

ЛІНГВІСТИЧНА ТЕОРІЯ

УДК 811.111

Bokun I. A.

**THE USES OF MENTAL SPACE THEORY
IN SOLVING LINGUISTIC ISSUES**

Cognitive linguistics gives us an idea of mappings and mental spaces [3, p.7; 4, p. 5]. Mappings are correspondences between elements of the source and target domains within a domain and between two mental spaces [32, p. 371]. A mental space is a partial conceptual structure that we build up on-line in the course of communication. We set up mental spaces with the help of space builders. Space builders include adverbials of time, various adverbs, modal verbs, and several others. Mental spaces are cognitively real phenomena that we can think of as small activated areas of the brain/mind [1, p. 87]. The *aim* of the article is to explain semantic anomalies and referential ambiguity.

Similar to frames, or domains, mental spaces are also structured areas of experience, but they differ from frames in that they are smaller than domains and more specific than domains. At the same time, mental spaces may be structured by frames – often by several of them at the same time. Several mental spaces can be embedded in one another. Ultimately, however, there must be a space from which other mental spaces derive. This ultimate mental space is called the base space. Particular mental spaces are set up with the help of space builders. Space builders are not limited to a particular word class and they vary in their degree of frequency in discourse. The special importance of space builders lies in the fact that they *explicitly signal* the kinds of mental spaces we build in the course of communication. A key principle of mental space theory is called the access principle. It means that an expression describing or naming an element in one mental space can be used to *access* a counterpart of that element in another mental space.

In actual discourse, mental spaces are connected by mappings between the elements of different but related mental spaces. A large part of our understanding of discourse is our ability to keep track of which mental spaces are set up and what the mappings are between the elements of mental spaces that we build. This explains *the topicality* of the research.

Understanding, almost as a rule, involves multiple construals. We can build mental spaces and find connections between them in several different ways. In a specific situation, the same word or sentence may receive very different interpretations. The remarkable conclusion is that meaning is constructed online in context by means of mental spaces and the mappings that connect the elements of mental spaces. Meanings are not in the words or sentences; meanings are creatively constructed by speakers and hearers.

Mental space theory provides elegant solutions to and explanations of several difficult problems in logic, semantics, and the understanding of discourse. In this article I will look at some of these areas. They are semantic anomalies, referential ambiguity, and change predicates.

Semantic Anomalies

There are many sentences that contain an apparent contradiction. One example of this is the following:

- *In the picture, the girl with blue eyes has green eyes.*

We can account for the apparent contradiction if we assume that there are two mental spaces here: a base space and a picture space. In the base space we have the girl with blue eyes, and in the picture space we have the girl with green eyes. The girl with blue eyes in the base space can be said to have green eyes in the picture space because, with the help of the access principle, we can refer to a counterpart of an element by means of the description of that element in another space (i.e., in the base space where the description is *the girl with blue eyes*).

As another example of a semantically anomalous sentence, consider

- *I'm taller than I am.*

This is clearly a semantically unacceptable sentence. However, by adding a space builder to the sentence we can easily fix it:

- *John thinks I'm taller than I am.*

What makes the first sentence unacceptable and the second acceptable? We can say that there is only one mental space in the first sentence – current reality. There is only one point on the tallness scale that corresponds to an individual's height in a single mental space, but comparison involves two points. Therefore, the sentence is unacceptable. However, in the second sentence there are two mental spaces: reality space and John's belief space. The point on the height scale in John's belief space is higher than the point on the same scale in reality space. Since we have two points on the tallness scale (though in different spaces), as required by a comparison of height, the sentence is acceptable, and we do not feel that there is a logical contradiction.

Referential Ambiguity

The following sentence provides an example of what is called referential ambiguity:

- *Oedipus wants to marry his mother.*

There are two spaces here: a base space where Oedipus's mother is Jocasta and a want or belief space where Oedipus's mother is not Jocasta. This is because in the want/belief space Oedipus does not know that the woman he wants to marry, Jacosta, is his mother in reality. Thus, we have the following situation:

Base space: O's mother = Jocasta

Want/belief space: O's mother ≠ Jocasta

The sentence *Oedipus wants to marry his mother* has a true and a false reading. The true reading is based on the base space in which Oedipus wants

to marry a woman, Jocasta, who is his mother. The false reading is based on Oedipus's want/belief space in which Oedipus's mother is not Jocasta.

Let us take another example:

- *The prime minister was ten years old in 1949.*

This has two readings. On one reading, there are two spaces: a base space and a 1949 space. The base space has the prime minister now and the 1949 space has a ten-year-old child who corresponds to the prime minister now. That is to say, there is a mapping between the base space that contains the prime minister now and the 1949 space that contains the ten-year-old child. The mapping is between the prime minister now and the ten-year-old child in 1949.

Another reading is that there was a prime minister who was ten years old in 1949. On this reading, there is only one space, the space of 1949, and this contains the prime minister who was ten years old.

There are many such examples. As a final illustration, consider the following sentences:

- *Ed thinks he's a hero.*
- *In that movie, Ed thinks he's a hero.*

The second sentence has two readings: In one, real-world Ed thinks that the character played by him in the movie is a hero. In the other, the character played by Ed in the movie thinks he is a hero. Within the movie space, either real-world Ed has a belief space (in which the character played by him is a hero) or the character played by Ed has a belief space (in which the character is a hero). In the latter reading, the name Ed does not refer to what it normally does (i.e., the real-world Ed) but to the character played by real-world Ed (i.e., Ed's character in the movie). We can see the access principle at work here. A description (*Ed*) used for an element (*Ed*) in one space (base space) can be used in another space (the belief space) to access, or identify, a counterpart of this element (the character played by Ed) in this second space.

In all of these cases, we can account for referential ambiguity by resorting to mental space theory. By taking into account the several mental spaces and the different possibilities for mappings between these spaces, we can work out the different interpretation of these sentences.

Change Predicates

Consider now what are called change predicates, such as *get bigger*. How can we account for the different interpretations of sentences such as the following?

- *Sue's house keeps getting bigger.*

The sentence has two interpretations. One is what we can call the "normal" interpretation, namely, that Sue's house is becoming bigger and bigger (for example, by adding new rooms to it). According to the other interpretation, the meaning of the sentence is that every time Sue moves, she moves into a bigger house.

On the first reading, the phrase *Sue's house* refers to a single specific entity. Given the role-value distinction, this would be the "value", or

individual, interpretation of the sentence. On the second reading, the phrase has a “role” meaning that can refer to many values, that is, to all the different houses that Sue moves to.

In the sentence, the verb *keep* functions as a space builder: It creates a series of mental spaces in time. The conceptualizer (speaker/hearer) notes that in each successive mental space the house is bigger. He or she scans these successive mental spaces. This process is independent of which reading we are dealing with.

Consider now the following sentences:

- *The trees get smaller as you go up the mountain.*
- *The trees get taller as you down the mountain.*

Given the first sentence, we mentally scan subsets of trees as we go up. Given the second one, we mentally scan subsets of trees as we go down.

Some verbs allow only the value, or individual, interpretation.

Take the following pairs of sentences:

- a. *The trees get taller as you go up the mountain.*
- b. *??The trees grow as you go up the mountain.*
- a. *The cars get three feet longer when you enter Pacific Heights.*
- b. *??The cars lengthen by three feet when you enter Pacific Heights.*
- a. *Every time he buys a new car, it goes faster.*
- b. *??Every time he buys a new car, it accelerates.*

The second sentence in each pair is odd. (This is indicated by the double question marks.) They do not have both a role and a value reading. They only have a value, or individual, interpretation, which does not work in a situation that calls for a role interpretation. The value meanings for the three sentences could be given as follows:

- *'A particular set of trees grows in the short time you go up the mountain'.*
- *'A particular set of cars all of a sudden becomes longer'.*
- *'The case suddenly accelerate when you buy them'.*

Clearly, these meanings do not work because a set of trees does not visibly grow as we go up the mountain; a set of cars do not become longer, as if by magic, when we enter Pacific Heights; and it is not the case that when he buys a new car, it suddenly accelerates.

However, in a context that calls for a value, or individual, interpretation, the sentences that contain these verbs are acceptable. For example:

- *The trees grew visibly as we watched them under the giant microscope.*
- *The cars slowly lengthened in the heat in the giant furnace.*
- *The cars accelerated in the finishing straight of the race.*

In sum, when we have a context that calls for a value interpretation (i.e., when we talk about a particular set of trees), the sentences that contain

the verbs *grow*, *lengthen*, and *accelerates* are perfectly acceptable, but when we place them in a context that calls for a role interpretation (i.e., when there are several different sets of trees that you pass by, when you see several different cars as you enter a place, and when you buy several different cars in the course of time), the sentences are unacceptable.

In conclusion, the theory of mental spaces provides simple solutions for a number of difficult issues in the study of language, including semantic anomaly, referential ambiguity, and change predicates.

Prospects of the research. Further investigation can be focused on the use of tenses and moods. Another direction may be making sense of our ability to manage discourse.

Literature

1. **Fauconnier G.** Mappings in Language and Thought / G. Fauconnier. – Cambridge : Cambridge University Press, 1997. – 112 p. 2. **Kövecses Z.** Language, Mind, and Culture / Z. Kövecses. – Oxford : Oxford University Press, 2006. – 397 p. 3. **Langacker R. W.** Cognitive Grammar / R.W. Langacker. – Oxford : Oxford University Press, 2008. – 562 p. 4. **Taylor J. R.** Cognitive Grammar / J.R. Taylor. – Oxford : Oxford University Press, 2003. – 621 p.

Бокун І.А. Використання теорії ментального простору в рішенні лінгвістичних питань.

У статті розглянуто застосування теорії ментального простору до вирішення деяких складних проблем логіки, семантики та розуміння дискурсу. Стаття пояснює семантичні аномалії та референційну невизначеність.

Ключові слова: ментальний простір, мапування, базовий простір, бажаний простір.

Бокун И.А. Использование теории ментального пространства в решении лингвистических вопросов.

В статье рассматривается применение теории ментального пространства к решению некоторых сложных проблем логики, семантики и понимания дискурса. Статья объясняет семантические аномалии и референциальную неопределенность.

Ключевые слова: ментальное пространство, маппирование, базовое пространство, желаемое пространство.

Bokun I. The uses of mental space theory in solving linguistic issues.

The article shows the application of mental space theory to solving some difficult problems in logic, semantics, and the understanding of discourse. It covers semantic anomalies and referential ambiguity.

Key words: mental space, mapping, base space, belief space.