

Ilyicheva E.G.

KNOWLEDGE REPRESENTATION IN ENGLISH HYPOTACTIC CONSTRUCTIONS

**Ilyicheva E.G., Russian Federation, Saratov State Law
Academy, Associate Professors**

Abstract

The article concerns the basic principles of hypotactic relations' cognitive study, particular approaches of the analysis being specified. Special attention is given to the study of language and non-language knowledge representation in hypotactic constructions.

The article focuses on the main principles of syntactic constructions' analysis worked out in cognitive linguistics as well as the scope of applying these principles when researching syntactic hypotactic constructions. The attempt to find out the cognitive grounds for structuring subordination in the English language is being undertaken.

Keywords: cognitive basis of syntax, hypotactic relations, relational concepts, models of hypotactic knowledge

In modern linguistics priority is given to cognitive direction where the focus is the study of language in its relationship with the major human cognitive processes. In this regard, the consideration of the cognitive aspect of hypotaxis which function is to indicate various types of semantic dependence is relevant.

Hypotactic or subordinate relations were repeatedly subjected to research in traditional grammar (in works of Ch. Bally, V.V. Vinogradov, A.A. Shakhmatov), but linguists failed to work out a uniform approach to the analysis of all types of subordinating relations which could be distinguished in word-combinations, complex or simple sentences. Only cognitive linguistics opens new possibilities for reconsideration of the problems developed in linguistics from the point of view of knowledge representation. The purpose of this article is to identify the cognitive bases of structuring

**2d the International Conference
«Research, Innovation and Education» 2015**

hypotactic relations, that is, to determine how the subordinate relations represent both language and non-language knowledge.

It should be specified that language knowledge as well as non-language one is orderly. Language knowledge forms information flow. It is the information flow division in speech that allows a speaker to select different syntactic models or varieties of one syntactic model. Language and non-language types of knowledge are interdependent. Thus, schemes of partitioning integral events into a number of their constituent elements in order to verbalize them are to meet certain stereotypes, so that those speaking the same language are able to understand each other [1, p. 87]. These stereotypes are structured in the form of mental representations based on concepts and their associations belonging to the system "language - thinking" which could be potentially realized in various types of constructions [2, p. 121]. On the other hand, special structuring of the knowledge is generated as a result of information processing.

Knowledge may be represented in English integrally or in multipartite form. In the former case the situation is represented by a verb as a carrier of generalized grammatical and semantic meanings in the projection over the sentence proposition; in the latter case it is represented by a sentence structure actualizing categorical meaning of a verb and a proposition [3]. A verb thus performs the function of proposition prototype [2, p. 119]. Syntactic constructions, in their turn, combine a matrix (a kind of form to fill out) and free or relatively free chosen words to fill these matrices, which indicates that optimal language functioning is based on a number of projective rules for selecting relevant words [4].

The specific character of the syntactically represented concepts, including those objectified by hypotactic relations, is based on the fact that they combine knowledge of the real world and language knowledge. A syntactically represented concept serves as a conceptual substrate indirectly displaying the relationship between extralinguistic entities and linguistic signs. This connection is possible due to the fact that such a concept includes the most generalized information about relationship between the objective entities in the scheme "subject - action - object of an action", and each component of the conceptual scheme, in its turn, is projected over the structure of the sentence [5, p. 69].

A propositional structure, or a proposition is a model of conceptual organization for our knowledge. Generalizing some specific experience, a speaker singles out particular arguments and establishes their connections corresponding to relations. Becoming aware of their own experience in terms of propositions, people tend

2d the International Conference «Research, Innovation and Education» 2015

to use specific conceptual structures or models formed by a predicate and its arguments [6, p. 37].

Depending on what type of configuration a proposition takes, the same data can be represented by different hypotactic structures. Thus, a word-combination is a proposition in its compressed form, as one of the main arguments of the proposition: either a subject or a predicate is absent. Cf.: *the girl standing at the window* and *The girl is standing at the window*.

In contrast to simple sentences, complex sentences may be poly-propositional, for example, in the case of focus change in one of the components, and divergence of this focus with the profiling event in another component.

Some theories which have already been developed in linguistics could be used as presuppositions in our theory of structuring hypotaxis. Productive for consideration of the cognitive foundations for hypotaxis is logical-grammatical approach to analysis of a sentence which could help divide information flow in a sentence structure depending on semantic content of the word. We could distinguish between two types of word meanings: absolute and relative [7, p. 12]. Words with absolute (non-relative) meaning do not need to have their meaning completed. They can be distributed in a sentence with the help of other words, but they do not require these distributors as necessary: *a new dress, a table made of wood*, etc. Relative words need to have their meaning completed: *An uncle came in*. In this case it is quite logical to ask a question to eliminate semantic incompleteness of the utterance: *Whose uncle?*

Relative / non-relative type of a word is considered to be a fundamental constitutive feature to characterize different words in terms of their projections in information flow organization [8, p. 266]. This explains why there arose the question concerning existence of a specific type of concepts, i.e. relational concepts the semantic structure of which is conceptually dependent on particular background information [9, p. 226]. The fact that the relational concept contains knowledge of an interdependent relationships is significant for the study of distinctive features of hypotactic constructions. To analyze these constructions it is also essential to introduce the concept of a proposition, which is a mental structure that reflects the typical situation and the nature of its participants' connections [10].

Interdependence of language and non-language knowledge determines, on the one hand, the fact that mental representations set in the "language - thinking" system could potentially objectify different types of structures [2, p. 121]. On the other hand, special knowledge structuring is generated as a result of information

2d the International Conference «Research, Innovation and Education» 2015

processing. The volume of non-language knowledge included in the statement is formed under the influence of the speaker's intention and hearer's knowledge, as it is the intention that predetermines the ability of a person as a rational being to divide the incoming information into significant and insignificant [11, p. 125].

Evaluating the amount of language and non-language knowledge in an utterance, it is necessary to take into account not only the intention of the speaker, which predicts his choice of a particular structure, but also the parameters of the structures of a specific type in the target language. Due to the interdependence of language and non-language knowledge, the same phenomena of reality could be objectified by different structures.

For example, R. Taylor, analyzing English clauses, emphasizes that, as the structure of the clause specifies the position of the participants over time [9, p. 413], this structure is characterized by a number of interrelated parameters: the number of participants of the process, the semantic roles of the participants and the method of their syntactic representation. Combining the knowledge of the real world and that of the language, the models for constructing clauses express the relationship between extralinguistic entities and linguistic signs. Thus, syntactic connections represent a projection of relationships within the original cognitive structure.

The mechanism of interaction of syntax and semantics in the process of forming semantic meaning of hypotactic syntactic units is the mechanism coupling language and non-language knowledge. However, this cognitive scheme does not work in word-combinations, where there are no syntactic positions of a subject and an object. Formal distinction of subordination types into agreement, government, and parataxis applied for word-combinations' analysis does not disclose their semantic peculiarities. The solution to this problem lies in the cognitive aspects of hypotaxis, so it is necessary to define what hypotactic knowledge is.

It is essential to point out the existence of a number of mental operations that form the basis of the method of cognitive modeling for hypotactic relations and determine the features of expressing conceptual content through syntactic structures with subordinate components.

The operation of specification defines how detailed the information is. For example, in complex and simple sentences information can be identical in content, but in a complex sentence cognitive content is more detailed. Cf.: *I asked her to stay to tea, for I had something to tell her* [Oxford Advanced Learner's Dictionary of Current English]; *The old lady does not go out in the winter, for she feels the cold a great deal* [Longman Dictionary of

2d the International Conference «Research, Innovation and Education» 2015

Contemporary English]. The main part contains basic essential information while a dependent component carries additional information, but the content of a dependent component is not determinative, since it represents only information secondary for the whole utterance.

Focus attention operation which was thoroughly developed in cognitive linguistics, is also essential for the choice of a particular way of hypotactic relations' representation. Conceptual content of the syntactic structure varies depending on what aspect is being emphasized by the speaker.

In uncomplicated sentence a unitary event is profiled, i.e. the process is structured in the way that it constitutes a single situation or event. If there are any internal changes or mental experience processes, the internal structure of the concept is complicated [13, p. 243 - 244]. The participants essential for conceptualization: agent, instrument, patient, location, experiencer and stimulus are almost always explicitly expressed [9, p. 415 - 417], while adverbials are not and could be omitted, which denotes their lower position in the knowledge representation hierarchy. If the focus of the speaker is complex cognitive process, attention can be focused on one of the elements of the situation, rather than the situation as a whole; in such a case complex sentences with adverbial dependent clauses could be used, for example. *If I go to bed late, I find it hard to get up in the morning* [Longman Dictionary of Contemporary English].

Profiling is a special case of focusing attention on a single object of conceptualization [14, p. 205]. Profile is an abstract conformity with visual focus, and the space can be considered not only from the point of view of visual perception, but also in terms of scale. Depending on whether the focus is the maximum space, directly perceived space or a specific focus (profile) these or those concepts are distinguished. For example, in complex sentences the verb in the main clause profiles the relationship in which the subject encodes the observer, and the subordinate clause encodes what is observed by the subject.

Comparing complex sentences and word-combinations we can come to the following conclusion. A subordinate clause expresses attention to the recipient, information extraction, taking into account not only the intention of the speaker, but the background knowledge of the hearer as well. A subordinate clause shows transformation of basic plan into background. In word-combinations pragmatic and cognitive aspects are rendered by one word. Cf. : *I'm more comfortable with Dad because he drives smoothly* [English Course] and *I'm more comfortable with Dad*

**2d the International Conference
«Research, Innovation and Education» 2015**

because of his good driving. Keeping mental representations in mind a hearer can comprehend the content of the speaker's statement, but the speaker's intention determines the specific focus of attention. Mental situations being represented by language structures could be almost identical in content but differ from each other in some respects. Cf. *∴ With him going away (after he went away, when he went away), everything has changed.* Linguistic-creative mindset dictates the choice of particular constructions by the speaker. Dynamic knowledge obtained from the analysis of a particular real fact is based on static knowledge, a priori received and having a certain fixed language model realized in syntactic positions projected in the sentence.

The intention which helps a speaker understand the importance of the information and the way to represent it proves to be the main factor in the process of language representation by a concept. Under the influence of intentional parameters certain conceptual characteristics are activated, and in speech they are expressed with semantic and syntactic sentence structure.

Important in this regard is comprehensive examination of relational predicates and proposition meanings which form sentences. Indeed, a sentence, being a syntactic unit, represents different hierarchical levels which are classified according to the degree of abstraction; and cognitive schemes are a reflection of relations of objects in space.

In simple uncomplicated sentences knowledge about the relationship of semantic dependence of sentence components is based on predicate valence projection. Hypotactic relations represent the situation segmented by participants of the event. Since it is the verb that is a carrier of generalized grammatical and semantic meanings and it forms proposition prototype, the structure of a simple sentence contains categorical meaning of a verb and a proposition. This construction is structured as a proposition with nominative actors and the type of their connection in an abstracted form. Participants of the event are considered as performers of certain functional roles. Thus, a subject is an event source, objects are the results of direct or indirect effects, instruments, tools, while a predicate is an event itself.

Propositional form of knowledge representation contains not only indication of the real-world objects, but also determines their relationship. A speaker should establish the fact the object exists, name, identify and characterize it. The format of a simple sentence is based on the relationship of identification, in which the semantic subject agent and the syntactic subject coincide. The position of the subject determines, in its turn, the focus of the event

2d the International Conference «Research, Innovation and Education» 2015

and the perspective of the information presented. The word order is thus a formal category denoting the subject.

Not all arguments projected by lexical verb valence are represented in the sentence structure. This process depends not only on the position and importance of the subject, transitive or intransitive type of a verb, but an intentional vector as well. Intention stated in the utterance and the impact of the verb valence projection [12, p. 520] provides different configuration of knowledge in syntactic units. For example, in a simple sentence *He suffered terribly* the situation is constructed in terms of the process; in the sentence *His suffering was terrible* the situation is represented in detail. One and the same syntactic unit may have double interpretation. For example, depending on the context, the phrase *It is my key* can denote possession (*key that belongs to me*), or the subject of the action (the key with the help of which I open the door).

Thus, a simple sentence is a format including obligatory actors: subject, predicate and object, and each meaning of the verb is represented by a situational model in which a semantic role predicts the actor's function. Substantive interpretation of actors is attributing actors with specific roles, that is, the establishment of logical-semantic relations between the verb and its semantic valence.

More complex organizational level of hypotactic knowledge representation is formed in such a way that a proposition scheme includes various components and is represented by complicated simple sentences, as well sentences complicated with different constructions or complex sentences. Organization of information flow is constructed in such a way that the focus is made on details. Detailing the situation is provided by the mechanism of profiling. Thus, in a complex sentence two cognitive situations are conceptualized: one of them loses autonomous profiling and is viewed through another situation [13, p. 435-437], while the semantics of the subordinate clause is determined by a verb-predicate in the main clause, and the profile of the main clause dominates over the profile of the subordinate clause.

In complex sentences knowledge taken as the basis has the function of characterization (*I knew they were going to get divorced*), as the subordinate clause gives detailed information that is important from the point of view of the speaker and thus, respectively, parted from the main clause through isolation of one actant of the verb-predicate structure of the main clause and the disclosure of its content in accordance with the intentions of the speaker. For example, in the main clause of the complex sentence a proposition "subject - action - object" is actualized, but, depending on the meaning of the subordinate clause it can acquire connotations of

2d the International Conference «Research, Innovation and Education» 2015

causativity, orientation to the actor, the object of an action, the circumstances of the action, etc. Representing extralinguistic reality, a complex sentence is an event in its configuration.

Thus, semantic insufficiency of a predicate requires filling on the syntagmatic level in the form of a dependent component in the sentence. Relative relations between parts of a complex sentence determine, in their turn, not only semantic, but also structural content of a subordinate clause. The focus of the speaker at the same time specifies which actant is specified in a subordinate clause. In the following example: *Where a child is a passenger or there is any other indication that the parent might, even marginally, be considered blameworthy, it is better to choose the other parent or some other relative as the litigation friend. Once a litigation friend is appointed he has the power and right to deal positively with the litigation in the child's interest* [Osborne C.] the subject of the main clause *he* is semantically incomplete without the context of the subordinate clause, where the time actant is transformed into a subordinate clause.

Relational meaning in the form of semantic roles is ascribed to the actants of the predicate in the communication process and characterizes real relationship in denotative situation perceived at the conceptual level. For example, such semantic meaning as location characterizes right-actant with the information that the object is the point in space which the work of the subject is directed to.

To sum it up, cognitive structures are displayed in the speaker's brain sequentially, depending on how important this or that aspect of the situation is. Any change in the direction of conceptual relations is reflected in typical meaning of this construction and the choice of lexical units which constitute the sentence. Basic conceptual characteristics which any reasonable person operates make a background system which helps to interpret any real-world event in any perspective. Dominant cognitive structure includes only those blocks of knowledge that are relevant for the speaker at the moment.

References

- [1] Ilyicheva E.G. Cognitive grounds for structuring hypotactic relations in English // Proceedings of higher educational institutions. Volga region. Humanities. – 2010. – №2. – P. 87 - 92.
- [2] Furs L.A. Syntactically represented concepts: Thesis for Doctor's Degree in Philology. – Tambov, 2004. – 370 p.

**2d the International Conference
«Research, Innovation and Education» 2015**

- [3] Boldyrev N.N. Functional categorization of the English verb: Thesis for Doctor's Degree in Philology. Saint-Petersburg, 1995. 445 p.
- [4] Jakobson R. Selected Writings. Berlin, N.Y., Amsterdam, 1985. 405 p.
- [5] Boldyrev N.N., Furs L.A. Representation of language and non-language knowledge by syntactic means // Philology. 2004. №3. P. 67 - 74.
- [6] Boldyrev N.N. Cognitive semantics: A course of lectures in English philology. – Tambov, 2000. – 123 p.
- [7] Gysina R.M. Lexical-semantic field of relative verbs in modern Russian language. – Saratov, 1981. – 195 p.
- [8] Kubryakova E.S. Language and knowledge. – Moscow, 2004. – 560 p.
- [9] Taylor J.R. Cognitive Grammar. – Oxford University Press, 2002. – 576 p.
- [10] Arutyunova N.D. Sentence and its meaning. Moscow, 1976. 383 p.
- [11] Ilyicheva E.G. Distinctive features of hypotactic relations' construction // Bulletin of Volgograd State University. Linguistics. 2010. №1. □ P. 124 - 128.
- [12]. Furs L.A. Factors of knowledge configuration in syntax // Papers for International congress on cognitive linguistics. 2008. №1. P. 520 - 523.
- [13] Langacker R.W. Concept, Image and Symbol: The Cognitive Basis of Grammar. – Berlin, N.Y., 1991. – 395 p.
- [14] Langacker R.W. Grammar and Conceptualization. Cognitive Linguistics Research. – Walter de Gruyter, 1999. – 442 p.