.[24]

What we see in (31c) is a syntactic *ellipsis*. Note that syntactic ellipses can be (nearly) obligatory: thus, on the surface (in the sentence and not in its SSyntS), in many languages the subject of the imperative is deleted; in pro-drop languages, subject pronouns are deleted under neutral communicative conditions; common actants of conjoined verbs are factored out (*John shaves, washes and eats his breakfast*; *John reads novels, newspapers and publicity magazines*); etc.

– The presence of an obligatory $\mathscr{P}$ along with a verb L can become optional if L is in the infinitive (*To kill is easy for him*, while **He kills*/**He is killing*).

5. The optionality of a Synt-actant of L depends on the language, L itself, and the type of actant. Thus, in English, the DSyntA I of the main verb cannot be omitted under normal conditions; in Tolai, the DSyntA II of a transitive verb cannot be omitted without detransitivizing the verb:

(32) Tolai (Melanesian; Mosel 1991)
a. *A vavina i kita ra bul*
the woman 3SG hit the child
'The woman hit the child'.
vs.
A vavina i ***ki****kita*
the woman 3SG hit.DETRANS
'The woman hit'.
vs.
**A vavina i kita*
'The woman hit'.
b. *A vavina i mom+e ra tava*
the woman 3SG drink TRANS the water

'The woman drank the water'.
vs.
*A vavina i mom+**o***
the woman 3SG drink DETRANS
'The woman drank'.
vs.
**A vavina i mome*
'The woman drank'.

6. Another important distinction to be drawn between different SemA-slots of L was indicated by J. Panevová (1994: 228–231): independently of its optional/obligatory expressibility, an obligatory SemA-slot can be *indispensable* or *nonindispensable*. If someone said Rus. *Petja uexal* 'Pete left', he is not obliged to specify from where, to where or by what means of transportation: the sentence *Petja uexal* is absolutely complete both semantically and syntactically. However, if we ask the speaker 1) 'From where did Pete leave?', 2) 'To where did Pete leave?', and 3) 'By what means of transportation did Pete leave?', he can answer 'I do not know' only to questions 2 and 3; he cannot answer that he does not know from where Pete left! The SemA-slot for starting point is not only semantically obligatory, it is also communicatively indispensable (the SemA-slots end-point and transportation means are semantically obligatory, too, but they are communicatively nonindispensable). Similarly, in *Pete paid five dollars*, under normal circumstances the speaker cannot easily answer 'I don't know' if asked 'For what?'; he is free, however, not to know to whom Pete paid (Padučeva 1998: 94). This means that an indispensable SemA-slot must be necessarily saturated in a well-formed Sem-Structure.

3.7. *Blocking of SemA-slots*

Even an obligatory SemA-slot(L), which is in principle expressible (Definition 2, 3.2.3), may be nonexpressible by a direct syntactic dependent of L — either never or in particular contexts; in such a case, we speak of *blocking* this SemA-slot. Blocking of SemA-slots can be *systematic*, that is, concerning easily definable sets of LUs, or *individual*, that is, concerning specific LUs.

3.7.1. *Systematic blocking of SemA-slots*. A SemA-slot can be systematically blocked in three major cases: Cases 1 and 2 concern the lexicon (the blocking happens for some parts of speech and for some nominal quasi-predicates), and Case 3 is grammatical (the blocking is performed

by a grammatical meaning — inflectional or derivational — that reduces the acitve syntactic valence of L without affecting its semantic valence). As far as the character of blocking is concerned, Cases 1 and 3 represent *absolute* blocking: DSyntA I becomes impossible; Case 2 covers *relative* blocking: DSyntA-slot I exists, but cannot be expressed by a direct dependent of L (it can be expressed only indirectly — via an LF, etc.).

Case 1. Parts of speech without DSyntA-slot I: inherent modifiers

Lexical units of certain syntactic classes do not have the DSyntA-slot I at all; their SemA-slot X, which would correspond to the DSyntA-slot I, is automatically blocked. This happens, first of all, with adjectives. That which is the SemA X of an adjective becomes, in the DSynt-structure, its DSynt-governor (see above, 3.2.3):

Sem-representation		DSynt-representation
'red' —1→ 'ball'	corresponds to	RED ←—ATTR— BALL

This inversion of semantic vs. syntactic dependency is the definitorial feature of the adjective (see Beck 2002):

> Prototypically, an adjective is a semantically monovalent lexeme (= it has one SemA-slot), such that its Sem-dependent is necessarily its Synt-governor.[25]

The parts of speech adverb, preposition, and conjunction possess the same definitorial property. Namely, the LU that expresses the SemA X of an adverb, a preposition, or a conjunction becomes, in the Synt-structure, its Synt-governor:

Sem-representation		DSynt-representation
['Alan' ←1—]'sleep'	corresponds to	SOUNDLY ←—ATTR—
←1— 'soundly'		SLEEP[—I→ALAN]
'lady' ←1—	corresponds to	LADY —ATTR→
'with'[—2→ 'dog']		WITH[—II→ DOG]
'we sleep' ←1—	corresponds to	WE SLEEP —ATTR→ WHEN
'when'[—2→ 'he came']		—II→ [COME HE]

Prepositions and conjunctions are of course prototypically bivalent (rarely, trivalent).

For all LUs of these parts of speech, the SemA-slot X of L does not correspond to any DSyntA. Therefore, both the SemA-slot X and the DSyntA-slot I should not appear in the GP. Thus, the GPs of EQUAL, WITH, and WHEN are as follows (for a systematic characterization of GP, see Section 7 in Part II of this article):

EQUAL	WITH	WHEN
Y = II	Y = II	Y = II
1. *to* N	1. N	1. CLAUSE

Case 2. Relational nominal quasi-predicates

A relational noun N_{rel} — such as FATHER (*X is the father of Y*) or BOSS (*X is the boss of Y*) — cannot have its SemA-slot X (i.e. the Essant X) expressed as N_{rel}'s syntactic dependent; this SemA is "incorporated" into the meaning of N_{rel}. However, the SemA-slot X of N_{rel} can be expressed elsewhere in the sentence, although not as N_{rel}'s dependent; cf., for example, *the post of finance minister occupied by John*, where the SemA X of MINISTER, namely, JOHN, is syntactically related to MINISTER via the LUs POST and OCCUPY. Because of that, for such nouns — contrary to the situation of the inherently modifying parts of speech — the SemA-slot X does correspond to the DSyntA-slot I (X = I), and this fact must be indicated in their lexicographic description with the indication of blocking; cf. the GP of FATHER:

FATHER

X = I	Y = II
— —	1. *of* N 2. N*'s*

Case 3. Syntactic-valence decreasing grammemes

The best known grammatical means to block an obligatory SemA-slot is a *suppressive*: a grammatical voice that marks the blocking of a particular SemA-slot of L. Namely, the subjectless suppressive blocks the SemA-slot X, and the objectless suppressive, the SemA-slot Y.

Subjectless suppressive:

(33) a. Pol. *Zbudowa+**no*** *szkol +ę*,
build **SBJ-LESS.SUPPR** school SG.ACC
lit. 'Finished-building [a] school'.

b. Est. *Ehita+**ta*** *+kse*
build **SBJ-LESS.SUPPR** PRES
sild +a,
bridge SG.PART(itive)
lit. 'Be-building [a] bridge'.

In both constructions, the noun is an obvious DirO; there is no SSynt-subject — even no dummy zero subject, since the verb shows no agreement, and no expression of agent is possible. Therefore, here the DSyntA I is blocked absolutely. For instance, the GP of the subjectless suppressive form of a Polish transitive verb looks as follows:

Y = II
N_{acc}

The SemA-slot X is not indicated in this GP, since X can never correspond to a DSyntA.

Objectless suppressive:

(34) Apapantilla Totonac [/V̲/ stands for a laryngealized vowel; ′ denotes stress]

tamāwá pancín	~	*tamāwa+**nq̇n***
'He buys bread'.		'He is engaged in buying (things)'.
čẹqẹ̄ lú̲šu̲	~	*čẹqẹ̄+**nq̇n***
'He washes cloths'.		'He is engaged in washing (things)'.
ą̲qšoqó kin+tą̄tín	~	*ą̲qšoqo+**nq̇n***
'He deceives my brother'.		'He is engaged in deceiving (preople)'.

In the left-hand sentence of these pairs, the DirO is obligatory; if it is not physically present, the verbal form means 'buys it', 'washes it', 'deceives him/her', and the DirO must be clear from the context. In the right-hand sentence of these pairs no expression of the patient is possible.

A similar phenomenon is found in Nahuatl. Here, a relational noun of a particular kind (e.g. a kinship term) has a SemA-slot for the possessor; therefore, for example, TA? 'father of Y' cannot be used without a person/number possessor prefix, like ***no***+*ta?* 'my father'; the form **ta?* is ungrammatical. If you want to speak of fathers in general or of any father, that is, without specifying whose father he is, you have to block the expression of possessor's SemA-slot by the derelativizing prefix *te-* and use the form ***te***+*ta?*. The prefix *te-* produces the meaning 'father of no matter whom'; this is a case of syntactic valence decreasing operation, which is functionally parallel to the suppressive voice (cf. [37] below).

3.7.2. *Individual blocking of SemA-slots.* We have already seen some examples of LUs which have one or more of their SemA-slots blocked; in all cases this is relative blocking. I simply give here the corresponding GPs.

WIDOWER
(see 3.2.3)

X = I	Y = II
— — —	— — —

Rus. ÈMIGRANT 'emigrant'
(see 3.4.2.1)

X = I	Y = II	Z = III
— — —	1. *iz* 'from' N 2. A	— — —

3.8. *Changing the number of SemA-slots of L = changing L's semantic valence*

Most languages have grammatical techniques that change the number of SemA-slots of an LU L, that is, its Sem-valence (of course, modifying L's propositional meaning at the same time). The result can be a different LU L_1 regularly related to L (derivation) or a different form of the same L (inflection); this difference is, however, irrelevant in the present context. Formally, changing the Sem-valence can induce either increasing it, that is, adding SemA-slots (cf. "slot addition" in Lehmann 1991: 22), or decreasing it, that is, subtracting SemA-slots.

3.8.1. *Semantic-valence increasing grammemes/derivatemes.* The three most common Sem-valence increasing grammemes/derivatemes correspond to the grammatical meanings known as causative, applicative, and possessedness; all the three add a SemA-slot to the lexeme in question.

Causative: 'X V-s (Y)' ⇒ 'Z causes that X V-s (Y)'

(35) Swahili [Roman numbers in the glosses indicate nominal classes]
a. *Juma a+li +i +let +a kahawa*
I.Juma I PAST IX bring IND IX.coffee
'Juma brought the coffee'.
vs.
b. *Fatuma a+li +m+let* ***+esh*** *+a Juma kahawa*
I.Fatuma I PAST I bring **CAUS** IND I.Juma IX.coffee
'Fatuma made Juma bring the coffee'.

The transitive verb in Swahili agrees in nominal class with its subject and with a definite DirO: in (35a), with 'coffee', in (35b), with 'Juma' (in (35b), KAHAWA is an oblique object).

Applicative: 'X V-s (Y)' ⇒ 'X V-s (Y) involving Z'

(36) Swahili

a. *Juma a+li +i +let +a kahawa*
I.Juma I PAST IX bring IND IX.coffee
'Juma brought the coffee'.
vs.
*Juma a+li +m+let +**e** +a Fatuma*
I.Juma I PAST I bring **APPL** IND I.Fatuma
kahawa
IX.coffee
'Juma brought the coffee for Fatuma' [lit. '... supplied Fatuma with coffee']

b. (i) *Juma a+li +li+pat+a gari*
I.Juma I PAST V get IND V.car
'Juma got the car'.
(ii) *Juma a+li +m+pat+a dereva*
I.Juma I PAST I get IND I.driver
'Juma got the driver'.
vs.

c. (i) *Juma a+li +li+pat+**i** +a gari dereva*
I.Juma I PAST V get **APPL** IND V.car I.driver
'Juma got a driver for the car' [≈ '... supplied the car with driver'].
(ii) *Juma a+li +m+pat+**i** +a dereva gari*
I.Juma I PAST I get **APPL** IND I.driver V.car
'Juma got a car for the driver' [≈ '... supplied the driver with car'].

Possessedness: 'X' ⇒ 'X belonging to Y'

In Nahuatl, only a relational noun, which has a SemA-slot for the possessor in its definition, can accept a number/person prefix expressing the possessor (cf. 3.7.1 above); a nonrelational noun must first be declined for possessedness (*-uh*) and thus be made relational, after which it also can have a number/person prefix:

(37) Nahuatl
no+ taʔ ⟨**no+taʔ+uh*⟩
1SG father
'my father'
vs.
*no+ čičі+**uh*** ⟨**no+čičі*⟩
1SG dog POSSESS
'my dog'

3.8.2. *Semantic-valence decreasing operations.* The most widespread derivateme that eliminates a Sem-component together with the corresponding SemA-slot is the decausative: 'X causes that Y V-s ...' ⇒ 'Y V-s ...'.

(38) Russian

'[to] bend [transitive]' *gnut′* ∼ '[to] bend [intransitive]' *gnut′* +***sja***
'[to] break [transitive]' *lomat′* ∼ '[to] break [intransitive]' *lomat′*+***sja***
'[to] roll [transitive]' *katit′* ∼ '[to] roll [intransitive]' *katit′* +***sja***

Decausatives are thus opposed to suppressives (mentioned in 3.7.1, Case 3). A suppressive decreases the syntactic valence of the lexeme L, blocking the expression of a particular SemA-slot, but does not affect L's Sem-valence: with a suppressive, the concerned SemA-slot as such remains; however, with the decausative, it disappears.

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Notes

* The present paper has grown out of reflections instigated by the articles Boguslavskij (1990) and Plungjan and Raxilina (1990), as well as my own lexicographic and syntactic research; for many years I have been pondering the notion of actant as it is used in meaning-text theory. In this process, a special role has been played by E. Raxilina: she has been regularly prodding and pressing me into working on this fascinating problem; moreover, she has been asking pointed and sometimes embarrassing questions, citing difficult examples, initiating important discussions whose results have lead me to a much better understanding of what I wanted. It is not an exaggeration to say that without Raxilina, this article would not have been written. In addition, many of the crucial examples I have used in the article come from her.

The ideas underlying my presentation owe a lot to A. Zholkovsky, with whom the first sketch of the theory of actants was first developed almost 40 years ago, and of course to Ju. Apresjan (1974: 119 ff.).

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My research has been supported by CHRC grants 410-1997-1076 and R0009247. Correspondence address: Dept. of Linguistics and Translation, University of Montreal, P.O. Box 6128 Centre-ville, Montreal, H3C 3J7, Canada. E-mail: melcuk@ling.umontreal.ca.

1. The term *valence* as applied to description of language seems to have originated with Charles Hockett (1958: 248 ff.). In European tradition, the British English form *valency* is more current.
2. Two remarks are in order here.

   1) The expression "[to] fill an actant slot" is an abbreviation: in point of fact, in the lexicon, where an LU has actant slots, no filling of slots occurs; and in an utterance, where LUs are linked to each other, there are no actant slots. Actant slots are used in the process of lexicalization of the initial semantic structure. We say that, in (a representation of) $\mathscr{U}$, L′/'L'' fills the actant slot $\boldsymbol{x}$ of L/'L' if and only if in (this representation of) $\mathscr{U}$ the dependency relation $\boldsymbol{x}$ subordinates L′/'L'' to L/'L', that is, if we have L′/'L'' $\leftarrow\boldsymbol{x}-$ L/'L'. We say then that the LU L′ fills the SemA slot of L if the meaning 'L'' does. Another known term for our "slot" is *place* or *position*. In the tradition of the Moscow Semantic School, the term *valentnost'* '[a] valence' is current.

   2) Both above distinctions are no novelty: they were explicitly stated already in Mel'čuk (1974: 85 ff.), where semantic actants were systematically opposed to deep-syntactic and surface-syntactic actants. Before that, these distinctions were established, for instance, in Helbig and Schenkel (1983: 60 ff.) — in terms of "different levels of valence" (see also Helbig 1992: 13 ff. and 154–155). Boguslavskij (1985: 11) aptly compares the distinctions between actant slots and actants to that between different fishing hooks designed for different types of fish (≈ actant slots) and a real fish caught by a corresponding hook (≈ actant). Finally, these distinctions are stated, in a concise and clear manner, in Padučeva (1998: 87–89).
3. In this connection, cf. Helbig (1992: 112 ff.), Escandell Vidal (1995), and Raxilina (2000: 311–336) on semantic and syntactic valence of nouns.
4. Pronominal (MY, YOUR, ...), possessive (Rus. KATIN 'of-Katya') and relational (AMERICAN) adjectives can be nonpredicative or predicative. They are nonpredicative when they express Sem-Actants of a predicate, as in *my visit* [= 'visit(I ; ...)'], *American response* [= 'respond(USA ; ...)'], etc. They are predicative when they mean 'belonging to ...' or 'characterizing ...', as in *my flower*, *American way of life*, etc.
5. "Semantic configuration 'σ' is expressed idiomatically with respect to L" means that the choice of the LU to express 'σ' is contingent on L. In practical terms, this presupposes that the lexicographic description of L must specify the appropriate expression of 'σ' as a SSynt-dependent or the SSynt-governor of L.
6. Barwise and Perry (1983) could be of help in developing this basic concept. Let it be emphasized, however, that what is meant here is a LINGUISTIC situation, not a "psychologically" or "realistically" defined one.
7. A viewpoint to the contrary is widespread, based on the following reasoning: location and time cannot characterize ANY linguistic situation, cf.:

   (i) #At noon, *Norwegians are tall*.
   (ii) #*She hoped* in the garden [*that Alan would come*], etc.

   Therefore, their admissibility must be stated in the lexicographic description of the corresponding LUs.

   I disagree: (i) and (ii) do not represent poor LEXICAL co-occurrence, but rather poor SEMANTIC combinability. What is wrong with sentences of the types (i) and (ii) is their underlying semantic configurations, which are ill-formed. The co-occurrence of mean-

ings should be foreseen in the description of the location and time semantemes (something along the following lines: "if 'time [of] → P', then 'P' is an event," etc.). This is not related to the problem of obligatory participants. On the co-occurrence of circumstantials, see part II of this article (forthcoming), Note 14.

8. On lexicographic definitions, see, for example, Mel′čuk (1988b) and Mel′čuk et al. (1995: 72 ff.).
9. In order to make this illustration more surveyable, two simplifications have been made:
   - Substances other than tobacco can be smoked as well: marijuana ⟨= pot⟩, hashish, opium, etc. A complete definition of [*to*] SMOKE should contain the indication that 'tobacco' is the default value of the variable Y^1.
   - The verb [*to*] SMOKE admits still another construction: *Alain* [= X] *smokes strong Turkish tobacco* [= Y^1] *from an old pipe* [= Y^2]. Taking it into account adds more complexity, while it is highly restricted; I allowed myself to ignore it here. If I were to consider it, the verb [*to*] SMOKE would have three SemA-slots.
10. In reality, the situation with [*to*] COST is more complex than my description suggests. In *this book costs $30 at McMillan's*, the phrase *at McMillan's* may be considered as an expression of the payee: it is not a simple locative circumstantial, isofunctional with *in New York* or *on a plane*. If we decide to cover such uses as well, the verb [*to*] COST will have the corresponding SemA-slot.
11. As L. Iomdin indicated, some other expressions of Ψ = Betrayed with *predatel′* are possible: *predatel′* [*č′ix-libo*] *interesov*, lit. 'traitor of [somebody's] interests', *predatel′ naroda* ⟨*otčizny*⟩, lit. 'traitor of the people ⟨of the fatherland⟩', *predatel′ carja*, lit. 'traitor of the tzar', *predatel′ našego dela* ⟨*rabočego klassa*⟩, lit. 'traitor of our cause ⟨of the working class⟩'. But this is irrelevant to the discussion: it is obvious that Ψ is not expressed freely; whether it has just one expression or a few does not change the idea.
12. The interrogative adjective KAKOJ 'what [N]', when used with MERY, does not have the same meaning as with other nouns. Asking *Kakaja kniga?* 'What/which book?' or *Kakoj ogurec?* 'What/which cucumber?' one asks about some properties or about the identity of the thing denoted by the noun; *kakoj* with MERY is aimed exclusively at the actions taken: 'What has been done?' (it would be a joke to answer something like *Xorošie* 'Good ones').
13. This is not so for all English speakers. In some particular, especially legal, contexts the expression of the wife who died with the noun WIDOWER is possible: *The widower of* a former Veterans Hospital nurse *should receive compensation*, etc. (thanks to L. Iomdin for this and other examples). However, in Standard American, the difference between *John's widow* and **Mary's widower* is clearly perceived. Based on the 250-million-word North American News corpus, A. Stefanowitch (personal communication) established that while 62.6% of the occurrences of WIDOW are accompanied by an indication of the late husband, only 9.9% of the occurrences of WIDOWER have the expression of the late wife.
14. Note that:
    1) The preposition in question introduces the name of a container. Otherwise, another preposition can be used; thus in French one has *manger* à même *la table* ⟨*le sol*⟩ '[to] eat straight from the table ⟨the ground⟩', *boire* au *goulot*, lit. '[to] drink straight from the neck (of the bottle)', *boire* à *la fontaine* '[to] drink from the fountain'. This other preposition can be free, that is, nonphraseologized (as *à même*), or controlled by the governing verb/the governed noun (as in *boire* au *goulot* ~ *boire* à *la fontaine*). Thanks to S. Kahane for having drawn my attention to this complication.

2) In French, the preposition in question is used with the verbs of eating/drinking; verbs meaning '[to] take out' require the preposition DE 'from' to introduce the name of a container: *Alain a sorti le cafard* de *l'assiette*/de *la tasse* 'Alain took the cockroach out of the plate/out of the cup'.

15. Polish manifests here another complication: the noun after NA is in the accusative; however, if it is a one-syllable masculine noun, it is declined as an animate: *na rak+**a*** instead of the inanimate ***na rak*, cf. *na syfilis* 'on syfilis' ⟨*na *syfilis+a*⟩, but slang *na syf+**a*** ⟨**na syf*⟩. (Thanks to Z. Frajzyngier for the Polish data.)
16. The phraseologized character of the expression of the cause is shown, for example, in Iordanskaja and Mel'čuk (1996).
17. This means that you can use the verb [*to*] DIE without mentioning or even knowing the cause of death. In the real world, death of course necessarily has a cause — like any other fact; but exactly because of this ubiquitousness, Cause, like Time and Location, is not an obligatory participant of linguistic situations as such. It may be one, but only if the corresponding lexical meaning introduces it (cf. Iordanskaja and Mel'čuk 2002). Interestingly, the situation designated by the Russian verb UMIRAT′ '[to] die' has the cause as an obligatory participant, because if the cause is external and implies a violent death, the verb UMIRAT′ cannot be used, contrary to Eng. DIE (*He died in a car accident = On pogib* ⟨**umer*⟩ *v avtomobil'noj katastrofe*; the verb POGIBAT′ '[to] die a violent death' has to be used. (Thanks to E. Savvina for this indication.)
18. The correct sentence *V lingvistike Petja — učenik Apresjana* 'In linguistics, Pete is a disciple of Apresjan' features still another lexeme: UČENIK3 ≈ 'follower'.
19. Split variables should not be confused with *split valences* of Russian linguistics (Apresjan 1974: 153–155; Raxilina 1990: 87–88). Split variables are mutually exclusive, that is, incompatible, because they represent the same SemA-slot; a "split valence" is a metaphor for two compatible SemA-slots that are related by a direct semantic link. Thus, for [*to*] HIT in *John hit the horse on the back* we need three Sem-actant slots represented by three variables: 'X hits Y on Z', Z being a bodypart of Y; as we see, no split variable is involved, while the pair of SemA-slots Y and Z constitute a split valence. Later, I will consider another notion, very close to split valence: *split DSynt-actant* (Part II, 6, Item 2.2).
20. The term is due to David Gil; it comes from Lat. ESSE '[to] be'.
21. Should we really postulate an additional lexeme for PET′, TANCEVAT′, etc., or would it be more economical to add the Public SemA-slot as an optional one in the definition of the verb in the neutral sense? However interesting, this question is not relevant to the present article: it touches on quite a different problem — that of dividing a lexical item into lexemes — and cannot be discussed here. I will only point out that the description by a separate "performance" lexeme is preferable: the "neutral" lexeme admits many circumstantials that are inappropriate for the "performance" lexeme (like in *pet′ vo ves′ golos* '[to] sing at the height of one's voice', *pet′ xorom* '[to] sing in chorus', *pet′ v unison* '[to] sing in unison', etc.), and vice versa (like in *pet′s orkestrom* '[to] sing with an orchestra', *pet′ na bis* '[to] sing an encore', etc.).
22. On this topic, see, for example, Müller-Gotama (1994).
23. Some authors speak about the *omissibility* of syntactic actants and insist that, on the semantic level, there is no omissibility (e.g. Helbig 1992: 104). Such formulations are not incorrect, but seem misleading and therefore inconvenient. That is why I prefer to speak of NOT EXPRESSING an actant rather than about OMITTING it.
24. The ability to admit contextually conditioned omission of an actant expression is lexical; thus, Rus. NAMEREVAT′SJA '[to] have the intention [to . . .]' cannot be used without the expression of its SemA 2. Even in a maximally clear, fully informative context you

cannot leave it unexpressed: **On namerevalsja* 'He intended'. If need be, you have to say *U nego bylo takoe namerenie* 'He had such an intention' or something similar. (Cf., however, *Poka on tol'ko namerevaetsja* 'Till now, he only has an intention'.)

25. There exist, of course, polyvalent adjectives, such as *X is equal to Y*, *X is typical of Y*, etc., but this does not affect my statement. For them, I have to say that "their SemA 1 is their Synt-governor."

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