

SYNTACTIC REALIZATION OF STATIVE PREDICATES IN BULGARIAN (TOWARDS A LEXICAL MEANING ONTOLOGY)

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Abstract. This study deals with the syntactic features of predicates describing stative eventualities. We present an overview of the possibilities for syntactic realization of verbal arguments within a framework of a semantic (thematic) classification of Bulgarian verbs based on their primary lexical meanings. Following the main principles of Role and Reference Grammar (RRG), we test the hypothesis that predicates belonging to a given thematic group have similar syntactic behavior. The analysis is focused on one-, two- and three-place predicates. Verbs such as *седя* (sit), *лежа* (lie), *стоя* (stand), *спя* (sleep), *блестя* (shine), *мириша* (smell) have one-argument structure. Their single argument occupies the subject position. Two-place predicates are represented by verbs from two subgroups: predicates with a subject and a direct object, e.g. *обичам* (love), *харесвам* (like), *виждам* (see), *чувам* (hear), *чувствам* (feel), *усещам* (sense), *желая* (wish), *искам* (want), *мразя* (hate), *помня* (remember), and predicates with a subject and an indirect object, e.g. *вярвам* (believe), *надявам се* (hope), *нуждая се* (need), *тревожа се* (worry), *жадувам* (crave), *радвам се* (be happy), *вълнувам се* (be excited), *притеснявам се* (be ashamed), *плаша се* (be afraid), *страхувам се* (fear). Besides these two groups of predicates, we also consider the possibility for some of the verbs to have three-argument realization. With *знам* (know)-type verbs, the direct object must be expressed and the indirect object may remain syntactically implicit, while with *мисля* (think)-type verbs the indirect object has to be represented overtly, but the direct object does not. The alternation of prepositions is also discussed in the text.

Keywords: *stative predicates, Role and Reference Grammar, argument structure, experienter, Bulgarian*

1. Introduction

Languages systematically divide states of affairs into categories based on the event (eventuality) structures. This type of categorization is crucial to the semantic representation of verbs, verbal phrases and sentences. The well-known classification of predicate types proposed by Z. Vendler (Vendler 1957) became the methodological

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basis for a number of linguistic projects about syntax-semantics interface. Later on G. Lakoff and M. Johnson viewed these aspectual types as ontological verb classes.

Philosophical tradition of ontology is based on Aristotle's ten categories: "(i) a substance; (ii) a quantity; (iii) a quality; (iv) a relative; (v) where; (vi) when; (vii) being in a position; (viii) having; (ix) acting upon; or (x) a being affected"¹. According to philosophical analysis of Aristotle's works, "the distinction of different categories was only meant as a classification of predicates" (Jansen 2008: 178). He used the noun *kategoria* as a technical term for predication in the sense of *to assert something about something* or *what predicate says about its subject*. This corresponds directly to the basic notion of traditional grammar about syntactic sentence structure. Principles of ontological classification based on predication can also be found in formal theories dividing sentences into subject noun phrase and predicate verbal phrase.

The main topic of our study is predicates representing stative eventualities². The paper focuses on investigating the predicate's type according to the features of its argument structure. Observations are mainly aimed at presenting the formal means through which the arguments of those predicates are expressed. The possibilities for a noun phrase, a prepositional phrase or a subordinate (complement³) clause to occupy an argument position to the predicate will be examined. The main goal of this analysis is to derive a formal model of state predicates based on the number and type of their arguments.

Our task is to make a descriptive survey of Bulgarian stative verbs. Since there is no complete list of these verbs (Leseva et al. 2021a; 2021b), we do not commit to presenting the syntactic behavior of all verbs denoting states. Following Paducheva's classification of stative predicates (Paducheva 1996), we have limited our study to verbs from two taxonomic classes of statives: permanent states and temporary states. These classes correspond in large part to Carlson's individual-level and stage-level predicates (Carlson 1977). Predicates for permanent properties and relations, occupations and behaviors are excluded from our analysis because their structure can be represented by other stative verbs, e.g. verbs of existence or possession and attribute expressed by nominal or adjectival phrases. This corresponds to the traditional view that "qualities and states are generally expressed by the verbs e.g. *be* and *have*" (Quirk et al. 1985: 200).

¹ <https://plato.stanford.edu/entries/aristotle/#Cat>. See e.g. Walters (2021) for discussion on linguistic approach to ontology.

² *Eventualities* or *Eventuality Types* "represent certain conventional ways in which languages systematically divide states of affairs into categories, and which are crucial to the semantic representation of verbs, verb phrases and sentences. The term 'eventuality type' has an ontologically broader coverage than 'event type' or 'Aktionsart' (German term meaning 'a type of action'), because it does not connote specifically dynamicity and exclusion of states" (Filip 1999: 15).

³ The term *complement* is used for "a syntactic construction denoting a proposition, which in the semantic structure occupies the position of an argument to the main predicate in the sentence" (Nitsolova 2008: 261). In Bulgarian complements are expressed by subordinate clauses, small clauses, nominalizations and free relative clauses (Koeva 2019: 58).

We start our observations on permanent state and temporary state predicates within the framework of semantic (thematic) classification of Bulgarian verbs. To propose a comprehensive model for the syntactic behavior of stative predicates in Bulgarian, we observe the relationship between the lexical semantic types of predicates and the syntactic realization of predicate arguments. The observations are based on data extracted from the Bulgarian National Corpus (see Koeva 2014). If there are no examples in the corpus for any of the theoretically derived syntactic patterns, data from written online communication will be used. Morphological features of verbs denoting stative eventualities (concerning verbal categories of tense, voice and mood) are not the subject of our analysis. Negation modifies the entire proposition and operates on the semantic structure of the sentence, thus it has to be an object of separate study. In our text, only examples with positive verbal forms will be considered. In the process of derivation, prefixes change the lexical meaning of Bulgarian verbs: *седя* – *поседя* (sit – sit for a while), *сня* – *засня* (sleep – fall asleep), *вълнувам се* – *развълнувам се* (be excited – become agitated). Apart from lexical semantics, in most cases the verbal aspect also changes. The main verbs denoting states are imperfective (see Koeva 2021a for details), while the derived prefixed verbs are perfective. *Чувствам* (feel), *желаю* (wish), *искам* (want), *гордея се* (be proud), *плаша се* (be afraid) are imperfective verbs, the prefixed derived from them are perfective: *почувствам*, *пожелаю*, *поискам*, *възгордея се*, *изплаша се*. Compared to the basic imperfective verbs, some of the derived perfectives have different syntactic realization, e.g. forming passive constructions. The differences listed above motivate our choice to analyze only examples with imperfective verbs denoting states.

Our study is organized as follows. In Section 2, we present a general overview of the ontological classifications of predicates, the taxonomic categories and the thematic class of verbs denoting states. Then in Section 3, we present examples of linguistic descriptions of state predicates, thematic frames and clause structure, illustrating the general categories of our linguistic ontology and their connection to syntactic constructions. In Section 4, we discuss in detail the structure of single-argument predicates. Two-argument predicates are represented with illustrative examples in Section 5. In Section 6, we conclude, summarizing the results that have been achieved.

2. Predicate types and verbal meaning

After C. Fillmore (Fillmore 1970), who observed that verbs with similar meanings have common morphosyntactic patterns it is a postulate in syntax that the lexical semantic features of verbs determine their syntactic realization to a large extent. Scholars who studied the correlations between event structure, lexical meaning and syntactic patterns have proposed different classifications of verb types in order to explain the relations between syntax and semantics. “For all approaches, the goal is

to systematize as precisely as possible the context invariant information associated with lexical items (revolving around argument structure and event structure for verbs, and countability and individuation for nouns), and to do so in a way that can predict significant generalizations across typologically different languages” (Acquaviva et al. 2020: 369).

The use of a particular verb in a given context is influenced by two main factors: the event schema/eventuality type and the verb’s idiosyncratic semantic content. It is assumed that the core semantic content is carried by the verbal roots (see e.g. Beavers, Koontz-Garboden 2020 among others). In our study, we do not propose decomposition of verbal forms, nor do we assign semantic features to the verbal roots alone. In the analysis, however, we follow the idea that verb semantic content carries information about “grammatically relevant ontological category, such as result (or state) or manner. This category largely governs the event schemas the root is paired with and hence the associated verb’s argument realization options” (Levin 2017: 572). The verbs that we will analyze carry information about the ontological category of *state* and our goal is to observe how the stative eventuality structure is expressed syntactically.

Perhaps the most influential ontological classification of verbs is the one proposed by Z. Vendler. When analyzing aspectual types⁴ of predicates, his goal was “to describe the most common time schemata implied by the use of English verbs” (Vendler 1967: 98). For this reason his taxonomy is based mainly on criteria related to the event’s time: duration, change, set terminal point and homogeneity. The author pays more attention to the ‘dynamic’ events, such as activities and accomplishments. Conclusions about the characteristics of states can be drawn mostly through established oppositions. Duration and lack of change are their main features, demonstrated by verbs like *desire, want, love, believe, own, resemble, be in New York* (Vendler 1957: 98). D. Dowty develops Vendler’s classification of verbs according to their logical entailments, interactions with temporal modifiers, and interaction with tense. Two crucial aspectual properties were considered to distinguish the four verb classes: whether or not they naturally head telic verb phrases [\pm telic] and whether or not they naturally occur with the progressive [\pm stages]. There are no stages or periods in the event structure of states, therefore stative predicates are characterized as [$-$ telic] [$-$ stages]. D. Dowty also sets out eleven syntactic and semantic criteria for identifying stative predicates. States are cumulative, non-dynamic, and totally homogeneous, hence stative predicates do not occur with durative temporal phrases or with time span phrases. They cannot be modified by agentive adverbs.

Classifications of verbal predicates into aspectual classes built on the works of Z. Vendler and D. Dowty have been used for the analyses of several language

⁴ Aspectual types are semantic classes that serve to characterize and classify verbs. They represent mainly the temporal structure of the event expressed by a verb. It concerns “the internal temporal constituency of a (type of) situation denoted by a given predicate” (Bache 1985: 10).

phenomena. Here we will note only G. Lakoff and M. Johnson's contribution to the interpretation of each of the four aspectual types as an ontological class. This is based on the idea of conceptual metaphor – one of the most important concepts (and terms) in cognitive linguistics. The essence of the metaphor is “understanding and experiencing one kind of thing in terms of another” (Lakoff, Johnson 1980: 5). Conceptual metaphors arise when cognitive links between several conceptual structures from different domains are established. These metaphors consist of three overlapping categories: structural, orientational and ontological metaphors. An ontological metaphor is a type of figurative expression in which something concrete is projected onto something abstract. “Our experiences with physical objects (especially our own bodies) provide the basis for an extraordinarily wide variety of ontological metaphors, that is, ways of viewing events, activities, emotions, ideas, etc., as entities and substances” (Lakoff, Johnson 1980: 26). Regarding the types of predicates, the authors state that events and actions are conceptualized metaphorically as objects, activities as substances, states as containers. The notion of a container is based on the fact that people are individual objects, bounded and set off the rest of the world. Therefore, each individual is a container in which various cognitive processes take place. Physical and emotional states are entities within a person – something/state in a bounded area (within a container). To illustrate this claim G. Lakoff and M. Johnson give examples like *He's in love. We're out of trouble now. He has a pain in his shoulder. My cold has gone from my head to my chest. He could barely contain his joy. His fears keep coming back.* (Lakoff, Johnson 1980: 32; 50). Spatial orientation of sentences expressed by *in - out* prepositional phrases also confirms the claim that physical, mental and emotional states are viewed as containers with an inside and an outside. Although there are no exact correspondences for some of the examples in Bulgarian, we accept the idea of states as events with boundaries, related to or defined by the subject of the stative predicate.

We find similar ideas in M. Halliday's functional approach to lexis, syntax and semantics. In view of grammar as meaning-making resource and clauses as representation of some process in ongoing human experience (what is happening, what people are doing, sensing, saying, being or having) Halliday considers the category of verbal process to be a primary one due to its central place in the semantic system. He brings out three principal process categories and three intermediate types lying on the borderlines (Halliday 1985: 170; see also the circle of process types in Halliday, Matthiessen 1999: 516). The prototypical form of the outer experience are actions and events represented by the material category of language elements. The processes of the external world (inner experience) are the foundation of the mental category. The third component concerns the abilities to generalize, to relate one fragment of experience to another. This is the relational category of the grammar system. Clauses with predicates of material type (doing; acting; creating; changing) reflect the physical world. Relational clauses serve to identify or attribute characteristics to objects. The world of consciousness is expressed by mental clauses (predicates of thinking, feeling

or seeing). Between material and mental processes are the behavioral processes. The category of verbal processes is between mental and relational ones. On the borderline between the relational and the material processes is the existential category. Only the third of the mixed categories correlates with the group of stative verbs. Verbs of existence and possession, however, are not part of our analysis. The topic of our study is closely related to the verbs of mental process type. M. Halliday differentiates four groups of verbs⁵ used in mental clauses. They correspond to four different sub-types of ‘sensing’ and are linked with mental, physiological, and emotional states (Halliday, Matthiessen 2004: 210).

	‘Like’ type	‘Please’ type
Perceptive	<i>perceive, sense; see, notice, glimpse; hear, overhear; feel; taste; smell</i>	(assail)
Cognitive	<i>think, believe, suppose, expect, consider, know; understand, realize, appreciate; imagine, dream, pretend; guess, reckon, conjecture, hypothesize; wonder, doubt; remember, recall, forget; fear (think fearfully)</i>	<i>strike, occur to, convince; remind, escape; puzzle, intrigue, surprise</i>
Desiderative	<i>want, wish, would like, desire; hope (for), long for, yearn for; intend, plan; decide, resolve, determine; agree, comply, refuse</i>	(tempt)
Emotive	<i>like, fancy, love, adore, dislike, hate, detest, despise, loathe, abhor; rejoice, exult, grieve, mourn, bemoan, bewail, regret, deplore; fear, dread; enjoy, relish, marvel</i>	<i>allure, attract, please, displease, disgust, offend, repel, revolt; gladden, delight, gratify, sadden, depress, pain; alarm, frighten, scare, horrify; shock, comfort, reassure, encourage; amuse, entertain, divert, interest, fascinate, bore, weary, worry</i>

Table 1. Type of verbs used in mental clauses (Halliday, Matthiessen 2004: 210)

⁵ The differences between ‘like’ and ‘please’ type verbs will not be discussed here since they do not reflect the core semantic component of the verbs, but the directionality of the process and agent-like features of the subject.

Z. Vendler's ideas influenced the development of more specific classifications of state verbs primarily on English data. Some of them are based on formal features, e.g. use of progressive aspect (progressive forms), others reflect the relations between event structure and lexical semantics. The classification proposed by G. Leech is of the first type⁶. He defines two groups: verbs with progressive aspect and anti-progressive verbs "which are normally incompatible with the Progressive: these can be called anti-progressive verbs, because of their 'unfriendliness' to the Progressive. The most important of these verbs is the main verb to *be*. (Leech 2004: 25). Anti-progressives belong to four thematic classes.

Thematic class	Examples	Characteristics
Inert Perception	<i>feel, hear, see, smell, taste</i>	Absence of agency The perceiver is merely passively receptive. Perception denoted by <i>look at, listen to</i> is not inert since perceiver is actively directing his/her attention towards some object. <i>Feel, taste</i> and <i>smell</i> can be used to indicate not only inert, but also active perception.
Inert Cognition	<i>believe, forget, guess, think, imagine, know, suppose, understand</i>	Mental state; no conscious effort or intention involved; verbs belong to the category 'state', even though a limitation on the duration of the state may be implied.
Attitude, volition and feeling	<i>hate, hope, intend, like, love, prefer, regret, want, wish</i>	Similar to verbs of inert cognition Some of these can more easily occur in the Progressive – <i>enjoy, hope, like, love</i> – if the emphasis is on temporariness or tentativeness.
Verbs of having and being	<i>be, belong to, contain, consist of, cost, depend on, have, matter, own, resemble</i>	Notion of 'being' or 'having' Often a paraphrase with <i>be</i> or <i>have</i> is possible: <i>matter</i> = <i>be</i> important; <i>own</i> = <i>have</i> in one's possession; <i>resemble</i> = <i>be</i> like or to become like. Certain verbs can take the Progressive when accompanied by an expression like <i>more and more</i> .
Additional class Bodily Sensation	<i>ache, feel, hurt, itch, tingle</i>	As verbs of perception (first group), they denote external sensation; Bodily Sensation refers to an internal one. There is a choice without any noticeable change of meaning between Simple Present and Progressive forms.

Table 2. English verbs incompatible with progressive aspect (Leech 2004: 25–31)

⁶ The first edition of G. Leech's grammar is from 1971, so his classification is one of the early attempts to systematize the semantic features that block the use of progressive aspect.

In our study we will analyze predicates from three thematic classes defined by G. Leech: inert perception, inert cognition, and attitude, volition and feeling.

It can be said that C. Fillmore's case study of English verbs *hit* and *break* (Fillmore 1970) inspired several linguists to research in detail syntactic patterns of verbs with similar semantic structure. In addition to manner and result verbs, semantic components and argument structure of verbs denoting complex events became objects of research projects (Beavers, Koontz-Garboden 2012, Levin 1993, Segal, Landau 2012, Rappaport Hovav, Levin 1998; 2010 among others). Distinctions like mode of doing, changing or producing something, place of activity, surface/external contact during the process, etc. also have impact and affect the realization of arguments (see B. Levin's conclusions (Levin 2017)). Since most of the analyzed lexical subclasses refer to eventive or changes of state verbs (part of activities, accomplishments or achievements aspectual classes), the proposed classifications cannot be applied directly to statives.

Verbs denoting mental, physiological, and emotional states impose restrictions on a selection of arguments, but the lack of manner or result elements in their semantic structure prevents the application of Levin's classification (Levin 1993), for instance. To discuss the syntax-semantics interface in light of argument structure and argument selection we adopt the classification built on temporal localization of states: predicates denoting properties and relations; predicates of temporary states and predicates of permanent states (Paducheva 1996: 126–137). Leseva et al. have already applied this classification to represent the ontological semantic classes of the stative predicates in Bulgarian (Leseva et al. 2021a; 2021b). In our study, we build on the conclusions by proposing an ontological system that accounts for the number and type of arguments of stative predicates.

3. State predicates, thematic frames and clause structure

The general methodological framework of our research is related to Role and Reference Grammar (RRG) as it provides reliable basis for studying the interaction of syntax, semantics and pragmatics in grammatical systems. We adopt the RRG conception of clause structure as 'layered structure', containing 'nucleus' made up of the predicate and the 'core', which consists of the nucleus and arguments of the predicate. In order to depict the lexical meaning of verbs we also follow Van Valin and LaPolla's approach of lexical decomposition, which involves paraphrasing of verbs in terms of primitive elements in a well-defined semantic metalanguage. "Since verbs and other predicating elements express (aspects of) states of affairs, an adequate theory of lexical representation ought to represent explicitly the crucial distinctions which differentiate the different types of states of affairs, e.g. taking place over time, being dynamic or having a terminal point. Moreover, since the role of a participant is a function of the state of affairs it is involved in, the semantic function of an argument referring to a participant should follow from the representation of the verb

or any other predicate coding the state of affairs” (Van Valin, LaPolla 1997: 90). The semantic representation of the predicate in the nucleus is the heart of the semantic analysis of the clause. The RRG lexicon consists of logical structures systematized in term of Vendler’s *Aktionsart*⁷ distinctions. State and activity predicates are primitive, therefore they have ontological status⁸. Predicates from other classes are derived from the primitives (see Van Valin 2005).

Verbs are part of the lexicon with their basic aspectual type. Van Valin and LaPolla (Van Valin, LaPolla 1997: 92) define *Aktionsart* as a term denoting the inherent temporal properties of verbs. All four verb classes can be defined in terms of three features: [±static], [±punctual] and [±telic], which refer to whether the verb has an inherent terminal point or not. From this point, states are non-dynamic and temporally unbounded; they are [+static], [-telic], [-punctual]. Each *Aktionsart* type corresponds to one of the basic state-of-affairs types. State predicates correspond to situations. This is the only group of predicates marked positively by static feature. Predicates from other *Aktionsart* types are non-static. An additional distinction concerning temporal duration, however, is shown between state predicates which code inherent properties and those denoting temporary states: **Sandy was tall/thin/short/fat for an hour – Max was tired/ill/happy for/*in an hour* (Van Valin, LaPolla 1997: 96).

States of affairs, static situations, events or activities represented by different types of predicates are implemented by a certain number of participants. Participants’ thematic roles result from their functions on the level of the eventuality structure and do not exist independently. Interestingly, only primitive (ontological) predicates – states and activities, define thematic relations. Thematic structure of predicates from other types is derived from the primitive ones. Regarding the argument structure and the semantic features of core elements, Van Valin and LaPolla (Van Valin, LaPolla 1997: 114) follow R. Jackendoff’s approach and define the thematic relations in terms of argument positions in the logical structure of the predicating element (or logical form of thoughts). Each argument position in the logical structures defines a thematic relation. The interpretation of an argument is a function of two factors: the class or subclass of the predicate and its position in the logical structure.

To describe the state predicates within the RRG framework, they are divided into two major subclasses – verbs with one argument (verbs denoting state or condition and predicate of existence) and verbs with two arguments. There are no universal tests to distinguish various subtypes of state predicates and accordingly it must be determined from the meaning (or context) whether a verb denotes perception,

⁷ The German term *Aktionsart* is equivalent to the English *Aspectual type* or *Lexical aspect* to denote an inherent semantic property of a predicate, which results from the different progression and limitation of the described event.

⁸ *Ontology* is “a hierarchical catalogue of the concepts that a person has in mind” (Van Valin, Mairal 2014: 213).

cognition or possession. Van Valin and LaPolla propose the following non-exhaustive list of subtypes of state predicates and thematic frames.

State Predicates		
A. Single argument		
1. State or condition	broken' (x)	X = PATIENT
2. Existence	exist' (x)	X = ENTITY
B. Two arguments		
1. Pure location	be-Loc' (x, y)	X = LOCATION, y = THEME
2. Perception	hear' (x, y)	X = PERCEIVER, y = STIMULUS
3. Cognition	know' (x, y)	X = COGNIZER, y = CONTENT
4. Desire	want' (x, y)	X = WANTER, y = DESIRE
5. Propositional attitude	consider' (x, y)	X = JUDGER, y = JUDGMENT
6. Possession	have' (x, y)	X = POSSESSOR, y = POSSESSED
7. Internal experience	feel' (x,y)	X = EXPERIENCER, y = SENSATION
8. Emotion	love' (x, y)	X = EMOTER, y = TARGET
9. Attrib./identificational	be' (x,y)	X = ATTRIBUTANT, y = ATTRIBUTE

Table 3. Types of stative predicates (Van Valin, LaPolla 1997: 115)

Concerning the two-place state predicates the following examples are given to define the thematic features of their arguments and the way they are assigned.

Semantic group	Thematic frame
<i>a. Location</i>	
The book is on the table.	be-on' (table, book), <i>table</i> = LOCATION, <i>book</i> = THEME
<i>b. Perception</i>	
Mabel saw the accident.	see' (Mabel, accident), <i>Mabel</i> = PERCEIVER, <i>accident</i> = STIMULUS
<i>c. Cognition</i>	
Dana knows the answer.	know' (Dana, answer), <i>Dana</i> = COGNIZER, <i>answer</i> = CONTENT
<i>d. Desire</i>	
Sam wants a new car.	want' (Sam, car), <i>Sam</i> = WANTER, <i>car</i> = DESIRE
<i>e. Propositional attitude</i>	
Max believes the rumor.	believe' (Max, rumor), <i>Max</i> = JUDGER, <i>rumor</i> = JUDGMENT

f. <i>Possession</i>	
Tammy has a new car.	have' (Tammy, car), <i>Tammy</i> = POSSESSOR, car = POSSESSED
g. <i>Internal experience</i>	
Diana feels sick.	feel' (Diana, [sick']), Diana = EXPERIENCER, <i>sick</i> = SENSATION
h. <i>Emotion</i>	
Charles hates his wife	hate' (Charles, wife), <i>Charles</i> = EMOTER, <i>wife</i> = TARGET
i. <i>Attributive/identificational</i>	
The building is tall.	be' (building, [tall']), <i>building</i> = ATTRIBUTANT, tall = ATTRIBUTE

Table 4. Thematic frames of two-place stative predicates (Van Valin, LaPolla 1997: 125)

For generalizations about state predicates, it is important to note that two groups of arguments are formed according to thematic relations: first argument and second arguments of the state predicates. A crucial fact about these two groups is that *the members of each group behave alike*. No single predicate takes more than one argument from the group {LOCATIVE, PERCEIVER, COGNIZER, JUDGER, POSSESSOR, EXPERIENCER, EMOTER, ATTRIBUTANT} or more than one from the group {THEME, ENTITY, STIMULUS, CONTENT, DESIRE, JUDGMENT, POSSESSED, SENSATION, TARGET, ATTRIBUTE}. Since these thematic relations never contrast with each other, only with roles from the other group, Van Valin and LaPolla conclude that there are only *two* basic thematic relations (the macroroles *actor* and *undergoer*). The role labels distinguish the subclass of the state predicate that the argument occurs with.

As the theory of RRG developed and reached an ontologically grounded level LSs (logical structures) were replaced by CLSs (conceptual logical structures) – “a methodological shift that entails replacing predicates in a LS with concepts, while preserving the Aktionsart distinctions” (Van Valin, Mairal 2014: 212). Lexical class *State* correspond to *Conceptual logical structure* <C> (x) or (x, y). Conceptual units <C> comes from ontology. “Every event in the ontology is assigned a single thematic frame, i.e. a conceptual construct which states the number and type of participants involved in the prototypical cognitive situation portrayed by the event” (Van Valin, Mairal 2014: 213).

State predicates are one of the basic ontology classes. They are treated as semantic primitives and their description involves only the predicate and its arguments with no further decomposition. Semantic operators like *do*, *become*, *cause*, *result*, *aim*, etc. are necessary for the representation of the derived predicate types (activities and accomplishments).

Our study aims at the description of state predicates denoting physical, mental and emotional states. All the theories represented here include those semantic groups, although they vary in respect to the semantic group to which a certain predicate belongs. Such predicates are *consider*, *believe*, *suppose*, *imagine* – they pertain to the cognitive predicates or form a separate semantic subtype. Halliday, Matthiessen (Halliday, Matthiessen 2004) and Van Valin, LaPolla (Van Valin, LaPolla 1997) divide desiderative predicates in a separate group, while Leech (Leech 2004) conjoins attitude, volition and feeling in one group due to their common syntactic behavior. G. Leech (Leech 2004) points out an important distinction between internal and external sensations⁹.

In Van Valin, LaPolla (Van Valin, LaPolla 1997) we find more detailed subtypes based on the lexical semantics – with verbs for propositional attitude like *believe* separated from cognition verbs like *know*. In our analysis, we represent the formal structure of physical, mental and emotional state predicates and different semantic subtypes within each formal type. In the description of semantic subtypes of state predicates we will follow the model, proposed by Van Valin and LaPolla (Van Valin, LaPolla 1997), taking into account the language specific peculiarities of the Bulgarian language.

As it was already shown, Van Valin and LaPolla (Van Valin, LaPolla 1997: 155) divide state predicates into two major groups – with one argument and with two arguments. We adopt this descriptive model for the argument structure of state predicates in Bulgarian. We will present a general overview of the class of state verbs and distinguish between different subtypes. In the first place, we describe different subtypes of single-argument state predicates: *седя* (sit), *лежа* (lie), *гладувам* (starve), *киселее* (be sour), *блестя* (shine). Then we will characterize two-place state predicates. They are divided in two subtypes based on the syntactic position of their second argument – stative predicates with a direct object: *обичам* (love), *виждам* (see), *чувствам* (feel), *желаю* (wish), *помня* (remember), and state predicates with an indirect object: *радвам се* (enjoy), *безпокоя се* (worry), *страхувам се* (fear), *страдам* (suffer), *вярвам* (believe). We also consider the ability of some two-place state predicates to have three arguments, overtly expressed. Each of the subtypes comprises different thematic classes of predicates. For the illustration of semantic subtypes, we follow the thematic classification of predicates in Bulgarian (see Koeva 2019), and the list of subtypes of state predicates and possible thematic relations, proposed by Van Valin and LaPolla (Van Valin, LaPolla 1997: 115, 125)¹⁰.

4. One-place predicates

In Van Valin and LaPolla's classification the group of one-place (single-argument) state predicates includes two subclasses: verbs for state or condition and verbs for

⁹ See also analyses done by A. Zimmerling (Zimmerling 2018).

¹⁰ See also Table 3 and 4 above.

existence. In our data we find examples of those two groups, but we consider that additional semantic subdivision of state or condition predicates is also needed. The first group includes basic state predicates like *седя* (sit), *лежа* (lie), *стоя* (stand), *будувам*, *бдя* (be awake), *спя* (sleep). They have an animate subject marked with the thematic role of patient. This is the only way to fill in the argument position of these one-place state predicates (Van Valin, LaPolla 1997: 127).

Verbs denoting physiological state are the second subtype single-argument state predicates. In Bulgarian, the following verbs have such a structure: *гладувам* (starve), *студувам*, *мръзна* (freeze), *мързелувам* (laze), *жадувам* (thirst). The argument position is occupied by the subject in the sentence marked as an experiencer.

There is a third subtype of single-argument predicates. For verbs from the first two groups, the subject represents the experiencer, but for verbs from the third group, it represents the theme. Verbs with this thematic structure denote inherent attributes of their single argument. The connection between the quality and the object is based on a subjective evaluation of cognitive subject usually unexpressed in the sentence. This attribute could be colour, e.g. *аленее*, *зеленее*, *синее*, *белее* (It looks/appears scarlet, green, blue, white); taste, e.g. *киселее* (It tastes sour), *сладни* (It tastes sweet), *люти* (It tastes hot), *горчи* (It tastes bitter); flavor, e.g. *ухае*, *мирише* (It smells), *вони* (It stinks), or other physical characteristics, e.g. *блести* (It shines), *лъщи* (It glistens), *сияе* (It shines), *искри* (It sparkles), *мокрее* (It feels wet), *тежи* (It is heavy). It is worth mentioning that verbs like *аленее*, *зеленее* (It looks scarlet, green) also have a reflexive form *аленее се*, *зеленее се*. Reflexivization, however, does not change the lexical meaning. The reflexive particle (pronoun) *се* is only an overt marker for intransitivity (cf. Asenova, Guentchéva 2022).

Basic syntactic structure of verbs from the third subtype of single-argument state predicates consists of an inanimate subject theme to which verbs attribute an inherent feature:

1. *Супата леко киселее, но е много приятна на вкус.*

The soup tastes a bit sour, but it tastes very nice.

2. *Звездите блестят.*

The stars are shining.

Interestingly, these predicates (except *сияе* and *искри*) can have also a two-argument structure with an experiencer in object position (dative experiencer):

3. *Супата ми киселее.*

(To me/Based on my evaluation/I think) The soup tastes sour.

4. *Слънцето ми блести.*

(To me/Based on my senses) The sun is shining.

5.a. *Това палто много ми тежи.*

This coat feels very heavy on me.

5.b. *Работата много ми тежи.*

The work is very difficult/hard for me.

5.с. *Самотата много ми тежи.*

Loneliness torments me a lot.

Despite the inclusion of a dative experiencer, the subject position is again for the argument marked as theme. The experiencer in an object position is animate, usually human. The situation is represented from the experiencer's perspective. He/She evaluates the attributes of the subject theme from his/her own point of view: *Супата ми киселее* (The soup tastes sour to me); *Нещо ми (се) синее в далечината* (Something seems/looks blue to me in the distance).

When the experiencer is explicit an insertion of locative argument is also possible:

6. *Люти ми на езика.*

(Literary: It is hot on my tongue.) It burns my tongue.

7. *Блести ми в очите.*

It shines in my eyes.

Unsurprisingly, the locative argument is realized by a noun denoting body-parts where the experiencer can sense (to taste, smell, feel heaviness, light, etc.). In some cases, the locative argument is not possible with an explicit subject theme: **Супата ми киселее на устата*. If a locative phrase is present, constructions with empty subject position are preferred. When both arguments are present (overt dative experiencer and overt locative) the configuration can undergo further changes. Interpolation of an argument stimulus expressed by *от* (ot) phrase leads to a seemingly three-place structure:

8. *Люти ми на езика от чушките.*

(Literary: The peppers are hot on my tongue.) The peppers burn my tongue.

The dative object denotes the experiencer, *на* (na) phrase – locative and *от* (ot) phrase – stimulus that activated the sensation in the body part designated by *на* (na) phrase.

Sensory verbs could also have a non-referential inherent argument: *Мирише (ми) на рози / на изгоряло* (It smells like roses/burnt (to me)). Van Valin and LaPolla (Van Valin, LaPolla 1997: 123) determine the different nature of the inherent argument to activity verbs like *eat* and *drink*. The inherent argument is an internal argument which expresses an intrinsic facet of the meaning of the verb and does not refer specifically to any participants in an event denoted by the verb. It serves to characterize the nature of the action rather than to refer to any of the participants in it. This type of argument can be used to characterize a number of particular actions expressible by the verb, e.g. *drinking beer / coffee / tea / milk*, etc. One-place sensory verbs with non-referential argument expressed by *на* (na) phrase can be analyzed the same way. Whereas the locative argument is not possible with an explicit subject theme (cf. ex. 8), the inherent argument could appear simultaneously with subject theme and dative experiencer *Тази кутия (ми) мирише на билки* (This box smells like herbs (to me)).

A summary of the features of the subject – the only intrinsic argument of one-place state predicates, is presented in Table 5.

Semantic subtype	Verb	Subject		
		Thematic relation	Animacy	Referentiality
State or condition	седа, лежа, стоя	patient	animate	referential
Physiological state	гладувам, студувам, мръзна	experiencer	animate	referential
Inherent property	аленее (се), белее (се), мирише, блести	theme	non-animate	referential

Table 5. One-place state verbs

Considering the syntactic realization of verbs denoting inherent property, we propose a comparison with the additional classification based on the features of the optional dative object and prepositional phrases.

Syntactic structure	Verb	Subject	Object	Na-PP	Ot-PP
Single argument	аленее (се), киселее, мирише, блести, мокрее, тежи	theme			
Two arguments	Супата ми киселее. синее ми, блести ми, мирише ми	theme	dative experiencer		
Two arguments	люти ми на езика, блести ми в очите		dative experiencer	locative body part	
Three arguments	люти ми на езика от чушките		dative experiencer	locative body part	stimulus

Table 6. Inherent property verbs

5. Two-place predicates

Two-place predicates define positions for subject and object arguments. In view of their second argument, two subgroups are identified: 1) verbs with a direct object expressed by NPs and 2) verbs with an indirect object expressed by PPs. Complement clauses can also be used in an object position. We will use the term *experiencer* to denote the thematic features of an animate participant expressed by the first (external) argument of verbs denoting emotion, perception, cognition, desire, feelings, physiological state

instead of *perceiver, cognizer, judge, experiencer, emoter, wanter*, proposed by Van Valin and LaPolla (Van Valin, LaPolla 1997). Second (internal) argument represented by NPs or PPs is marked as stimulus or object of perception, desire, emotion, etc.

5.1. Two-place predicates with NP_NP structure

This group comprises verbs from the following semantic groups in Bulgarian: perception, e.g. *виждам* (see), *чувам* (hear), *чувствам, усещам* (feel); cognition, e.g. *помня* (remember), *зная* (know); desire, e.g. *искам* (want), *желая* (wish), *жадувам* (crave), *очаквам* (expect); emotion, e.g. *обичам* (love), *харесвам* (like), *мразя* (hate).

Perception verbs have a two-argument structure. The first argument is an animate perceiver denoted by the subject of the sentence. The second argument is a stimulus represented by the direct object. The head of the stimulus NP can be a referential noun (*птиците, песните на птиците*) or a proposition expressed by *да* (da) clauses, *че* (che) clauses or *wh*-complement clauses.

9. *Виждам птиците.*

I see the birds.

10. *Чувам песните на птиците.*

I hear the songs of the birds.

11. *Виждам как се усмихваш.*

I see you smiling.

12. *През юни чух по радиото да предупреждават шофьорите за това.*

In June I heard them warning drivers about that on the radio.

13. *Все по-често чувам, че хората искат да се завърнат в родината си.*

More and more I hear that people want to return to their homeland.

Perception verbs can also denote mental state and are then defined as synonyms of *understand* or *ascertain*. This interpretation is usually signaled by changing the way the second argument is expressed. Verbs of perception have this reading when their second (internal) argument is a complement clause or a nominalization of proposition denoted by *за* (za) PP.

14. *Виждам, че си добър човек.*

I see that you are a good person.

15. *Отсега виждам какво ще стане, ако не се включиш.*

Even now I can see what will happen if you do not join in.

16. *Трябва да видя как да го поправа.*

I need to see how to fix it.

17. *Чух за „Национални дни на кариерата“ за първи път през 2015-та година.*

I first heard about National Career Days in 2015.

In Table 7 we summarize our observations on the argument structure of perception verbs.

Semantic group	Verbs	Subject			Object	
		Thematic relation	Animacy	Referentiality	Thematic relation	Syntactic realization
Perception	виждам, чувам, усещам	experiencer	animate	referential	stimulus	referential NP / complement clause
Cognition	виждам, чувам	experiencer	animate	referential	content	complement clause / za-PP

Table 7. Perception verbs

Cognition. We follow the theoretical framework proposed by R. Nitsolova in her work on argument structure of cognition predicates in Bulgarian (Nitsolova 2001). The basic structure of verbs from this group consists of two arguments: a subject and a direct object expressed by NP or a complement clause. Under certain conditions, a third element can be included in the structure. Most often it is a prepositional *за* (*za*) phrase.

The thematic relations set by verbs of cognition are experiencer (or cognitive subject), cognitive object and content (information about the cognitive object). The content and the cognitive object are always co-referential (cf. Koeva 2021b: 19). If the second argument presents the content (what the knowledge or thoughts are about), a referential NP is used in the direct object position.

18. *Зная тайната ти.*

I know your secret.

19. *Още помня ваканцията в Пампорово.*

I still remember the vacation in Pamporovo.

Examples with accusative personal pronouns used in the second argument position of cognitive predicates are also found in our data: *помня те*, (I remember you); *мисля те* (I worry about you); *зная го* (I know him/it).

20. *Помня ги тия приказки.*

I remember these stories.

21. *Зная те още от стажантските години.*

I know you from my trainee years.

The cognitive object could also be expressed by a prepositional *за* (*za*) phrase:

22. *Знам за срещата.*

I know about the meeting.

When the second argument is a proposition it denotes the cognitive content and is usually a complement clause or a nominalization (pronoun or NP):

23. *Знам, че срещата ще е след два дни. Знам как да стигна до спирката.*

I know the meeting is in two days. I know how to get to the bus stop.

Although verbs of cognition are typical two-place predicates they can also be used in sentences with three arguments. A noun phrase or a complement clause take the third argument position. The NP in a direct object position is marked as content of cognition and the cognitive object is expressed by a prepositional *за* (za) phrase.

24. *Знам истината (content) за тях (cognitive object).*

I know the truth about them.

25. *Какво (content) знаеш за нея (cognitive object)?*

What do you know about her?

26. *Неслучайно едва 14 на сто от софиянци твърдят, че знаят нещо (content) за втората вълна на приватизацията (cognitive object).*

It is no coincidence that only 14 percent of Sofia residents claim to know something about the second phase of privatization.

There is a possibility of using other prepositions to introduce the object of cognition. Our data shows that *относно* (otnosno) and *по* (po) phrases can take the object position. The noun in the content phrase denotes a non-animate object:

27. *Какво знаеш по въпроса?*

What do you know about this topic?

28. *По-долу са посочени важните неща, които трябва да знаете относно инсталирането на тази актуализация.*

Below are the important things you need to know about installing this update.

As the cognitive content is a proposition, a complement clause also can be part of this thematic relation. The cognitive object from the main clause is co-referential with an argument from the subordinate clause (cf. Коева 2021b: 19). Similar to the two-argument realization of the predicate we observe two possibilities for expressing the cognitive object – by a noun phrase/accusative pronoun (29.) or by a prepositional *за* (za) phrase (30.).

29. *Още го_i (cognitive object) помним как (той_i) влизаше в пощата, отваряше прозорците и надуваше единствения селски грамофон.*

We still remember him going into the post office, opening the windows and turning up the volume of the only gramophone in the village.

30. *За адмирала_i (cognitive object) знаехме, че (той_i) управлява Франция.*

We knew that the admiral was governing France.

In Table 8 we present the syntactic structures with direct and indirect objects that are used to describe cognitive states.

Syntactic structure	Verb	Direct object		Indirect object	
		Thematic relation	Syntactic realization and referentiality	Thematic relation	Syntactic realization
Two arguments	зная, помня	content	referential NP / complement clause		
Three arguments	зная, помня	content	referential NP / complement clause	cognitive object	za-PP

Table 8. Verbs of cognition

Emotion. The cognitive scenario of emotions comprises an experiencer (subject of emotion) and an object or a stimulus for the status described by the verb. Verbs of emotion known as psych verbs obligatory mark one of the arguments as an experiencer. They are well studied because of the linking patterns for mapping thematic relations onto syntactic positions. Psych verbs, however, display different syntactic realizations of the experiencer. Some verbs of emotion have the subject experiencer (fear-type verbs); others follow the reverse pattern (frighten-type verbs).

We start our observations on two-place emotive predicates with examples from the fear-type group. The first argument (subject of the sentence) is the experiencer. The second argument (direct object) is the object of emotion denoted usually by a referential NP or a pronoun.

31. *Тя беззаветно обичаше мъжа си.*
She loved her husband unconditionally.

32. *Мария ме мрази.*
Maria hates me.

33. *20-годишната Ванеса харесва музиката на „Би Джийс“.*
20-year-old Vanessa likes the music of the Bee Gees.

Syntactic realizations of the object, however, also include generic NPs – *кучета* (dogs), *котки* (cats), *лошите хора* (bad people), *сватбите* (weddings), and *разводите* (divorces) in examples below. Definiteness does not affect the choice of noun in a direct object position. In this configuration, though, we observe a change in the verb's meaning. *Обичам* (love) is synonym of *харесвам* (like).

34. *И двамата обичаха кучета и не обичаха котки.*
They both loved dogs and disliked cats.

35. *Децата не обичат лошите хора.*
Kids don't like bad people.

36. *Аз съм убеден, че публиката харесва сватбите, а не разводите.*
I am convinced that the audience likes weddings, not divorces.

Under the same semantic conditions (signifying preferences, likes or dislikes) emotive verbs can take complement clauses as their second argument. The subject experiencer could be referential: *татко* (dad) in (37.) or generic: *човек* (humans) in (39.).

37. *Татко обичаше да танцува.*
Dad loved dancing.

38. *Мразя да закъснявам.*
I hate being late.

39. *Човек обича да изследва далечни пространства.*
Humans love to explore distant territories.

40. *До ден днешен най мрази да изпълнява рецепти, в които пише „щипка сол“.*
To this day, he hates recipes that say “a pinch of salt” the most.

A variant of a generic subject are the patterns of metonymic or metaphoric transfers. The head of subject NP signifies an inanimate entity. The experiencer must, by definition, be an animate object. Place names are connected to the people living in these places. New links between distinct contents are established since people’s characteristics are transferred and attributed to the place where they live.

41. *Холивуд обича самотниците.*
Hollywood likes loners.

42. *Милано обича операта.*
Milan loves the opera.

43. *Планината обича добрите хора.*
Mountains like good people.

Realization of arguments to emotion verbs with a subject experiencer is presented in Table 9.

Syntactic structure	Verb	Subject		Object	
		Thematic relation	Syntactic realization and referentiality	Thematic relation	Syntactic realizations
Two arguments	обичам харесвам мразя ненавиждам	experiencer	referential NP / generic NP	object of emotion	referential NP / generic NP / com- plement clause

Table 9. Emotive fear-type verbs

Desire. Verbs denoting desire, e.g. *искам* (want), *желая* (wish), *надявам се* (hope), *жадувам* (crave), *очаквам* (expect) also have a two-argument structure.

The first argument is the experiencer indicated by the NP in a subject position. An interesting feature of desiderative verbs is the use of generic nouns in a subject position. This confirms the homogeneity of the experiencer role.

44. *Когато хората искат / желаят / се надяват да изглеждат по-умни, си слагат очила.*

When people want / desire / wish to look smarter, they put on glasses.

The second argument denotes the object of desire. The information about it is carried by NPs in a direct object position or complement *да* (da) clauses. Similarly to cognitive object with cognitive and emotive verbs, an accusative pronominal clitic can be used in an object position to desiderative verbs: *искам те, желая те* (I want you), *жадувам те* (I crave you), *очаквам те* (I am expecting you). The object of desire then is animate and specific. The head of an object NP can be referential, e.g. *България* (Bulgaria) in (45.), *тази кола* (this car) in (46.) or generic, e.g. *рокля* (dress) in (47.), *природа* (nature), *бетон* (concrete) in (48.).

45. *Каква България искаме?*

What kind of Bulgaria do we want?

46. *Искам тази кола.*

I want this car.

47. *Искам по-дълга рокля.*

I want a longer dress.

48. *Искаме природа, не искаме бетон.*

We want nature, not concrete.

The second argument of the verb *жадувам* (crave; long for) is either a direct/accusative object or an indirect object expressed by a prepositional *за* (za) phrase. In (49.) the noun phrases *свобода* (freedom), *живот* (life) take the object position. Accusative personal pronoun clitic *я* (her) is used in (50.) and *за* (za) PP in (51.).

49. *Сега беглецът жадуваше свобода, жадуваше живот.*

Now the fugitive craved freedom, craved life.

50. *Жадуваш я, когато я нямаш.*

You crave it when you don't have it.

51. *Аз жадувам за отмъщение.*

I crave revenge.

Interestingly, NP can be used instead of PP and vice versa: *Жадувам те / жадувам за тебе, моя любов* (I crave you / I long for you, my love). At this stage of the research, we can say that personal pronominal clitics are preferred if the object of desire is animate, but the use of *за* (za) PP is also possible. Obviously, sentences with two-place *жадувам* should be the topic of a separate study.

Most desiderative verbs have *да*-clauses in an argument position. The object of desire is a state of affair, a situation or an action that can be carried out.

52. *Искам да се завърна в България.*

I want to go back to Bulgaria.

53. *Исках да бъдем щастливи завинаги.*

I wanted us to be happy forever.

54. *Жадувах да видя Италия, да докосна древните монументи.*

I craved to see Italy, to touch the ancient monuments.

Надявам се (hope), however, does not follow the patterns shown in (52.)–(54.). It can take *да* (da) and *че* (che) clauses as complements. There is neither a complementizer contrast nor semantic differences. Both type of complement clauses represent concepts not interpreted as having a referent.

55. *Надявах се да ми бъдеш най-добрият приятел. Надявах се, че ще ми бъдеш най-добрият приятел.*

I hoped you would be my best friend.

In Table 10 we present the generalized syntactic model of desiderative verbs (for *жадувам* and *надявам се* see the explanations above).

Syntactic structure	Verb	Subject		Object	
		Thematic relation	Syntactic realization and referentiality	Thematic relation	Syntactic realizations
Two arguments	искам желая	experiencer	referential NP / generic NP	object desire of	referential NP / generic NP / complement <i>da</i> - clause

Table 10. Desiderative verbs

In summary, two-place stative predicates with subject and direct object as their arguments belong to four semantic sub-types: cognition, perception, emotion and desire. The expression of the first argument (subject of the sentence) through NP marked [+animate] is common for all groups. No restrictions concerning referentiality were observed. The subject could be either referential or generic nouns. Verbs of perception, emotion and desire function as two-place predicates only. They choose an accusative/direct object as their second argument which introduces several relations (content, stimulus or object of perception, emotion or desire). Only cognition predicates vary in respect to their argument structure. They allow the content and the cognitive object to have a separate syntactic realization. As a result, verbs of cognition are realized in three-argument structures. The only condition is that the content is a proposition and the cognitive object coincides with one of the arguments of the complement clause expressing the content. Concerning the referentiality of the object argument, desiderative and emotive verbs allow referential as well as

generic objects to be used, whereas generic objects are not allowed with cognitive and perception verbs.

5.2. Two-place predicates with NP_PP structure

Two-place predicates with an indirect object as their second argument include three semantic sub-types. Interestingly, verbs with dative or PP objects are from the same thematic groups observed in 5.1. (two-place predicates with a direct object forming NP_NP structures). They denote: 1) emotion, e.g. *радвам се* (be glad), *вълнувам се* (be excited), *тревожа се*, *безпокоя се* (worry), *страдам* (suffer), *срамувам се* (be ashamed), *страхувам се* (fear), *гордея се* (be proud), 2) cognition, e.g. *вярвам* (believe), *мисля* (think), or 3) desire, e.g. *надявам се* (hope), *нуждая се* (need), *жадувам* (crave), *копнея* (long for). As the examples show, many verbs have a short reflexive pronoun *се* (self). Nevertheless, they cannot be regarded as reflexive because they do not have a reflexive meaning. Emotive and desiderative *се*-verbs are analyzed as pseudo-reflexives or middle voice verbs. *Се* cannot be substituted by the tonic reflexive form *себе* while in real reflexives substitution is possible. This is the reason to assume *се* as an overt marker for intransitivity. The reflexive clitic occupies the direct object position, therefore only PPs or complement clauses can be used in a second argument position.

Emotion. We should note two features of these verbs compared to the direct object emotive verbs listed in 5.1. Most emotive verbs from the second group have *се* as an overt marker for intransitivity. This predetermines the use of an indirect object in a second complement position. There are no differences, however, in the thematic structure of emotive predicates from the two groups. Intransitive verbs of emotions also belong to fear-type psych verbs. They assign the role of an experiencer to their subject. The indirect object represents the stimulus for the emotion or its object (target of emotional evaluation).

The second argument with causal interpretation is expressed by prepositional *на* (na) or *от* (ot) phrases. Nouns within PPs are referential, e.g. *неговото завръщане* (his return) in (56.), *нова буря* (another storm) in (57.).

56. *Само сестра му сякаш се радваше на неговото завръщане.*

Only his sister seemed happy about his return.

57. *Страхуваше се от нова буря¹¹.*

He feared another storm.

If the stimulus has a causal reading, it is often a proposition. Complement *да* (da) or *че* (che) clauses or indirect interrogatives are in the object position.

¹¹ There are also examples with generic nouns as stimulus argument – *Мразеше морето, страхуваше се от бури* (He hated the sea and feared the storms.)

58. *Радвам се да те видя отново.*

I'm glad to see you again.

59. *Много се радвам, че ще живеете при нас.*

I am very glad that you will live with us.

60. *Радвам се колко много хора упражняват правото си на глас!*

I'm glad so many people are exercising their right to vote!

The indirect object can also represent the object of emotion. As opposed to the PP stimulus, the object of emotion PP could comprise referential as well as generic nouns. Apart from *на* (na), the preposition *за* (za) can mark this thematic relation between the predicate and its second argument.

61. *Повечето хора очевидно се радват на рождени дни и подаръци.*

Most people obviously enjoy birthdays and presents.

62. *Радвам се за Ясен Петров, това е точният човек за националния.*

I am happy for Yassen Petrov, he is the right person for the national team.

Another difference concerning the representation of thematic relations is that the object/target of emotion cannot be expressed by a complement clause. We can conclude that *за* (za) and *на* (na) PPs are the only means for introducing the object of the emotional attitudes encoded by the emotive *se*-verbs.

The analyzed verbs from the group can also have an overt realization as three-place predicates. In such cases, both arguments are present: an object of emotion usually denoted by *за* (za) or *на* (na) PPs and a complement clause as stimulus. The object of emotion is coreferential with an argument from the complement clause. In (63.) the accusative clitic in the direct object position within *che*-clause is coreferential with tonic accusative form used in *за* (za) phrase (Koeva 2021b: 19).

63. *Радвам се за теб, че още не са те взели на работа.*

I'm happy for you that you haven't been hired yet.

Observations about the argument structure of emotive verbs are summarized and shown in Table 11.

Syntactic structure	Verb	Second argument		Third argument	
		Thematic relation	Syntactic realizations	Thematic relation	Syntactic realizations
Two arguments	радвам се, страхувам се	stimulus	PP with referential NP / complement clause		
Three arguments	радвам се, страхувам се	stimulus	PP with referential NP / complement clause	object of emotion	PP / dative clitic

Table 11. Emotive verbs

Cognition and desire. The cognitive verbs with PP as their second argument, e.g. *вярвам* (believe), and the desiderative ones, e.g. *надявам се* (hope), *нуждая се* (need), *жадувам* (crave), *копнея* (long for) follow similar syntactic patterns. The PPs encode the cognitive object or content as in (64.) or the object of desire as in (65.) and (66.). Verbs from both semantic sub-types allow referential as well as non-referential generic objects. They can be animate or inanimate objects, events or abstractions.

64. *Вярвам в теб / в твоя успех / в доброто.*

I believe in you / in your success / in goodness.

65. *Нуждая се от теб / от помощта ти.*

I need you / your help.

66. *Копнея за друг живот.*

I long for a different life.

Complement clauses can also take the second argument position when (abstract, possible or future) states of affairs are the content of belief or the object of desire.

67. *Вярвам в добрите хора / Вярвам, че има хора, готови да помогнат на другия.*

I believe in good people / I believe there are people willing to help others.

68. *Надявам се, че ще се видим пак. / Надявам се да се видим пак.*

I hope to see you again.

69. *Копнея да те видя.*

I long to see you.

There is a specialization of complementizers as well as prepositions: *вярвам в* – *вярвам че / (не) вярвам да*; *надявам се на* – *надявам се да / че*; *нуждая се от* – *нуждая се да*; *копнея за* – *копнея да*. A selection of prepositions and a complementizers alternation with these verbs may be the subject of future works.

The conclusions about the structure of sentences with verbs of cognition and desire can be systematized in the following way.

Semantic subtype	Verb	Object	
		Thematic relation	Syntactic realization
Cognition	вярвам	content	PP with referential NP / complement clause
Cognition	вярвам	cognitive object	PP with referential or generic NP
Desire	надявам се копнея	object of desire	PP with referential or generic NP / complement clause

Table 12. Cognition and desiderative verbs

In essence, two-place predicates with an indirect object have the same thematic structure as predicates with a direct object. Their first argument is an experiencer

expressed by NPs in subject position. The experiencer can have either referential or generic interpretation, but by definition is an animate entity. The second argument is the object of emotion or desire with emotive or desiderative verbs. Verbs of cognition have a cognitive object as their second argument. It alters or appears simultaneously with a stimulus (what causes a change of mental state).

6. Conclusions

The analysis of Bulgarian stative verbs denoting permanent and temporary states carried out in this article confirms the general notion that the syntactic behavior of verbs depends on their lexical meaning. Semantic structure is coded by linguistic means, organized to language specific grammar parameters. States are an ontological category. To understand the way we can denote stative eventualities we have adapted to some extent the core concept of ontological formations that relations are central to understanding bigger or dominant formations. We derived a formal syntactically motivated model of state predicates based on the number and type of their arguments and thematic relations linked to arguments.

Stative verbs belong to different lexical (thematic) classes. They signify physical, physiological, mental, emotional, etc. states. Our observations confirm the idea that state predicates are not homogeneous in respect to their syntactic realization. Verbs from different thematic groups (physiological state, physical state or condition, inherent property) function as one-place predicates. Verbs of perception, cognition, desire and emotion are two-place predicates. The hypothesis that predicates from a given thematic group have similar syntactic behavior is valid for perception verbs only. We find two different syntactic realizations of cognitive, emotive and desiderative verbs depending on the type of their second argument – NP or PP. Further, we conclude that there are variations within thematic groups in respect to the number of arguments the verbs can take. Our data shows that in the sub-type of two-place predicates with NP as their second argument cognition verbs could also have three-argument structure, whereas in the sub-type of two-place predicates with PP as their second argument only some emotive predicates follow such a pattern. The selection of prepositions is important for mapping thematic relations of object, target, content or stimulus onto the syntactic position of indirect objects. This assumption would need to be confirmed through further investigation.

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**Синтактична реализация на предикатите за състояние
в българския език
(с оглед на онтологията на лексикалните значения)**

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Резюме

Обект на изследване са синтактичните особености на предикатите, представящи статични ситуации. Целта на проучването е обобщено представяне на възможностите за синтактична реализация на аргументите към предикати, означаващи състояния. В анализите проверяваме хипотезата, свързана с въпроса дали предикатите от една тематична група имат сходно синтактично поведение. Анализираните глаголи представляват едно-, дву- или триместни предикати. Глаголи като *седя, лежа, стоя, спя, блестя, мършиа* имат едноаргументна структура. Единственият им аргумент заема позицията на подлога. Двуместните предикати са два типа: глаголи с подлог и пряко допълнение,

напр. *обичам, харесвам, виждам, чувам, чувствам, усещам, гледам, слушам, желая, искам, помня*, и глаголи с подлог и непряко допълнение, напр. *вярвам, надявам се, нужда се, тревожа се, радвам се, вълнувам се, притеснявам се, гордея се, срамувам се, плаша се, страхувам се*. При някои предикати за състояния се реализират едновременно пряко и непряко допълнение, но с различна степен на задължителност. При *знам* трябва да бъде реализирано прякото допълнение, докато при *мисля* трябва да бъде заета позицията на непрякото допълнение. Коментира се и редуването на предлози при двуместните предикати с непряко допълнение и при триаргументните предикати.

Ключови думи: *предикати за състояние, аргументна структура, експертиенцер, Граматика на ролята и референцията, български език*

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