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## Bulgarian Stative Predicates

### 1. Introduction

The paper offers a corpus-based analysis of stative verbs in Bulgarian with reference to their representation: a) temporary or accidental properties and b) permanent or inherent properties. This terminology division is related to Carlson's distinction between stage-level and individual-level predicates (Carlson 1977: 170-171).

Our starting point is Zeno Vendler's classification (Vendler 1957), which is based on the following properties: **change** with the values of dynamicity – with definite or indefinite change – and stativity; **temporal extent** with values for durativity and punctuality; a defined **endpoint** (homogeneity) with values for telicity and atelicity, and contains four situational types:

- states – continuous stative situations that are atelic;
- activities – continuous dynamic situations that are atelic;
- accomplishments – continuous dynamic situations that are telic;
- achievements – punctual dynamic situations that are telic.

As pointed out, states can arise as a result of change, but do not of themselves partake of change. States continue for a specific *period of time* (Vendler 1957: 103), but do not signify a process and *cannot be defined as activities* (Vendler 1957: 106).

Zeno Vendler's classification has been followed by numerous more detailed classifications of situation types (Dowty 1979: 184; Bach 1986: 6; Van Valin, LaPolla 1997: 115-117, etc.)<sup>1</sup>, but the usual division is between states and all the remaining types, acknowledging at the same time that the class of states is not itself a homogeneous one.

In contemporary research on event structure, frequently instead of the term *events* the term *eventualities* (Bach 1986: 6) is used with the meaning of situations or states of affairs with a temporal structure; in the current piece of research we adopt the term *eventualities*. In designating the different types of predicates in classifying situations, we use the term *eventuality type*, since it has been noted that this term is more neutral (Filip 1999: 15) in

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<sup>1</sup> An extensive overview is presented by Hana Filip (1999).

comparison to terms such as aspectual classes (Dowty 1979: 32), lexical-aspectual classes (Rothstein 1999: 3), and so on.

For English (and for some other languages) different tests are introduced to differentiate stative from eventive predicates: for example, the combination with point-time adverbials but not with manner or locative adverbials (Lakoff 1966, Katz 2008; among others). We elaborate on the available tests with respect to the specific morphological and syntactic features of the Bulgarian stative predicates. Our analysis is based on advanced language technologies for quantitative analysis of the use of stative predicates in large text corpora. In particular, we observe, analyze and summarize the frequency and distribution of the stative predicates in the Bulgarian National Corpus (<<http://search.dcl.bas.bg>>). The description of stative situations in Bulgarian includes the formulation of differentiating semantic features and parameters for the semantic description of the two basic stative eventuality types: individual-level and stage-level predicates, and a corpus based study directed towards the classification of selected Bulgarian verbs in one of the basic stative eventuality types.

## 2. *Linguistic Tests Distinguishing Individual-Level Predicates from Stage-Level Predicates*

Several approaches to the classification of verbal predicates are based on event semantics. Hidden event arguments are introduced for the formal semantic interpretation of verbs denoting actions (Davidson 1967), and allow the analysis of adverbial modifiers as predicates of the first order, which add information about the event. Donald Davidson (Davidson 1967: 92-93) assumes that events have an additional hidden event argument through which the event can be characterized in relation to the manner, place and time in which it takes place. Thus, a transitive verb introduces not a two-place but a three-place relation among a subject, an object and a hidden event argument (which can be realized in the form of adverbial modifiers, which characterize the event and are analyzed as predicates of the first order). Davidson's analysis is extended to all eventuality types (Parsons 1990). Sentences with event predicates and sentences with stative predicates have different logical representations: in the former case, there are three arguments, one of which is a hidden argument for eventness, while in the latter there are only two arguments (Katz 2003: 461).

- (1) *Sandy kissed Kim.*  
 $\lambda e$  [kiss (e,Sandy,Kim)]
- (2) *Sandy liked Kim.*  
 like (Sandy, Kim)

Ensuing from Donald Davidson's analysis are the conclusions that events are parts of the world just like objects and for this reason can be counted, can be the antecedents of anaphors, can be positioned in space and time and can be ascribed other properties (Maienborn 2019: 27). Thus, the following definition of event emerges in the framework of Davidson's theory (Maienborn 2005: 279):

Davidsonian notion of eventualities:

Eventualities are particular spatiotemporal entities with functionally integrated participants.

Events are described with the following properties (Maienborn, 2005: 280; Maienborn, 2019: 30):

Eventualities are perceptible.

Eventualities can be located in space and time.

Eventualities can vary in the way that they are realized.

On the basis of these generalizations linguistic tests have been designed, which allow the uncovering of the hidden event arguments (Maienborn 2019: 30).

Some researchers transfer Donald Davidson's analysis of hidden event arguments over to the description of stative predicates (Parsons 2000). Others (Kratzer 1995) analyze the difference between stage-level predicates and individual-level predicates within the opposition: predicates with a hidden event argument and predicates without a hidden event argument, thus explaining their different behaviour in relation to locative modifiers.

Claudia Maienborn combines Zeno Vendler's classes with Donald Davidson's approach (Maienborn 2005; 2007; 2019) and divides stative predicates into two types: **state predicates**, represented by verbs such as *sit, stand, lie, wait, shine* and *sleep*, which denote situations from the real world in the sense of Donald Davidson's theoretical postulates (Davidsonian states), and **stative predicates**, represented by verbs and adjectives such as *know, weigh, possess, resemble, be handsome, be blonde*, which do not denote situations from the real world in Donald Davidson's sense (Kimian states) (Maienborn, 2007: 2). The first group are stage-level predicates, while the second are individual-level predicates.

The following diagnostics has been offered for establishing hidden event arguments (Maienborn, 2019: 30) and consequently for differentiating between Davidsonian predicates and Kimian predicates.

Davidsonian predicates can be infinitival complements (in English) to perception verbs. Kimian predicates cannot occur in such a context.

(3) *Prez nošta ja viždam i čuvam da spi.*

'At night I see and hear her sleep.'

(4) \**Vidjah ja da običa momčeto.*

\*'I saw her love the boy.'

The stative predicates can be viewed as abstract objects, inaccessible to direct perception, and – as a result – excluded as infinitival complements of perception verbs in English and the corresponding *da*-clauses in Bulgarian. It is noticeable that in such a context only state predicates with non-animate subjects or with an animate non-agentive subject that is a sentient doer can occur, which offers a basis for further subclassification.

Davidsonian predicates can be combined with locative adverbial expressions, unlike Kimian predicates.

- (5) *Speše v ljulkata.*  
‘She slept in the cradle.’
- (6) *\*Znae nekajolko istini v parka.*  
‘She knows some truths in the park.’

The same pattern is observed with manner modifiers, comitatives and some other modifiers, which further develop the internal structure of situational types (Maienborn, 2019: 30). Davidsonian predicates combine freely with such modifiers, while Kimian predicates do not. The observation is grounded also in previous research, where it has been pointed out that manner adverbials cannot be combined with individual-level stative predicates (Katz 2003: 459). As abstract objects, the stative predicates do not take locative or event-related manner modifiers. If in some usages locative or event-related manner modifiers can be observed, it means that the corresponding verbs are used with another meaning as state (stage-level), not as stative (individual-level) predicates (Padučeva 1996: 137).

The diagnostic procedure clearly differentiates Kimian predicates from Davidsonian predicates and as a result, it has been concluded that stage-level predicates denote true Davidsonian states, while individual-level predicates do not (Maienborn, 2019: 64).

An alternative approach has been developed, within which individual-level predicates are characterized as Kimian states, and by building on previous theoretical foundations (Kim 1969, 1976) it has been demonstrated that individual-level predicates are not amenable to Donald Davidson’s analysis. They are defined in the following way (Maienborn 2019: 46):

Kimian states are abstract objects for the exemplification of a property P at a holder x and a time t.

The properties of Kimian states have been presented as follows (Maienborn 2019: 47):

- Kimian states are not accessible to direct perception, have no location in space, and no unique manner of realization.
- Kimian states can be located in time.
- Kimian states are reified entities of thought and discourse.
- Kimian states are closed under complementation.

The identified properties presuppose the following linguistic diagnostics for Kimian states:

- The linguistic expressions denoting Kimian states cannot be infinitival complements to perception verbs; they cannot be combined with locative modifiers or with linguistic expressions representing additional participants.

- The linguistic expressions denoting Kimian states can be combined with temporal modifiers.

(7) *Toj ima kăšta ot dve godini.*  
 ‘He has had the house for two years.’

The linguistic expressions denoting Kimian states are available for anaphoric reference.

(8) [*Ključăt e izguben*]<sub>i</sub>; *i* [*tova*]<sub>i</sub>; *săzdava mnogo problemi.*  
 [The key has been lost]<sub>i</sub>; and [*this*]<sub>i</sub> creates a lot of problems.

The classification of verbal predicates based on event semantics is to be empirically evaluated for Bulgarian on the basis of corpora based quantitative analysis.

It has to be pointed out that some linguistic expressions denoting Davidsonian states can combine with temporal modifiers and are available for anaphoric reference as well.

- (9) *Toj spi ot surinta*  
 ‘He has been sleeping since the morning.’
- (10) *Toj znae mnogo istini i tova e vseizvesten fakt*  
 ‘He knows a lot of truths and this is a well-known fact.’

This ambivalent behaviour casts doubts on the validity of some of the tests and that is why in our empirical study we use only three types of tests excluding the combinations with temporal modifiers and the anaphoric reference.

### 3. *Description of the Bulgarian National Corpus in Brief*

The corpus study is carried out with the Bulgarian National Corpus. It is a large (according to the contemporary understanding), dynamically developing corpus – it is periodically expanded with new texts, which are classified with detailed metadata (Koeva 2014).

Two basic methods are employed for the creation and expansion of the Bulgarian National Corpus with new texts: inclusion of ready-made text collections (for example, the Bulgarian lexicographic archive, the archive of written texts in Bulgarian, the corpus of texts of the European Medicines Agency and OpenSubtitles – a corpus of movie subtitles) and texts automatically collected from the Internet.

The text units in the corpus are classified according to: communicative situation (style), thematic content (thematic field) and compositional structure (genre). The following styles are represented in the corpus: administrative, scientific, publicistic, literary, colloquial, literary/colloquial (subtitles), popular science and popular. Each style is associated with different thematic fields – some thematic fields are typical for different styles. The text units in the corpus have been described in detailed metadata following Lou Burnard (Burnard 2005) – at present 27 categories. The extralinguistic data contain information about the source of the text, for example, the name of the author (or translator), language (of the

original or the translation, as well as the direction of the translation), publication (source of the translation), date of publication; the descriptive data used for classification (for example in terms of style, genre, etc.); administrative information on the file and access to it. The linguistic metadata represent ascribed linguistic information on the language units at different levels of annotation. The statistical metadata contain quantitative information about the text, such as the number of tokens, lemmas, unique words, nominal phrases, sentences, etc. The detailed metadata allow for the exhaustive classification and easy selection of texts in the creation of sub-corpora according to different criteria (for example thematic fields, dates of publication, authorship, translation and so on).

The core of the Bulgarian National Corpus consists of texts in Bulgarian – around 1.2 billion words in more than 240 000 text documents. The original texts in Bulgarian constitute 37.1% of the corpus, while translations into Bulgarian – 40.5%, where for the remaining 22.4% there is no information about the source or the direction of the translation. The Bulgarian national corpus contains texts of different modalities, with a predominance of written texts (97.3%), while the oral texts (2.7%) are restricted in their types – lectures, parliamentary debates and subtitles. The greater part of the texts (98.9%) has been harvested from Internet and the remaining part (1.1%) has been provided by authors or publishers. For the purposes of the current piece of research a sub-corpus of 30 million words has been used, in which the stylistic distribution of the texts is as follows: administrative documents (10.24%), science documents (1.14%), mass media documents (3.16%), fiction documents (82.94%), informal fiction documents (0.43%), popular science documents (1.73%), popular documents (0.36%). As only the written part has been completed for most of the styles, we decided to opt for a broad style coverage with a focus on the fiction sections. The reasons for this are based on the fact that fiction writing is open to language changes and that it registers both trends and exceptions in language use. The extracted corpus provides enough data for a detailed study of the classification of stative verbs in Bulgarian.

#### 4. *Aspect Verb Types in Bulgarian Denoting Stative Predicates*

There is a clear correspondence between morphological verb aspect and eventuality types. For example, Zeno Vendler (Vendler 1967:99) differentiates activities and accomplishments from achievements and states because the former occur in the progressive. Many authors provided examples of state predicates used in English progressive and pointed out that the acceptability of such sentences seems to depend on whether the state predicate can express *a contingent property that changes over time* (Filip 1099: 17; Comrie, 1976: 38-40., Dowty, 1979: 176-179, Carlson, 1981: 43). The discussion for conditions in which states predicates can be used in progressive is still of current interest; however, here we would like to discuss the correlation between the Bulgarian morphological aspect and stative verbs.

It is widely known that verbs in Bulgarian are divided into perfective and imperfective. In Bulgarian, aspect is an inherent property of the verbs and it is shown at the lexical level. It has been stated that the semantic content of the category **verb aspect** in Bulgarian

is based on the relation between the eventuality type expressed by the verb and its telicity, independent from the speaker and the utterance (Kucarov 2007: 551). Only telic verbs (in which the activity is directed towards completion or some limit or reaches a limit) can have both perfective and imperfective forms: *stigna* (reach), *stigam* (be reaching); *obelja* (peel), *oblevam* (be peeling), while atelic verbs (in which there is no indication of any limit) are only of the imperfective aspect: *znaja* (know), *leža* (lie), *graniča* (border) (Nicolova 2008: 248). Bulgarian verbs of secondary imperfective aspect inherit the semantic characteristics of the source verb of perfective aspect from which they have been derived. The following claim is analogical (Čaralozova 2021: 16):

The imperfective aspect as the unmarked member of the opposition can denote both processes and states (one and the same situation) and events (change in the situation) in given contexts (historic present tense and iterativity) ... verbs denoting states and atelic processes (activities) are of imperfective aspect and do not have corresponding forms of perfective aspect.

We assume that individual-level predicates are denoted by part of the primary imperfective verbs: *znaja* (know), *mrážja* (hate), and by part of the imperfective verbs that are derivatives but do not have a corresponding verb of the perfective aspect (formed with prefixes from primary imperfective verbs (rarely): *prinadleža* (belong); with the suffix *-n-* from old Slavic roots: *mrážna* (freeze, shiver with cold), or with imperfective suffixes from nouns or adjectives: *studuvam* (feel cold), *živeja* (live), *mladeja* (appear young, look young). Stage-level predicates can also be denoted by primary imperfective verbs: *leža* (lie), *spja* (sleep), and derivative imperfective verbs, which do not have a corresponding perfective verb and have been formed with suffixes from primary imperfective verbs (rarely): *buduvam* (stay awake), and with suffixes for imperfective aspect from nouns or adjectives: *červenee* (looks red, shows redness), *belee* (looks white, shows whiteness).

We need to note that some of the senses of the verbs that participate in aspectual pairs can appear only in the perfective or in the imperfective aspect and there are cases in which a stative situation is realized only with one or just a few of the senses of a given verb in the imperfective aspect, for example the verb *označavam* (signify, denote, designate) with the sense 'have a particular meaning', but not with the sense 'delineate, define, mark, note'.

To sum up, the morphological aspect in Bulgarian is also related to the distinction between the statives, on the one hand, and achievements and accomplishments, on the other hand.

##### 5. Bulgarian Verbs Selected for the Corpus-Based Study

One of the major problems in classifying eventuality types and the verbal predicates that express them is the fact that examples are usually quoted without a definition of the meaning, even though they are polysemous and in their different senses may belong to different classes or groups. We selected representative verbs, for which a short definition of the meaning with which the verb is used is offered; a short example that illustrates the



meaning and in which the verbs are in the third person, singular number, present tense, where the number of examples corresponds to the number of syntactic constructions and structures that can realize the respective meaning. The selected verbs are:

- (11) *bdja* (be vigilant/watch) ‘be alert, be in a lively and watchful state’ *The boy is standing awake at the door.*
- blesti, lăști* (shine) ‘look shiny, reflect bright/dazzling light’ *The water shines in the sun.*
- boleduвам ot* (be sick with) ‘undergo an illness’ *The boy is sick with rickets.*
- boli me* (hurt, ache) ‘for an organ or body part – represents the source of or the place at which someone experiences pain’ *His hand hurts.*
- gadi mi se* (be nauseous) ‘feel like retching without being able to actually throw up’ *The boy feels nauseous.*
- gledam* (watch) ‘perceive with one’s sight things around oneself’ *The boy is watching (the apple | the apple fall).*
- gordeja se s* (be proud of) ‘experience the feeling of pride towards someone or something’ *The boy is proud of (his mother | his car).*
- haresvam* (like) ‘find someone or something pleasant, nice, to one’s liking’ *The boy likes (the girl | strawberries).*
- imam, pritežavam* (have, possess) ‘be the owner of something material’ *The boy has a car.*
- iskam, želaja* (want, desire) ‘have the desire for something to happen or get realized’ *The boy wants (an exchange | you to marry him).*
- leža* (lie) ‘occupy a horizontal position’ *The boy is lying on the sofa.*
- miriše* (smell) ‘exude a (characteristic) smell’ *The tulip smells tender.*
- mrazja* (hate) ‘experience the feeling of hatred towards someone or something’ *The boy hates (the girl | strawberries).*
- nadžavam se (na)* (hope (for), expect) ‘expect with desire something to be the case, for something to happen’ *The boy hopes (for nice weather | that the weather will get better).*
- namiram se* (be at) ‘someone or something is located at a particular place’ *(The fishmonger | the boat) is at the bank/shore.*
- običam* (love) ‘experience the feeling of love for someone or something’ *The boy loves (the girl | strawberries).*
- priličam na* (resemble) ‘look like, have a strong physical similarity with someone’ *The boy resembles his sister.*
- săšttestvuвам* (exist) ‘someone or something is in existence’ *(The witness | the book) exists.*
- slušam* (listen) ‘perceive information with one’s hearing’ *The boys is listening to music.*
- spja* (sleep) ‘rest in a condition of sleep, in a non-awake state’ *The boy sleeps on the couch.*
- sedja* (sit) ‘stay still with stable support under one’s buttocks’ *The boy is sitting on the sofa.*
- sramuвам se ot* (be ashamed of) ‘experience the unpleasant feeling of shame because of someone or something’ *The boy is ashamed of (his brother | his car).*



*stoja* (stand) ‘be in an upright position’ *The boy is standing at the door.* *strahuvam se* (ot) (be afraid (of)) ‘feel fear of something, which one experiences as a threat, a source of trouble, and so on’ *The boy is afraid (of heights | that no one will come).*

*struva mi se, vižda mi se* (seems to me, it looks like) ‘something seems to be such and such to someone, creates a particular impression’ *The house seems big to him | It seems to him that the house is big.*

*stradam ot* (suffer from) ‘have a chronic disease’ *The boy suffers from rickets.*

*sārbi me* (itch) ‘for an organ or body part – be the source of or the place at which one experiences an annoying sensation on one’s skin’ *His hand itches.*

*ubae* (smell) ‘exude a pleasing and sweet smell’ *The tulip smells tender.* *useštam* (feel) ‘experience a sensation through one’s senses’ *The boy feels (cold | (that | how) cold is cutting through him).*

*vjarvam na* (believe (in)) ‘be convinced in the existence or truthfulness of something’ *The boy believes (in ghosts | that ghosts exist).*

*zavisija ot, obuslavjam se ot* (depend on, be conditioned by) ‘be in a cause-effect or similar relationship with something else or someone else’ *Victory depends on the play of the attacker.*

*žaduvam za, kopneja* (crave for, covet) ‘desire strongly for something to happen or get realized’ *The boy craves for (an exchange | you to marry him).*

*znaja* (know) ‘have knowledge, information about someone or something; be familiar with’ *The boy knows (his name | that fire burns).*

The verbs are chosen according to the following criteria: their meaning to express a state and to be in imperfect aspect. They are selected from examples in various classifications of stative verbs for English and Russian (Spencer, Zaretskaya 2003), verb synonymous sets in WordNet (<<http://dcl.bas.bg/bulnet/>>), marked with the semantic primitive *state* and dictionary entries for imperfect – perfect verb pairs, in which only the imperfect verb expresses certain stative meaning.

Our aim is empirically to divide the verbs from the above list into two main groups: Davidsonian predicates and Kimian predicates, based on their occurrence in test constructions retrieved from the Bulgarian National Corpus, and further to describe the characteristics of the subgroups that can be distinguished.

## 6. Corpus-Based Approach for Distinguishing Davidsonian Predicates and Kimian Predicates

Previously, a corpus-based analysis was offered for establishing “a scale of stativity” in accordance with the frequency with which verbs in English appear in present simple tense (Klavans, Chodorow 1992). We are going to employ a number of linguistic tests to differentiate the selected Bulgarian verbs in the two basic groups of stative verbs: Davidsonian predicates and Kimian predicates.

Automatic annotation is used to process corpus data and extract meaningful lexical units with a higher frequency or identified as representing the vocabulary of certain

interest. The Bulgarian National Corpus is lemmatized and part-of-speech tagged, so we can simultaneously retrieve all verb forms belonging to one and the same lemma (Koeva et al. 2020). Since we do not rely on automatic word sense disambiguation, we use linguistic markers that are strong and not ambiguous, i.e., ones that can operate in different cases.

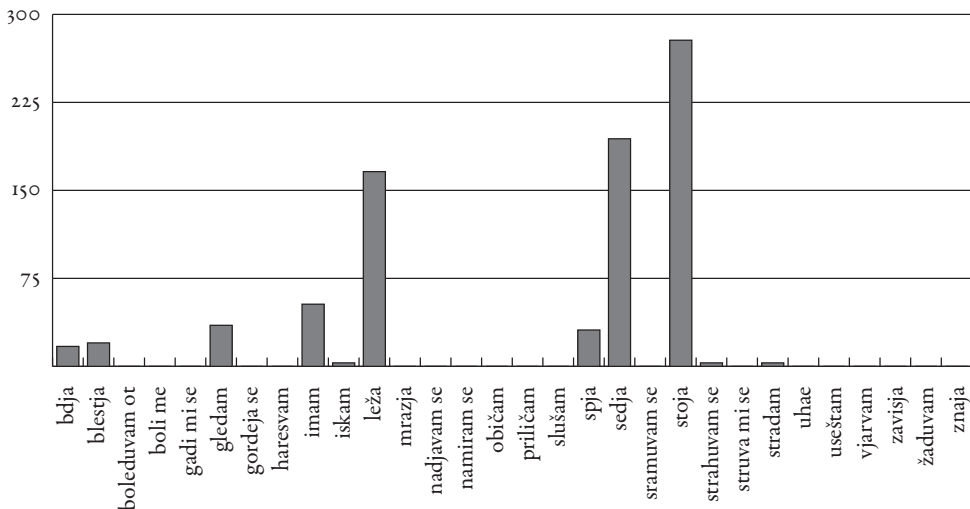
The verbs are checked by implementing the following linguistic tests in corpus search queries in order to differentiate the two basic groups of stative predicates: Davidsonian predicates and Kimian predicates.

6.1. *Davidsonian predicates can be da-clause complements of perception verbs. Kimian predicates cannot occur in such a context*

The search algorithm used to retrieve such examples is an ordered expression comprising a form of a perceptive verb, followed by zero or one arbitrary word, followed by the conjunction *da* (to) and all forms of the verb that is being checked, for example: <ВИДЯ/F/[0,1] ДА БДЯ/F/>, <vidja/F/[0,1] da bdja/F/>.

The queries with most of the attested verbs retrieved empty output, which means that they express properties of Davidsonian predicates. On the other hand, the examples with *bdja* (be awake), *blesti* (shine), *gledam* (watch), *lašti* (shine), *leža* (lie), *sedja* (sit), *slušam* (listen), *spja* (sleep), *stoja* (stand) in *da*-complement clauses to perception verbs are not frequent, but are nonetheless attested and are fully acceptable and grammatically correct (TABLE 1).

TABLE 1.  
Number of occurrences of tested constructions with *da*-complements



- (12) *A večer šte vidim da bdjat nad tjab ... špioni.*  
‘And at night we can see watching over them ... spies.’
- (13) *Vidja vljavo da blesti lamarinenijat pokriv na kokošarnika.*  
‘She saw to the left the roof of the henhouse shining’.
- (14) *Tja se ozärna i go vidja da gleda vtrenčeno dvama ricari na kone.*  
‘She looked around and saw him intently watching two mounted knights.’
- (15) *Vidja ja da leži na zemjata.*  
‘He saw her lying on the ground’.
- (16) *Vidja ja da sedi ori vhoda na palatkata.*  
‘He saw her sitting at the entrance of the tent’.
- (17) *Običal ja i kogato ja vidjal v Ostrian da sluša dumite na Petar ...*  
‘He loved her even when he saw her in Ostrian listening to Peter’s words ...’
- (18) *Izleze navän i vidja Tom da spi v sjankata na pametnika.*  
‘She went out and saw Tom sleeping in the shadow of the monument’.
- (19) *Vidja go da stoi zad njakakvi kamäni.*  
‘She saw him standing behind a pile of stones’.

The remaining verbs are not attested in complement clauses to perception verbs and according to the results of the test can be classified as Kimian verbs (TABLE 1). When such verbs appear in the context of perception verbs, either the tested verb or the perception verb are used with a different meaning. For example:

- (20) *Samo če az ne vidjah vätre da ima njakoj.*  
‘Only that I did not see there being anyone inside’. (The verb *ima* in this context is impersonal verb of existence, ‘there is, exists in reality’.)
- (21) *Te se videli prinudeni da iskat izvinenie za lošoto si otnošenie.*  
‘They found themselves obliged to apologize/seek forgiveness for their bad behaviour’. (Here the verb *iskam* is part of the compound verb *iskam izvinenie* (apologize) ‘seek forgiveness’ and the verb *vidja* is part of the compound verb *vidja prinuden* (see oneself, find oneself) ‘feel, understand or realize that one is in a given state or condition’.)
- (22) *Toj beše neobiknoveno silen i tja viždaše, če horata se strahuvat ot nego zaradi silata mu ...*  
‘He was extraordinarily strong and she could see that people were afraid of him because of his strength...’ (Here the verb *vidja* is used with the meaning ‘perceive (an idea or situation) mentally’.)

6.2. *Davidsonian predicates can combine with locative adverbial expressions, unlike Kimian predicates, which cannot*

The search algorithm used to retrieve this group of examples is an ordered expression comprising all forms of the verb that is being checked followed by zero or one arbitrary word, followed by one of the prepositions *vārhu* (on), *pod* (under), *zad* (behind), *sreštu* (against) (or ordered expressions retrieving acceptable word order permutations), for example: <страхувам/F/ се [0,1] вѣрху | под | зад | срещу>, <strahuvam/F/ се [0,1] vārhu | pod | zad | sreštu>.

Although just few in number, there have been registered uses of Davidsonian predicates with locative adverbials (TABLE 2):

- (23) *Izpraštala edin rob da bdi vārhu pokriiva na visokija dvorec.*  
‘She used to send a slave stand watch on the roof of the high castle.’
- (24) *Kamākāt blesteše vtābu bluzkata na mladata lejdi.*  
‘The stone shone on the blouse of the young lady.’
- (25) *Ležahme vārhu kupčina kamāni.*  
‘We lay on a pile of stones.’
- (26) *Hirurgieskite instrumenti lāštjaha vārhu masikata.*  
‘The surgical instruments shone on the table.’
- (27) *Bibliotekarjat sedeše pod masata.*  
‘The librarian was sitting under the table.’
- (28) *Slušaše pod zavivkata s izostren interes.*  
‘He was listening intently from under the covers.’
- (29) *Čarli stoeše pod malkija naves.*  
‘Charlie was standing under the small shelter.’

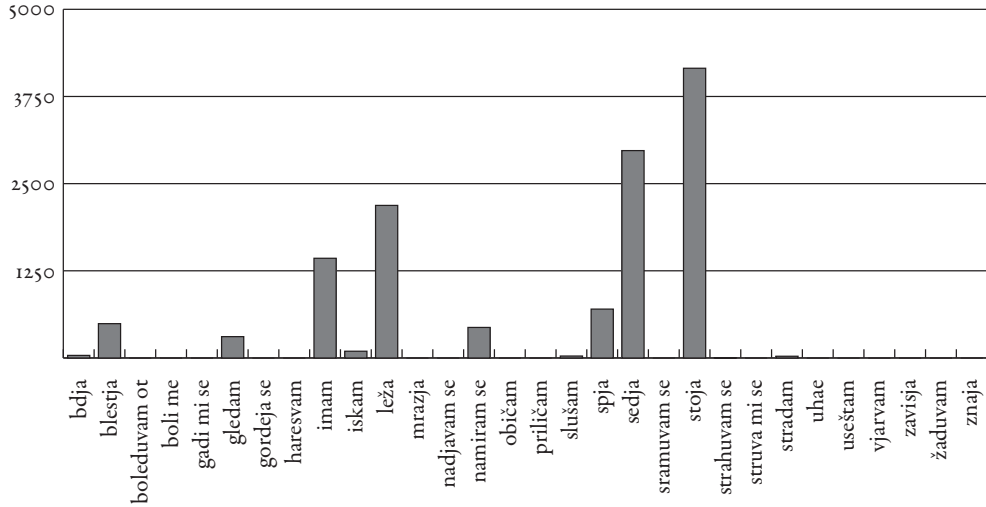
In the tests for compatible use of the analyzed verbs with locative adverbials, there is the possibility for syntactic polysemy; the adverbial may not relate to the verb or it can have figurative meaning, as shown in the examples below. However, the examples that have been retrieved are few in number and can be manually checked if necessary to determine whether the prepositional phrase is a locative adverbial or not.

- (30) *Moreto blesteše pod slānceto.*  
‘The sea was shining in the sun.’
- (31) *I da ja gledam pod otkrito nebe.*  
‘And to watch her under the sky.’

There are also cases where the prepositions are not used with a locative meaning:

- (32) *Bdeše varhu sājna na frenskija komandir.*  
‘He was watching over the sleeping French commander.’

TABLE 2.  
Number of occurrences of tested constructions with locative adverbial



The results in TABLE 2 confirm the belonging of the verbs to one of the two groups; Davidsonian predicates: *bdja* (be awake), *blesti* (shine), *gledam* (watch), *laš-ti* (shine), *leža* (lie), *sedja* (sit), *slušam* (listen), *spja* (sleep), *stoja* (stand), and Kimian predicates: all the other verbs that do not combine semantically with the locative adverbial.

There are examples attested with the verbs *imam* (have, possess), *iskam* (want, desire) and *namiram se* (be at). In these cases the verbs *imam* (have, possess) and *iskam* (want, desire) are used with different meanings, while the meaning of the verb *namiram se* (be at) requires a locative adverbial 'someone or something is located at a particular place'.

6.3. *Davidsonian predicates can combine with manner adverbial expressions, unlike Kimian predicates, which cannot.*

The tests relating to compatibility with manner adverbials are not as categorical, since manner adverbials constitute a diverse set and different subsets of manner adverbials combine with different verbs depending on their semantic compatibility. The search algorithm is an ordered expression comprising all forms of the verb that is being checked followed by zero or one arbitrary word, followed by one of the adverbials *spokojno* (calmly), *bărzo* (quickly) and *nepodvižno* (calmly) or ordered expressions retrieving acceptable word order permutations), for example: <znaja/F/ [o,I] postojanno>.

- (33) *Togava ti šte možeš da bdiš spokojno do sutrinta.*  
‘Then you would be able to **stand watch calmly** until the morning.’
- (34) \**Togava ti šte možeš da bdiš bārzo do sutrinta.*  
\*‘Then you would be able to **stand watch quickly** until the morning.’
- (35) *Tja ležeše nepodvižno, bez da otkāva oči ot men.*  
‘She **lay still**, with her eyes glued to me.’
- (36) \**Tja ležeše bārzo, bez da otkāva oči ot men..*  
\*‘She **lay quickly**, with her eyes glued to me.’
- (37) *Hari često gledaše časovnika na Ron.*  
‘Harry **often watched** Ron’s watch.’
- (38) \**Hari bārzo gledaše časovnika na Ron.*  
\*‘Harry **quickly watched** Ron’s watch.’

The non-homogenous behaviour of state verbs in relation to their compatibility with manner adverbial expressions demonstrates that there are grounds for establishing subclassifications within the basic division into Davidsonian and Kimian predicates. One possible explanation is that manner adverbs should not be treated as predicates of events but as predicates of manners (Alexeyenko 2012), consequently the particular meanings of verbs and adverbs predict the compatibility between them.

## 7. Conclusions

The opposition between the two basic types of stative predicates: individual-level predicates (Kimian states) and stage-level predicates (Davidsonian states) allows for the formulation of linguistic diagnostics that showcases the contrasts between the two. The study showed that Davidsonian predicates and Kimian predicates can be effectively differentiated on the basis of a corpus study, which establishes the possibility or impossibility for the inclusion of such predicates in particular syntactic structures, that are characterised by specific semantics: *da*-complements to perception verbs and compatibility with locative adverbial modifiers. The controversial results from the test with manner adverbial modifiers open questions for further investigation. The data are empirically tested with a corpus study, using the Bulgarian National Corpus and its instruments for distinguishing verbal morphology relevant to the identification of the predicates as stative as opposed to other types of eventualities.

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*Abstract*

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*Bulgarian Stative Predicates*

The paper offers a corpus-based analysis of stative verbs in Bulgarian depending on their representation of temporary or accidental properties and permanent or inherent properties. The terminology division is related to Carlson's (1977) distinction between stage-level and individual-level predicates. We present a classification of verbal predicates based on event semantics (Davidsonian and Kimian predicates), the properties of the two main groups and the linguistic diagnostics for their differentiation (Maienborn 2005; 2007; 2019). We show that the morphological aspect in Bulgarian is also related to the distinction between the statives, on the one hand, and achievements and accomplishments, on the other, and the statives can be only verbs in imperfective aspect. The study demonstrates that Davidsonian predicates and Kimian predicates can be effectively differentiated on the basis of a corpus study, which establishes the possibility or impossibility for the inclusion of such predicates in particular syntactic structures characterised by specific semantics: da-complements to perception verbs and compatibility with locative adverbial modifiers. The controversial results from the test with manner adverbial modifiers open questions for further investigation.

*Keywords*

Stative Predicates; Davidsonian States; Kimian States; Corpus-Based Studies.