Do adverbials have diatheses?

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Abstract

In the prototypical case, semantic actants are in a one-to-one correspondence with syntactic actants. For adverbials and other words that have passive or discontinuous valency slots, syntactic positions of semantic actants are not restricted to actants (complements), but still it is typical for semantic actants to have one canonical syntactic position. We discuss several types of situations in which a semantic actant corresponds to more than one syntactic position in the sentence, or one syntactic position serves more than one semantic actant. The absence of one-to-one correspondence between semantic actants filling passive and discontinuous valency slots and their syntactic positions can be correlated with the absence of one-to-one correspondence between prototypical semantic actants filling active valency slots and syntactic actants, which is known as the diathesis modification.

Keywords

Adverbial, valency slot, actant, scope, diathesis

1 Introduction

Most semantic studies carried out within the MTT framework are primarily devoted to the question of what a linguistic unit means. I will be more interested in another problem: how the meaning of the sentence is composed of the meanings of its parts. It is convenient to discuss this problem in the analysis perspective. Let us assume that we have a good dictionary which contains definitions of all meaningful linguistic units. What else should we know in order to combine the meanings of these units so that to obtain the semantic structure of the sentence? I will examine this problem in the MTT perspective.

The main mechanism of meaning amalgamation is instantiation of valency slots. In the traditional MTT approach to valencies, a set of valency slots of a word is determined by its semantic definition. An obligatory participant of the situation denoted by the word opens a valency slot if this participant is expressed together with this word in a regular way (see more on valency slots and actants in Mel'čuk 2004a,b). It is often believed that valencies are primarily needed for the description of government properties of words. It is this task that
motivates the creation of numerous valency dictionaries. I would like to put a different emphasis: valencies are mainly needed for uniting meanings of words to form the semantic structure of the sentence. Valency slot instantiation can be considered as semantic glue which connects meanings of words. I proceed from the assumption that if there is a syntagmatic semantic link between two words, then in most cases one of them fills a valency slot of the other. Or, a bit more precisely, the meaning of one of these words contains a predicate whose argument makes part of the meaning of the second one.

If word A semantically affects word B, then B should contain a meaning component for A to act upon. Experienced lexicographers know this and often use it as a hint in discovering meaning components. Unfortunately, this principle is far from being put into practice consistently. For example, the Longman Dictionary of Contemporary English defines *accent* as ‘the way someone pronounces the words of a language, showing which country or which part of a country they come from’. According to this definition, *southern accent* is interpreted as the way somebody pronounces the words of a language, showing that the speaker is from the South. However, this definition does not explain the combinability of this word with intensifiers: *strong <heavy, pronounced, slight> accent*. It does not contain any quantifiable component that is affected by these adjectives. What do these adjectives intensify? When we say that somebody *speaks English with a heavy (slight) Essex accent* we mean that (a) his pronunciation of English words is typical for people from Essex and (b) is very (slightly) different from the standard. This is a good reason for including component ‘different’ in the definition of *accent*:

\[(1) \; X \text{ has a } A \text{ accent (in } B) = \text{‘the way } X \text{ pronounces the words of language } B \text{ is different from the way speakers of } B \text{ usually pronounce them and typical for speakers of language, group or locality } A’.\]

There are three types of valency slots: active, passive, and discontinuous ones (Boguslavsky 2003). An active valency slot of predicate L is filled with sentence elements which are syntactically subordinated to L. A passive valency slot is filled with elements that syntactically subordinate L. The elements that fill a discontinuous valency slot do not have any direct syntactic link with L. Active valency slots are well fit for assuring slot filling. First of all, this fact manifests itself in that each valency slot has its own set of surface realizations. If a word has several valency slots, their means of realization, as a rule, clearly contrast. Different semantic actants are marked by different means – cases, prepositions, conjunctions.

However, this is not a 100%-true rule. Sometimes, different valency slots of the same predicate can be filled in the same way. The best known example are the genitive subjects and objects of nouns: *amor patris, invitation of the president*. Cf. also prepositionless first and second complements of the type *Give Mary a book. Answer the question – answer nothing*. A more rare example is provided by Russian words *dostatochno* ‘sufficient’ and *neobxodimo* ‘necessary’ that can fill both valency slots by means of the same conjunction *chtoby* ‘in order to/that’.

\[(2a) \; \text{Čtoby Q, dostatočno, čtoby P ‘for Q it is sufficient if P’}\]
\[(2b) \; \text{Čtoby vše vzletelo na vozduх, dostatočno, čtoby kto-nibud’ podnes spíčku}\]

lit. that everything blows up sufficient that anyone strikes a match
‘it is sufficient to strike a match and everything will blow up’

In this case, though, the identity of the conjunction is made up for with the word order distinction:

(2c) *Čtoby kto-nibud’ podnes spičku dostatočno čtoby vse vzletelo na vozduх

lit. that anyone strikes a match sufficient that everything blows up

Curiously enough, in case of dostatočno ‘sufficient’ (but not neobxodimo ‘necessary’) valency slot P can be filled with the coordinating conjunction:

(2d) Dostatočno, čtoby kto-nibud’ podnes spičku, i vse vzletit na vozduх

‘it is sufficient to strike a match and everything will blow up’

In that way, even if different valency slots of the same word are marked by the same lexical or grammatic means, the language tends to find a way to discriminate between these slots.

If we know the meanings of all the words of a sentence, then, to unite these meanings, we basically need to perform two main operations:

(a) for each predicate, find its actants (i.e. words or their meaning components filling valency slots of this predicate);

(b) substitute the actants for the variables in the semantic definition of the predicate.

I addressed the first of these operations in various publications and will speak more about it in this paper. The second one seems quite trivial, but even here some interesting complications may arise. I will discuss them elsewhere.

2 Filling active valency slots

Let us start with a canonical pattern of valency filling which is obviously the filling of active valency slots. As is well known, in MTT there is a powerful tool for doing that – the Government Pattern (GP). It consists of two correspondences: the correspondence between Semantic Actants of word L (SemA(L)) and its Deep Syntactic Actants (DSyntA(L)), (which is called diathesis of L) and the correspondence between Deep and Surface Syntactic Actants (SSyntA(L)). Given the Government Pattern of L and the Surface Syntactic Structure of the sentence, it is easy to find all Semantic Actants.

One of the complications that may arise here is the fact that the correspondence between SemAs and DSyntAs is not unique. A word may have more than one diathesis. A SemA of a word may appear in various syntactic positions and therefore correspond to various DSyntAs. The multiplicity of diatheses attracted much attention, mostly in the connection with the category of voice which is defined as a morphologically marked modification of the basic diathesis that does not affect the propositional meaning (the latest presentation of this approach to the voice can be found in Mel’čuk 2006). However, alternating diatheses do not necessarily involve voice distinctions. For example:
In cases like this, one has to postulate two GPs. However, despite the eventual multiplicity of GPs, in practice it is nearly always possible to find out which of the GPs is realized in the sentence. Fragment “LOAD + DirObj” alone is not sufficient to determine for sure which valency slot it fills. However, if the form of the indirect complement is taken into account (with + NP vs. on + NP) the diathesis is determined uniquely. Thus, there is a one-to-one correspondence between SemAs and DSyntAs, to within the diathesis alternation. It is in the nature of things that the actants are marked in the syntactic structure in an unambiguous way, and each SemA corresponds, as a rule, to a unique syntactic position. An attempt to extend this observation to passive and discontinuous valency slots reveals interesting surprises.

A large part of SemAs corresponds to DSyntAs in the way described above, but by no means all of them. GP only describes active valency slots and therefore covers the actants that are directly subordinated to L. Thus, GP gives only a partial answer to the general question of the reflexes that SemAs can have in Syntactic Structure.

3 Passive and discontinuous valency slots

For each class of predicates there exists a prototypical syntactic position of their actants and a number of non-prototypical positions. The prototypical position is the one occupied by the actant of a monovalent predicate. If a verb has only one valency slot, an actant that fills it will most probably be a subject (John sleeps). For nouns, the prototypical position is that of a genitive complement (as in Russian nachalo koncerta ‘the beginning of the concert’). For predicates with passive valency slots, the prototypical position of the actant is that of the subordinating word: a noun, in case of adjectives (interesting book), and a verb, in case of adverbs (run fast).

If a predicate has more than one valency slot, other actants occupy other, less prototypical positions. Which are they? Leaving aside directly subordinated actants accounted for by GPs, there are three positions which a non-first actant may occupy: that of a subordinating verb, a dependent of the subordinating verb and a dependent of the subordinating noun.

3.1 Subordinating verb

An important class of words which have a valency slot filled by a subordinating verb are quantifiers (all, every, each, some, many of, most, majority, minority, etc.). These words have at least two valency slots. One of them is filled by a noun phrase directly connected to the quantifier, and the other – by a subordinating verbal phrase. For example, words most and majority denote a certain part of a whole R that consists of elements having property P and is larger than the part of R that does not share this property.

(4) Most people [R] <the majority of the people [R]> haven’t taken [P] steps to prepare for a natural disaster.
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This sentence means that the group of people who haven’t taken steps to prepare for natural disasters is larger that the group of people who have. Those who doubt that most has valency P may note that phrase most people (as opposed to phrases like five people) does not mean anything unless a property is specified which is shared by all members of this group.

3.2 Dependent of the subordinating verb

This type of valency slot is typical of adverbs (or adverbials). For example, by habit has two valency slots inherited from the underlying predicate ‘habit’: X – “the person who has a habit” and P – “what he/she does by habit”. Valency P is filled by a subordinating verb, and X – by its subject. Therefore, if we introduce this adverbial in sentences which denote the same situation but use verbs with different subjects, synonymy disappears. In (5a) it is John who has a habit, and in (5b) it is Mary:

(5a) By habit, John [X] borrowed [P] some money from Mary.
(5b) By habit, Mary [X] lent [P] John some money.

3.3 Dependent of the subordinating noun

Pronoun my in (6) is syntactically linked to the noun, but semantically is an actant of favorite: X’s favorite Y is the Y which X likes more than other Y-s:

(6) my [X] favorite color [Y].

Although filling this valency with a possessive is more frequent, it can also be filled by a prepositional phrase:

(7) a favorite spot [Y] for picnickers [X]

Russian equivalent of favorite – izlublennyj – does not dispose of this possibility and only fills this valency with a possessive:

(8a) moje izlublennoe vino ‘my favorite wine’
(8b) *izlublennoe mnoj vino

4 Different actants – one syntactic position, one actant – different positions

Now we have prepared everything to show that one syntactic position can correspond to more than one valency of the word and one valency can correspond to various syntactic positions.
4.1 Majority / minority: active and passive filling of the same valency

As mentioned above, *majority* belongs to the class of quantifiers\(^1\). One of its valencies denotes a whole R of which a part is extracted, and another valency corresponds to property P, which distinguishes the extracted part from the rest of R. Prototypically, R is expressed by an *of*-phrase, and P – by the subordinating verb – cf. (9a). In (9b) the interpretation of the *of*-phrase is totally different. The opponents of war do not form a set a larger part of which has a certain property (is voting against the prime-minister), as it is in (9a). Here, being a war opponent is itself a property that divides the society into a larger and a smaller part. That is, the *of*-phrase fills valency slot P. The same is true for the interpretation of *minority of supporters*.

(9a) *A majority of the opponents of war* [R] *is voting* [P] *against the prime-minister.*

(9b) *The war in Chechnya is splitting the society into the majority of its opponents* [P] *and the minority of supporters* [P]

Example (10) demonstrates another case of filling valency slot P of *majority/minority* by a subordinated phrase. Here, P is filled by a modifying adjective.

(10) *The rural minority* <majority> *of the population is not happy with the new law.*

4.2 strogij ‘strict’: active and discontinuous filling of the same valency

In Russian, there is a class of adjectives which have a valency slot for a beneficiary: *strogiy* ‘strict’, *blagoželatel’nyj* ‘benevolent’, *snisxoditel’nyj* ‘indulgent’, *dobryj* ‘kind’, *zabotlivyj* ‘careful’, *trebovatel’nyj* ‘exacting’, *vygodnyj* ‘advantageous’, etc.

(11) *Stjuarty strogi k svoim detjam* ‘the Stuarts are strict with their children’

When this slot is not filled, the sentence obviously bears no information as to who the beneficiary is:

(12a) *St turret ochen’ strog* ‘Stuart is very strict’.

(12b) *strogaia dama* ‘a strict lady’

Rather, these phrases should be understood in the universal sense. The strictness applies to everybody. However, in the context of relational nouns, which denote a person who is in a certain relationship to other people, the interpretation of this valency slot changes:

(13a) *strogaia mama* ‘a strict mother’

(13b) *ljubjaščie ucheniki* ‘affectionate pupils’

(13c) *trebovatel’nyj načal’nik* ‘exacting chief’

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\(^1\) In more detail, Russian equivalents of *majority* and *minority* are described in Boguslavsky 2005.
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(13d) uslužlivyj sosed ‘complaisant neighbor’

Here the beneficiary of adjectives is determined quite definitely: it is a person (or persons) with whom a person denoted by the modified noun is in the corresponding relation. A strict mother is strict with her children, affectionate pupils love their teacher, an exacting chief demands something from his subordinates.

Here we are dealing with a curious type of the syntax-semantics correspondence. In Syntactic Structure, the beneficiary valency slot of the adjective is not filled, just as the valency slot of the noun. However, in SemS these slots are not empty but co-indexed, i.e. filled by the same variable:

These examples show that a valency slot of some adjectives can be realized in more than one way: prototypically, by a subordinate prepositional phrase, as in (11), and non-prototypically – by a variable, co-indexed with a variable corresponding to a valency slot of its other SemA, as in (13a-d).

4.3 Tščetno ‘in vain’: different semantic roles of the subordinating verb

Russian adverb tščetno ‘in vain’ denotes a failed try. Its meaning can be defined as follows:

(14) tščetno(X,P,Q) = ‘X doing P and trying to cause Q to take place, Q did not begin to take place’

(15) Ona tščetno staralas’ skryt’ smuščenie ‘she was vainly trying to conceal her embarrassment’

The situation denoted by the adverb has three participants: X, the subject of the attempt, Q, the goal he wanted to achieve, and P, the action he is performing in order to achieve Q. None of these participants opens an active valency slot. The only syntactic link of the adverb is with the verb. The subject X of the attempt is expressed by the subject of this verb. As for two other participants, P and Q, the situation is more tangled. In trying to find them, it is helpful to bear in mind that understanding a sentence with tščetno ‘vainly’ implies being able to specify what the goal of the subject was that he failed to achieve.

There are two classes of sentences.
In the first class, the verb subordinating tščetno duplicates the ‘trying’ component of its meaning.

First, let us look at the component ‘try to achieve Q’. Its two parts (‘try to achieve something’ and ‘Q’) can be verbalized it two different ways. They can be expressed separately, as a combination of an attempt verb and its complement:

(16) On tščetno staralsja najti ključi ‘he was vainly trying to find [Q] the keys’ (⇒ ‘he failed to find the keys’),

or both can be included in the meaning of one verb:

(17) On tščetno iskal ključi ‘he was vainly looking for the keys’; look for = ‘try to find [Q]’ (⇒ ‘he failed to find the keys’).

In both cases, the main component of the meaning of the verb is ‘try’.

Similarly, the components of combination ‘doing P, try to’ can be expressed separately:

(18) On tščetno staralsja privleči [Q] nashe vnimanie krikami [P] ‘he tried in vain to attract [Q] our attention shouting [P]’ (⇒ ‘he failed to attract our attention’),

or within one verb, maybe together with Q:

(19) On tščetno ubezhdal ee vyjti za nego zamuzh ‘he was vainly persuading her to marry him’ = ‘he was vainly trying to make her decide [Q] to marry him by giving her reasons why she should do it [P]’ (⇒ ‘he failed to make her decide to marry him’).

In the second class of tščetno sentences, the subordinating verb has nothing to do with trying to achieve Q. It only denotes ACTIONS P which the subject is carrying out:

(20) On tščetno časami brodil [P] pod ee oknami ‘he was vainly strolling for hours under her windows’ (not: ‘he failed to stroll under her windows’, but: ‘he failed to achieve something for the sake of which he was strolling under her windows’, e.g. he wanted to see her in the window but she did not appear).

(21) On tščetno trjas [P] zamok ‘he was vainly shaking the lock’ (not: ‘he failed to shake the lock’, but ‘he failed to obtain what he wanted to’, e.g. he wanted to open the lock but it would not open).

### 4.4 edinstvennyj ‘only’: different semantic roles of the modified noun

Adjective edinstvennyj ‘only’ claims that in a certain set or area R there exists object Q with property P, and in R there are no other objects with this property. All three valency slots are filled in sentences like (22):

(22) Ivan – edinstvennyj Nobelevskij laureat, kotoryj rabotaet v nashem institute ‘Ivan is the only Nobel Prize winner who works at our institute’

Here: Q = ‘Ivan’; R = ‘Nobel Prize winner’; P = ‘x works at out institute’.
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Sentence (22) can be glossed like this: among the Nobel Prize winners there is nobody except Ivan who works at our institute. Prototypically, valency slot Q is expressed by the subject of the copula, R – by the subordinating noun and P – by a restrictive modifier of the subordinating noun. Cf. also noun phrase (23) in which only slots R and P are filled:

(23) *edinstvennaja prilicnaja gostinica* ‘the only decent hotel’ = ‘among the hotels there is none except this one that is decent’.

It suffices to slightly change the structure of sentence (22) and the distribution of words among the valency slots changes:

(24) *Ivan – edinstvennyj Nobelevskij laureat v nashem institute* ‘Ivan is the only Nobel Prize winner at our institute’

Here: Q = ‘Ivan’; R = ‘our institute’; P = ‘x is a Nobel prize winner’. The most natural interpretation of (24) is: among the staff of our institute there is nobody except Ivan who is a Nobel Prize winner. The change of actants is due to the difference in syntactic structures. Restrictive modifiers of the governing noun (cf. *kotoryj rabotaet v nashem institute* ‘who works in our institute’) play the role of P, while locative adjuncts (*v nashem institute* ‘at our institute’) fill slot R.

Sentences (22) and (24) show that in certain syntactic conditions the modified noun can fill two different slots of *edinstvennyj* R and P. It is remarkable that if the modifier is detached by punctuation marks, the third possibility is added: the modified noun fills slot Q.

(25) *Eto lekarstvo [R]2, edinstvennoe po-nastojaschemu effektivnoe [P], pojavilos’ v prodaże sovsem nedavno*

lit. ‘this medicine [R], only really effective [P], appeared on sale quite recently’

‘this medicine [R], the only one to be really effective [P], came into the market quite recently’ = ‘this medicine came into the market quite recently, and among all the medicines there is no other one that is really effective’

(26) *Gostinica [P], edinstvennaja v gorode [R], byla zabita do otkaza*

lit. ‘the hotel [P], only in the town [Q], was filled to capacity’

‘the unique hotel [P] in the town [Q] was filled to capacity’

(27) *Koncilas’ groza [Q], edinstvennoe v mire [R], chego bojal’sja xrabryj pjos*

lit. ‘the thunderstorm [Q] was over, only in the world [R] that frightened this fearless dog’

2 Here slot R is filled with *lekarstvo* ‘medicine’, while the whole phrase *eto lekarstvo* ‘this medicine’ corresponds to slot Q; see more details about that below, Step 5.
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‘the thunderstorm [Q] was over, the only thing in the world [R] that frightened this fearless dog’ = ‘there is nothing in the world different from the thunderstorm that frightened this fearless dog’

These examples should not induce an idea that everything is possible and the valency slots are filled without any regularity. This is not the case. Let us show briefly that the actantial properties of edinstvennyj in (22) – (27) are determined by very general properties of Russian syntax.

**Step 1.** There is no insurmountable boundary between P and R. Logically, but not linguistically, they can transform into one another. The same extralinguistic situation can be presented differently in terms of the distribution of meaning between P and R. The only lawyer [P] among my friends [R] is equivalent to my only friend [P] among the lawyers [R].

**Step 2.** There is a natural link between the copulative, modificative and detached modificative constructions:

(28) Father was tired ∼ tired father ∼ Father, tired and sick, (did not pay attention to anything) [ = Father, who was tired and sick,...]

**Step 3.** The modified noun fills slot R, if it has a restrictive modifier, and slot P otherwise (see (22) – (24) above).

**Step 4.** The detached modification can have two origins: it can either correlate with the modificative construction or with the copulative one (cf. Step 2). Since it is a variety of the modification in general, the modified noun can be both R and P (cf. Step 3).

**Step 5.** Since the detached modification can correlate with the copulative construction (cf. Step 2), the modified noun can behave as the subject of the copulative and fills slot Q (cf. (22). In (27) groza, edinstvennoe chego bojalsja... is not derived from *edinstvennaja groza ‘the only thunderstorm’ but from Groza byla edinstvennoj veščju, kotoroj... ‘the thunderstorm was the only thing that...’.

4.5 besplatno ‘for free’: different semantic roles of the VP dependent

The valencies of the verb to pay are clearly opposed: X = “who pays?”, Y = “how much?”, Z = “to whom?”, and W = “for what?” What happens to these valency slots when ‘pay’ makes part of the meaning of adverbs?

(29) Pensionery xodjat v muzej besplatno ‘The retired people visit the museum for free’

In (29), valency slot Y of ‘pay’ is filled inside the adverb meaning: nothing is paid. W is realized by the subordinating verb: it is the visits to museums that should (or should not) be paid for. The subject of this verb fills slot X, and Z is not expressed. It is essential for our discussion that the subject of the verb can also express Z:

(30) My rassylaem pis’ma besplatno ‘we send out letters for free’
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The position of the subject corresponds to any of these two slots. If anybody is doing something for free, he does not pay for it or does not receive payment. The remaining participant, which is not expressed by the subject, is not bound by any restrictions. It can either coincide with some of the actants of the verb (cf. (31-32)), or have nothing to do with its actants (cf. (29)).

(31)  My [Z] rabotaem u nix [X] besplatno ‘we [Z] work for them [X] for free’ (they do not pay to us)

(32)  Nam [X] prisylajut ∅ [Z] objavlenija besplatno ‘(they) [Z] send us [X] announcements for free’ (we do not pay to them)

5 Deep Syntactic Scopes as Syntactic Actants Generalizations

Passive and discontinuous valency slots, just as the active ones, need to be supplied with the information on how they can be filled. Each passive and discontinuous valency slot, just as any active one, has a major, canonical filling. The correspondence between SemAs and DSyntAs (diathesis) has been intensively studied, mostly within the voice theory, since it is the voice that formally marks the diathesis modification. The phenomena which we demonstrated in this paper are related to the diathesis in the following sense.

DSyntAs of word L are elements of the Deep Syntactic Structure which syntactically directly depend on L. If we take into account not only active valency slots but also passive and discontinuous ones, we will find that the inventory of syntactic positions taken by valency filling elements is significantly larger than the positions of DSyntAs. Let us call any fragment of Deep Syntactic Structure which corresponds to a SemA of L a Deep Syntactic Scope (DSyntSc(L)) (Boguslavsky 1996). Then, DSyntAs are a particular case of DSyntScs. Non-trivial scopes are described by special Scope Rules, which can be considered as a generalization of Government Patterns.

As we showed above, SemAs do not always correspond to the same DSyntScs. It may easily happen that a SemA corresponds to more than one DSyntScs, or one DSyntSc serves more than one SemA. In this sense, the absence of one-to-one correspondence between SemAs and DSyntScs can be correlated with the absence of one-to-one correspondence between SemAs and DSyntAs. However, as opposed to the diathesis modification, the difference in DSyntSc is not marked formally, with the help of inflectional or derivational means, which makes these phenomena more difficult to observe and to investigate.

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