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BIVALENCE OF TEMPORAL AND SPATIAL PREPOSITIONS IN PRESENT DAY ENGLISH

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The paper is focused on the notion of bivalence of temporal and spatial prepositions, which comprises functional-semantic, discursive and structural ties, which exist between preposition, its complement and dependent. In the course of the research it has been discovered that a traditional right-hand valence does not define a lexical unit as a preposition, in particular at the level of sentence or discourse. A complement, which is a center of the deictic temporal and space scale, is determined not by a preposition itself, but by its dependent element – discursive or lexical. Any prepositional complement is specified by an author's intention and a dependent element. Three types of prepositional complement have been distinguished – noun phrase, clausal and null complements.

Key words: bivalence, preposition, preposition complement, dependent.

В статье рассматривается понятие бивалентности предлогов времени и места, которое охватывает функционально-семантические, дискурсивные и структурные связи, что существуют между предлогом, его дополнением и зависимым элементом. В ходе исследования было установлено, что традиционная правосторонняя валентность не определяет лексическую единицу как предлог на уровне предложения или дискурса. Дополнение, которое выступает центром временно-пространственной дейктической шкалы, определяется не предлогом как таковым, а его зависимым элементом – дискурсивным или лексическим. Предложное дополнение определяется интенцией автора и зависимым элементом. Отмечено существование трех типов предложного дополнения – именная группа, придаточное предложение, нулевое дополнение.

Ключевые слова: бивалентность, предлог, предложное дополнение, зависимый элемент.

У статті розглядається поняття бівалентності прийменників часу та місця, яке поєднує в собі функціонально-семантичні, дискурсивні та структурні зв'язки, що існують між прийменником, його доповненням і залежним елементом. У ході дослідження було встановлено, що традиційна правостороння валентність не визначає лексичну одиницю як прийменник, зокрема на рівні речення чи дискурсу. Доповнення, що є центром часопросторової дейктичної шкали, визначається не власне прийменником, а його залежним елементом – дискурсивним чи лексичним. Прийменникове доповнення визначається інтенцією автора та залежним елементом. Визначено три типи прийменникового доповнення – іменникова фраза, підрядне речення, нульове доповнення.

Ключові слова: бівалентність, прийменник, прийменникове доповнення, залежний елемент.

Taking into account the phenomenon of anthropocentrism, which is an inseparable part of the latest linguistic research, the categories of time and place must be studied within the frames of cognitive linguistics as corresponding complex concepts, as by means of them a speaker perceives and interprets environment, both physical and cognitive.

Spatial and temporal relations belong to the basic ones, which are perceived by a person and are represented with the help of language forms [3, p. 6]. Such interpretation is realized in the fundamental metaphor “time is space”, which exists in the modern worldview [1, p. 22], while space is understood as a certain “sphere”, “field of objective reality”, where time is treated as imaginable space [4, p. 95].

In linguistics, the category of space is interpreted in the frames of functional grammar theory, as a cognitive category, which expresses spatial

relations with the help of verbal and non-verbal means of representation. Locative category is a semantic category, which interprets the concept of space [3, p. 6]. The same can be applied to the category of time, the interpretation of which “is possible via language: the notions of time and its qualitative filling, which are formed in the consciousness as a result of natural temporal experience, are implemented in sign forms and become language heritage” [1, p. 20]. The temporal category contributes to implementation of time notions in linguistics.

So, from the linguistic point of view in general, and functional semantics in particular, the research of interrelations between the units that represent locative and temporal categories is **of current interest**.

The **aim** of the paper is to establish functional and semantic and structural characteristics of temporal and locative prepositions at the

discourse level, which will help to ascertain the preconditions for the subsequent delimitation of temporal and spatial prepositions and adverbs.

In PDE grammar prepositions belong to the closed word classes, as they are limited by a group of lexical units “a hundred of which is in active use” [7, p. 127]. In general, linguists single out about 150 prepositions used in PDE [6, p. 6], on the basis of which and dictionaries [9; 10] 37 lexical units, which denote time and place and at the same time are interpreted in modern grammar both as prepositions and adverbs, have been selected, see table 1.

Lexical units given in Table 1 are divided according to the seme of time (14 units) and place (36 units), though it is obvious that the majority of them (13 units) combine these semes.

From the point of view of modern grammar the main divergence between the prepositions and adverbs is presence/absence of a noun phrase as a complement (NPC), as a preposition is treated as “a word, which denotes correlation between a noun or a pronoun and any other word, represented by a verb, adjective, noun or pronoun” [7, p. 127–130]. This definition, namely the compulsory presence of an NPC, creates a fundamental restriction for lexical units, which are treated as prepositions. According to it, the classical examples of prepositions are:

1. They hide behind a wall of friendly but hard line management.

2. She was quite near the plane now and there were quite a lot of newspaper photographers around her.

3. His lips were stiff, the words of goodwill could hardly get past them.

At the same time, these very lexical units in examples 1a-3a are adverbs.

1a. *She expected him to keep looking over his shoulder to make sure that all the fuss was not intended for the man behind.*

2a. *“Slow down, child, slow down,” her mother begged as Anne raced around.*

3a) *A police car shot past.*

Analyzing examples in 1–3 and 1a–3a we can make two conclusions.

Firstly, in isolation *behind*, *around*, *past*, and other units from Table 1, being either adverbs, or prepositions, do not allow determining their temporal and spatial closeness or remoteness to the subject.

Secondly, the central temporal and spatial reference point for these units is not a speaker, as it can be observed with the open word classes, but an object represented by a complement, irrespective of its type.

We assume, that the reference point which determines closeness/remoteness of the objects on the spatial and temporal scale, must be parsed as a basic criterion while classifying word classes. Thus, the units from Table 1 must be regarded as prepositions, because they describe subject’s closeness/remoteness not to the speaker, but to the object, represented by the complement.

Therefore, the complement is an event-trigger centre and starting point in the deictic system for both local and temporal prepositions, but it is not enough to determine the degree of the subject’s closeness or remoteness to the complement. Though, it can be done with the help of the dependent. When the dependent is used, the preposition passes from the lexical level, where it is analyzed together with its component, but in isolation from other parts of speech, into the discourse level, where the interaction between all parts of speech comes into foreground. Graphically, it can be represented in the following way:

a) *Lexical Level : Prep + complement;*

b) *Discourse Level : dependent + Prep + complement.*

Model *a* represents a preposition on the lexical level, where it is characterized by its basic right-side valence. Model *b* shows a preposition at the discourse level, where it acquires left-side valence, i.e. starts correlating with its dependents, subsequently, the optional bivalence prevails.

Table 1

Single-word Spatial and Temporal Prepositions/Adverbs in PDE

| Spatial prepositions/adverbs | | | | Temporal prepositions/adverbs | |
|------------------------------|---------|----------|------------|-------------------------------|------------|
| aboard | atop | in | past | about | inside |
| about | before | inside | round | after | near |
| above | behind | near | through | around | on |
| across | below | off | throughout | before | over |
| after | beneath | on | to | behind | round |
| along | between | opposite | under | between | since |
| alongside | beyond | out | underneath | down | throughout |
| around | by | outside | up | | |
| astride | down | over | within | | |



Prepositions, which belong to the closed word class, become “brisker” and start functioning at full capacity only in discourse, or at least in a sentence:

4. *On his previous visits to Larksoken he had seen Martyr's Cottage spread out beneath him, when he and his aunt had stood surveying the headland.*

5. *He led the group out of the church and, in a ring of torchlight, examined each window and the snow beneath [+ the window/window sill].*

6. *He stood beneath the apothecary's sign, dagger still drawn.*

7. *At the shaft head the tunnel is ten meters beneath the surface.*

8. *Beneath the water the sand was, not surprisingly, the sinking, knacker type.*

Here *underline* represents preposition, *double underline* – lexical dependent, *wavy line* – discourse dependent, *dotted line* – complement. Hence, we single out two main types of dependent – lexical and discourse.

Lexical dependent – is a lexical unit, which follows the preposition, e.g. phrasal verb “*spread out*”, see 4; noun “*the snow*”, see 5; verb “*stood*”, see 6; numeral phrase “*ten meters*”, see 7; null element, see 8. The interrelation between the lexical dependent and complement is represented by the preposition, the sense of which is usually not enough to understand the essence of the whole sentence, cf. “*spread out beneath him*”, see 4; “*the snow beneath*”, see 5; “*stood beneath the apothecary's sign*”, see 6; “*ten meters beneath the surface*”, see 7; “*beneath the water*”, see 8.

To understand the meaning of the sentence the model “*Prep + complement*” is insufficient as well as the model “*lexical dependent + Prep + complement*”. In this case, the discourse dependent is in the focus, which comprises a lexical one.

Discourse dependent – is a lexical (see 4, 5, 6) or a grammatical clause (see 7, 8), which follows the preposition, not necessarily directly, or may go after it, cf. “*he had seen Martyr's Cottage spread out*”, see 4; “*each window and the snow*”, see 5; “*He stood*”, see 6; “*the tunnel is*”, see 7; “*the sand was*”, see 8.

The existence of the dependent offers an opportunity not only to comprehend the essence of a sentence, i. e. contributes to comprehension at the cognitive level, but also to influence the syntactical level.

Thus, the presence of the complement, which is traditionally treated as the inalienable element of the prepositional phrase, is contingent on the dependent.

Examples 4–8 show that discourse dependents may be represented by a complex sentence (**CS-dependent**), see 4; simple sentence (**SS-dependent**), see 6, 7; and its derivatives such as simple sentence with a compound subject, see 5; simple inverted sentence, see 8. We assume that it is possible to single out two types of the mentioned above model – a traditional one and an inverted one:

– [SS/CS] dependent + Prep + [NP/C/N] complement;

– Prep + [NP/C/N] complement + [SS/CS] dependent.

It should be mentioned, that the dependent, as opposed to the complement, does not have a fixed place in a sentence, i.e. it can follow the preposition or go after it, and this fact clearly describes the existence of the structural transposition in the prepositional structures. At the same time, the very dependent is a compulsory element, whereas the complement is an optional one (see 5).

Let us analyze the variants of the traditional model in terms of a single sentence, which will contribute to the obviousness of the phenomenon:

– **Simple Sentence dependent + Prep + Null complement.**

9. *First, a Boeing 787 caught fire at Heathrow this afternoon; fortunately, no one was **aboard**.*

In example 9 there is the discourse dependent “*no one was*”, preposition “*aboard*”, and complement (NC), which has been omitted, as it introduces no new information, and can be reconstructed from the context.

– Simple Sentence dependent + Prep + Noun phrase complement.

9.1. *First, a Boeing 787 caught fire at Heathrow this afternoon; fortunately, no one was **aboard + [the plane]**.*

Example 9.1 shows the usage of the preposition “*aboard*”, discourse dependent “*no one was*” and reconstructed NPC “*the plane*”.

– Simple Sentence dependent + Prep + Clausal complement.

9.2. *First, a Boeing 787 caught fire at Heathrow this afternoon; fortunately, no one was **aboard + [but the craft was damaged]**.*

Complement in 9.2 is compulsory for usage, as it introduces new information, which is not clear from the context. The preposition and discourse dependent remain the same as in the previous examples.

– **Complex Sentence dependent + Prep + Null complement.**

10. *Alex, who was a real coward, stayed **behind**.*

In example 10 the dependent is represented by the complex sentence, and *behind* governs the NC, which does not influence the sense of the sentence.

– **Complex Sentence dependent + Prep + Clausal complement.**

10.1. *Alex, who was a real coward, stayed behind + [when the others ran ahead].*

Sentence 10.1 shows one of the variants of the reconstructed CC, which may not introduce new information, but specifies and strengthens given information.

– **Complex Sentence dependent + Prep + Noun phrase complement.**

10.2. *Alex, who was a real coward, stayed behind + [the wall].*

There is a possibility to specify information represented by the lexical dependent with the help of the NPC, see 10.2.

The **inverted model** differs from the traditional one due to the positions of the dependent, which moves from the pre-position towards the preposition to the post-position, towards the complement.

– **Prep + Noun phrase complement + Simple Sentence dependent.**

11. *Inside, in the small paved yard, the four horses stood huddled close together.*

Shift of the discourse dependent is rather a stylistic means, the usage of which is stipulated by discourse, but not by grammar. Similar transformations may take place in constructions with other types of complements, see 11.1, 11.2.

– **Prep + Clausal complement + Simple Sentence dependent.**

11.1. *Inside, + [where the light had gone forever], the four horses stood huddled close together.*

The change of the NPC by the CC contributes to the introduction of new information in the sentence, but leads to lowering of the concretization of place, where the action happens, which is usually introduced by the NPC. The position of the dependent does not influence the sense of the sentence.

– **Prep + Null complement + Simple Sentence dependent.**

11.2. *Inside, the four horses stood huddled close together.*

In case with the NC, the only source of information is the discourse dependent, which does not always allow achieving clear notion of the time and place, see 11.2.

– **Prep + Noun phrase complement + Complex Sentence dependent.**

12. *Under each picture of the plant there are graphic instructions for local people as well as information about the plant.*

The dependent element in 12 is represented by the complex sentence, placed in the postposition to the NPC.

– **Prep + Clausal complement + Complex Sentence dependent.**

12.1. *Under + [whenever it was hanged] there are graphic instructions for local people as well as information about the plant.*

It should be mentioned, that the usage of the CC not only deprives the sentence of the place and time concretization, but sometimes makes it impossible to comprehend where and when the action takes place.

– **Prep + Null complement + Complex Sentence dependent.**

12.2. *Under there are graphic instructions for local people as well as <...>.*

The usage of the NC can influence the sense and integrity of the sentence, especially if the dependent does not hold any additional information.

Thus, we can make the following **conclusions**:

– In sentences with temporal and locative prepositions, the complement is an event-trigger and a central point on the deictic temporal and space scale;

– The existence of the preposition in the frames of the traditional right-side valence does not indicate the belonging of the lexical unit to the preposition category and is not a leading characteristic for prepositions at the discourse level;

– Type of the complement, namely NPC/CC/NC is determined not by the preposition, but by its dependent, which can be lexical and discourse, and is compulsory while forming prepositional bivalence;

– Type of the complement is formed on the basis of the dependent and author's intention. The interrelation between the components of bivalent structure has been determined, namely: the NPC is used, when there is no definite information in the dependent as to the time and place of the action; the CC is used to introduce additional information as to the time and place of the action, if these components are mentioned in the dependent, or are of no great importance; the NC is used, when the dependent includes all information as to the time and place of the action;

– Bivalent prepositional models can be traditional and inverted and play leading roles at the discourse level.



In prospects, it is necessary to establish correlation between the types of complements, dependents and prepositions, and to analyze temporal and spatial bivalent constructions in comparison to one another.

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