

**Concept “visual perception” as verb taxonomy (on the example of english verbs)**

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**Abstract.** The article deals with verb representation of visual perception in the English language on the basis of construction of a complex cognitive model called verb taxonomy of the concept VISUAL PERCEPTION. The model allows us to present a part of the lexical system of the English language with account of the conceptual level, namely the concepts represented by verbs of visual perception. The verb taxonomy of the concept VISUAL PERCEPTION consists of two focuses and three levels of categorization. It is important to note that categorization of the perceptual process is mainly dependent on communicative conditions, i.e. verbal context. The context activates specific linguistic and cognitive mechanisms that provide a certain interpretation of a visually perceived situation and determine the functional categorization of a verb. The analysis presented in the article demonstrates the way native speakers conceptualize and categorize different situations of visual perception.

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**Introduction**

At the present stage of science development visual perception is considered as a cognitive process connected with other cognitive systems, spatial, image thinking and a person's conceptual system in general. This connection of visual perception with other cognitive processes is reflected in the language, in the meaning of linguistic units that represent visual perception. A verb is one of means of representing the situation of visual perception. It can be regarded as a linguistic unit that allows us to describe a whole perceptual situation. The participants of a perceptual situation are the components of the conceptual structure that a verb represents, that is the concept VISUAL PERCEPTION [1; 2; 3].

In the research reported here, we attempt to analyze the concept of visual perception as a flexible hierarchical structure. We begin by briefly describing the content of the concept of visual perception, mechanisms of interpretation of its conceptual content, followed by taxonomic analysis of the concept. We then try to show how functional categorization of verbs of visual perception determines verb taxonomy of the concept VISUAL PERCEPTION.

**Concept of VISUAL PERCEPTION. Mechanisms of interpretation of its conceptual content**

The concept of visual perception is a structured knowledge of a perceptual situation that a person operates in the process of learning the world as well as in his/her communication oriented towards transferring this knowledge by means of language. It is a conceptual analysis that allows us to define the content of a concept represented by some linguistic unit. While investigating the content of the concept VISUAL PERCEPTION we relied on works of

scientists that have already investigated some aspects of representation of visual perception [4; 3; 2].

The concept of visual perception includes both compulsory and additional conceptual characteristics. Compulsory characteristics, that are typical for all situations of visual perception, are ‘Subject’, ‘Object’ and ‘Direction’ (for the verbs of the group *to look*). Additional characteristics include ‘Time’, ‘Manner’, ‘Obstacle’, ‘Visibility’, ‘Distance’, ‘Holistic perception of an object’, ‘Trajectory’, ‘Reason’, ‘Purpose’, ‘Concurrent activity’.

Every verb of visual perception represents the conceptual structure in which some of the listed additional characteristics are profiled. Nevertheless, certain functioning of perceptual verbs in the context can change the conceptual structure represented by them. It determines functional categorization of a verb - a process and a result of representation of a concept by a verb in the context. It should be noted that peculiarities of functioning of a verb of visual perception depend on certain linguistic and cognitive mechanisms. Linguistic mechanisms of functional categorization of a verb of visual perception include the mechanisms of *actualization*, *re-categorization* and *polycategorization*. In their turn, linguistic mechanisms of functional categorization of a verb of visual perception are realized on the basis of cognitive mechanisms: *profiling*, *conceptual metaphor* and *conceptual metonymy*.

Taking everything into account, we can present the concept of visual perception as a taxonomy that has a dynamic potential.

**Method of conceptual taxonomic analysis. Verb taxonomy of the concept VISUAL PERCEPTION**

To describe the structure of the concept VISUAL PERCEPTION we refer to the method of

conceptual taxonomic analysis. For the first time the idea of hierarchical organization of the conceptual level was touched upon in works by E. Rosch [5].

N. N. Boldyrev has developed the method. In his opinion, conceptual taxonomic analysis is “a system of techniques used for analysis of the hierarchical organization of linguistic objects regarding the conceptual hierarchy, i.e. the hierarchy of concepts these objects represent” [1]. The main criteria according to which verbs can be assigned to the basic level of taxonomy: verbs represent knowledge as a gestalt, linguistic units are morphologically simple, they are characterized by a wide range of combinability, verbs are stylistically neutral and have the German origin (for English verbs). The subordinate level as a level of specification suggests the following criteria: a) verbs represent a part of the whole; b) they verbalize additional characteristics; c) verbs are borrowed; d) they are derived or formed due to blending; e) they are derived from nouns; f) they are stylistically marked; g) they are neologisms; h) they can't be a part of phrasal verbs or prepositional phrases [1].

Relying on foreign and Russian scientists' works, we distinguish two levels of categorization in the taxonomy of the concept VISUAL PERCEPTION. It seems reasonable to consider the superordinate level only as a level of the conceptual hierarchy of characteristics of the concept VISUAL PERCEPTION. And the hyper concept VISUAL PERCEPTION occupies this level. The basic and subordinate levels of the taxonomy of the concept VISUAL PERCEPTION can also be divided into tiers. In the basic level we distinguish two tiers and in the subordinate levels – three tiers.

It is necessary to take into account the ambivalent nature of perceptual process itself. We differentiate between active or goal-oriented perception (here the goal is an acquisition of some visual image) and passive purposeless visual perception. Passive visual perception is an unconscious process that is a form of fixation of visual images coming from a stimulus and their primary conceptualization. In the language hierarchy correlated with the conceptual one this peculiarity of a perceptual event is represented in the semantics of corresponding linguistic units, the verbs *to see* and *to look* representing the perceptual process as a gestalt, i.e. without specification of its characteristics. So considering the ambivalent nature of visual perception we can talk about two focuses of the model, the first one is represented by the verb *to see* and the second – by the verb *to look*.

Now let's analyze the examples that show how the taxonomy is constructed.

### Basic level of the verb taxonomy of the concept VISUAL PERCEPTION

The basic level of the taxonomy of the concept VISUAL PERCEPTION doesn't suggest any considerable specification of the conceptual structure of a perceptual situation represented by a verb. In the hierarchy of conceptual characteristics there are important, compulsory conceptual characteristics that characterize the prototypical situation of visual perception. They are 'Subject', 'Object' and 'Direction'. In the English language these characteristics are represented, first of all, by the verbs *to see* and *to look*. Attribution of these verbs to the basic level is justified by the fact that they fulfil all the main criteria of the basic level.

The verbs *to see* and *to look* represent two types of visual perception without specification of its aspects. This becomes evident if we consider the definitions of the verbs: *to see* – “have or use the power of sight” [6], *to look* – “to turn your eyes towards something, so that you can see it” [7].

The next criterion proving that the verbs belong to the basic level of the taxonomy is that they are morphologically simple verbs. The verbs *to see* and *to look* are monosyllabic. The verbs can form prepositional, phrasal collocations: *His wife looks at me archly from beneath her plucked eyebrows* [8]. – *They were the crowd whose heads you could not see over* [9].

The verbs *to see* and *to look* are characterized by a wide range of combinability. They can be used with different types of subjects (animate, inanimate and abstract):

1. *Rudolph [the man] looked curiously around the room* [10] (animate subject);

2. *These years saw a shift in both French and foreign perceptions <...>* [9] (inanimate subject);

3. *The world I entered was a world that warmed itself with coal fires, lit itself by gas and looked upon a bathroom as a luxury out of the reach* [11] (abstract subject).

As for the frequency of their use, the verbs *to see* and *to look* are the most frequent verbs of visual perception in English [12].

The verbs *to see* and *to look* are of the German origin: *look* (v.) – developed from Old English *lōcian* [13]; *see* (v.) – developed from Old English *sēon* [13].

The second tier of the basic level in the taxonomy can be called a *transition zone*. On the one hand, this zone isn't characterized by gestalt perception. But, on the other hand, the conceptual content represented by the verbs of a transition zone doesn't suggest inter conceptual links in the conceptual structure represented by a verb. Thus in the conceptual hierarchy of characteristics the second

tier of the basic level is represented, along with compulsory characteristics 'Subject', 'Object' and 'Direction', by one (or two but "conceptually correlated") additional characteristic(s) of the concept VISUAL PERCEPTION. The second tier of the basic level of the model includes the verbs *to watch*, *to stare* and *to gaze* that represent additional conceptual characteristics 'Time' (or 'Time' ('Duration')) and 'Manner' connected with the former ones.

#### **Subordinate level of the verb taxonomy of the concept VISUAL PERCEPTION**

Distinguishing three tiers in the subordinate level we rely not only on general criteria but also on the ones specific for each tier.

So, the first tier of the subordinate level is characterized by: the main meanings of verbs are defined only through verbs of the basic level or verbs of the same level of categorization; verbs represent only the process of visual perception with specification of its character and they don't represent other cognitive processes.

In the conceptual hierarchy this tier of the model includes the characteristics of the basic level 'Subject', 'Object' and 'Direction', and characteristics that specify such aspects of the perceptual event as 'Time', 'Manner', 'Trajectory', 'Obstacle', 'Visibility', 'Purpose', 'Distance', 'Reason'. The first tier of the subordinate level is regarded as a transition zone of the model. In the first tier of the subordinate level we include the following verbs: *to glance*, *to peep*, *to peek*, *to peer*, *to gape*, *to gawk*, *to gawp*, *to goggle*, *to sight*, as well as phrasal verbs *to look on* and *to look out*.

Let's analyze the verb *to peer*. The main meaning of the verb conveys information about the process of visual perception. This proves the definitions of the verb: to look with difficulty at someone or something especially because you cannot see very well or there is not enough light [14]; (at sth\sb) To look closely or carefully at sth, esp when unable to see it well [6].

The definitions demonstrate that the verb *to peer* used in its main meaning represents the conceptual structure in which the following compulsory and additional characteristics are profiled: 'Subject', 'Object', 'Direction' (compulsory), 'Visibility' or 'Obstacle' (it depends on the context), 'Manner' (additional). The definitions also let us speak about profiling of the conceptual characteristic 'Reason' that is connected with characteristics 'Visibility' and 'Obstacle' that specify it.

The verb *to peer* can be used with a wide range of different prepositions and as a part of phrasal and phrasal-prepositional units: *The man*

*peered out, across the empty canyons, into the black recesses of the night* [15].

Considering the etymology we can say that the verb *to peer* is of the German origin: *peer* (v.) – look closely 1591, probably reborrowed from East Frisian *pīren* <...> shortened form of *aperen* [13].

The verb *to peer* is stylistically neutral. It was also derived from the verb *aperen*.

For the second-tier verbs we distinguish such criteria: the main meaning of a verb is defined not only through the verbs of the basic level but also through the verbs of other thematic groups; verbs of this tier can (in their main meaning) represent not only the concept VISUAL PERCEPTION but other concepts (additional); they are classified as verbs of visual perception only by their modern main meaning, but their etymology can indicate that in the past they belonged to other thematic groups. It can also determine their semantic potential.

The second tier of the subordinate level in the conceptual hierarchy is represented by characteristics that constitute either the conceptual content of the concept VISUAL PERCEPTION or the conceptual content of other concepts (like INTELLECTUAL ACTIVITY). It should be noted that the ability of two-tier verbs to represent manifold knowledge demonstrates the flexible character of the taxonomy, its dynamic potential. The second tier of the subordinate level includes such verbs as *to glimpse*, *to glare*, *to glower*, *to observe*, *to examine*, *to scan*, *to inspect*, *to scrutinize*, *to survey*, *to witness* as well as a phrasal verb *to look up*.

Let's analyze the verb *to look up*: *I looked up her condition in my medical dictionary* [8].

In the example (13) *to look up* is a phrasal verb with the meaning: "search for and find a piece of information in a book or database" [16]. Functioning as a phrasal verb *to look up* represents the concept INTELLECTUAL ACTIVITY. But the process of visual perception is also objectivized by the semantics of the phrasal verb. As a prototypical situation of searching for some information suggests the process of visual perception especially if this activity is connected with reading some books or documents. Within the taxonomy this phrasal verb can be related to the second tier of the subordinate level.

Third-tier verbs of the subordinate level are characterized by: in their modern main meanings they do not represent the process of visual perception; they can represent the process of visual perception in a definite context.

The third tier of the subordinate level as well as the second one allows us to speak about the flexibility of the model. In the conceptual hierarchy of the characteristics of the concept VISUAL

PERCEPTION on this tier there are both compulsory and additional characteristics of the concept that are determined by definite cognitive and linguistic mechanisms.

As members of the third tier of the subordinate level we regard such verbs as *to notice*, *to follow*, *to flicker*, *to scowl*.

Let's analyze the verb *to flicker*.

The verb *to flicker* belongs to the group of verbs that represent light emission. Nevertheless, this verb can be used as a synonym of the verb *to look*. Usually it happens in the constructions with the subject of visual perception: *His dark eyes flickered briefly in her direction then he set his mouth in grim lines* [9].

In the example the verb *to flicker* actualizes the meaning: If someone's eyes flicker towards something, they look at it quickly [17]. As a result, used as a verb of an active, goal-oriented visual perception the verb *to flicker* represents the conceptual characteristics of the basic level 'Subject' (metonymically through the characteristic 'Instrument'), 'Object' and 'Direction' and additional conceptual characteristics 'Time' and 'Trajectory' (the latter one is specified by the context). The activated linguistic mechanisms of functional categorization of the verb *to flicker* in this case are the mechanisms of profiling, conceptual metaphor (integration of conceptual domains LIGHT EMISSION and VISUAL PERCEPTION) and conceptual metonymy (restructuring within the concept of VISUAL PERCEPTION as a result of metonymic representation of the subject of perception through the organ of sight (*eyes*)).

#### Verb taxonomy of the concept VISUAL PERCEPTION determined by functional categorization of verbs of visual perception

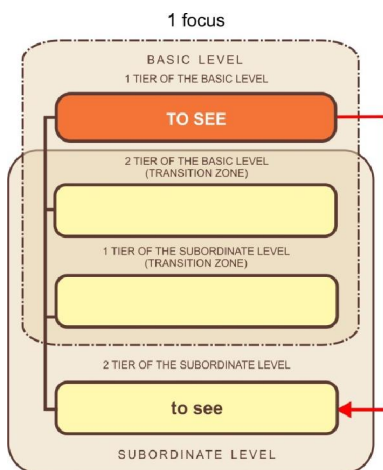


Figure 2

Let's give an example of functioning of the English verb *to see* in the context that allows us to regard it as a verb of the first tier of the subordinate level: *A young couple on the sidewalk strained to see through the tinted rear window, hoping to glimpse a VIP <...>* [18].

In the example the semantics of the preposition *through*, the verb *strained*, the noun *window* that is one of the objects of visual perception, the adjective *tinted*, the infinitive construction *strained to see* allow us to speak about the actualization of a contextually bound sense of the verb *to see*. Actualization of such kind is realized on the basis of profiling of such conceptual characteristics as 'Direction' (a characteristic of the basic level), 'Trajectory', 'Manner', 'Purpose' (visual perception is the purpose) and 'Obstacle' (additional characteristics) in the conceptual structure of the perceptual process. So the example illustrates the functioning of the verb *to see* as a verb of the first tier of the subordinate level.

We can also give an example when the verb *to see* represents manifold knowledge and mainly the peculiarities of a person's mental processes, i.e. functions as a verb of the second tier of the subordinate level of the taxonomy: *He saw that in some manner he shocked them, and gave up that aspect of the matter altogether, and tried to show them the practical value of sight* [8].

In the example an object clause that specifies the object of perception indicates that the verb *to see* metonymically represents the concept UNDERSTANDING. Moreover, the process of visual perception represented by the dictionary meaning of the verb *to see* is regarded as a background in the conceptual structure of the event described. In this exact case the information about "someone saw something" is not important but the fact that the subject has noticed something in the object's behavior, his understanding, realization. The object of perception itself seems to be a kind of mental conclusion. It allows us to state that in the structure of the concept UNDERSTANDING as a result of metonymical conceptualization a concurrent activity is profiled, i.e. the perceptual process. That's why in this case we can speak about the verb *to see* as a verb of the second tier of the subordinate level. The cognitive mechanisms of such functional categorization of the verb *to see* are profiling and conceptual metonymy, the linguistic mechanism here is re-categorization.

#### Conclusion

So the concept of visual perception can be presented as a structured knowledge – taxonomy. The



taxonomy described in the article reflects both conceptual and language hierarchy. It is determined by the assumption that the verbs of visual perception representing the concept VISUAL PERCEPTION convey knowledge of different degree of abstraction and specification. Moreover, the content of the knowledge represented by verbs can considerably change depending on the context in which a verb is used. It should be noted that the dynamic nature of the taxonomy of the concept VISUAL PERCEPTION is due to functional categorization of all the verbs that it comprises. Inner conceptual and inter conceptual links activated in the consciousness by other verbs of visual perception can be demonstrated by Figure 3.

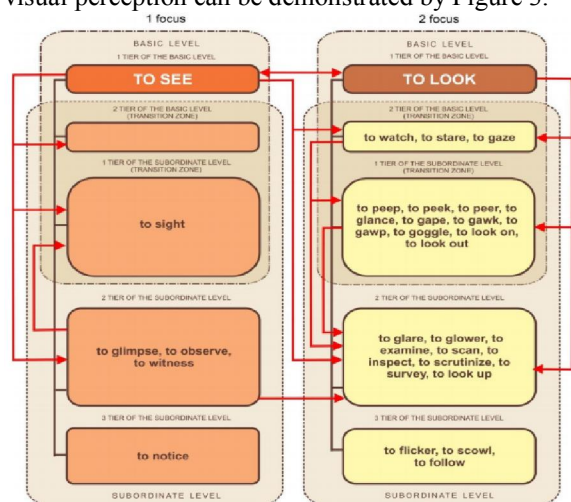


Figure 3  
Inner conceptual and interconceptual links between the elements of the verbal taxonomy of the concept VISUAL PERCEPTION (on the example of English verbs)

## Results

1. The majority of works dealing with conceptualization and categorization of visual perception in the language is confined to the description of the content of the concept VISUAL PERCEPTION through the analysis of the semantic structure of the words that represent the concept. Nevertheless, for a more objective description of such a complicated phenomenon as visual perception it is necessary to apply to a different cognitive modelling that could allow us to describe not only "fixed" meanings but also peculiarities of conceptual content structuring, its change due to the purpose of communication.

2. Our empirical study shows that the verb taxonomy of the concept VISUAL PERCEPTION that reflects the hierarchy of both linguistic units and conceptual characteristics represented by these units has two levels (the basic level and the subordinate

level) and two focuses. Superordinate level isn't distinguished in the language hierarchy. Each level is divided into tiers depending on both linguistic peculiarities of the verbs and peculiarities of the represented conceptual content.

3. The verb taxonomy of the concept VISUAL PERCEPTION has transition zones that demonstrate the flexible character of the taxonomy determined by the peculiarities of functional categorization of the verbs as its structural units.

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