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Structural linguistic models in the process of language acquisition

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Abstract. *The paper deals with syntactic approach to the structure of language. The structures necessary for the correct phonetic and semantic representation of sentences are discussed. In this scope the syntax is the central and the most important part of language.*

Key words: *syntax, tiered language models, recursiveness, syntactic architecture*

Структурні лінгвістичні моделі в процесі оволодіння мовою

Анотація. *Стаття присвячена синтаксичному підходу до структури мови. В статті визначаються структури, необхідні для правильного фонетичного і семантичного репрезентацій. У цьому спектрі синтаксис є центральною і найбільш важливою частиною мови.*

Ключові слова: *синтаксис, багаторівневі моделі мови, рекурсивність, синтаксична архітектура.*

Current linguistic theory suggests that the model of natural language contains some independent from each other blocks, including phonetics, morphology, discourse analysis, language semantics, syntax. The problem is how these blocks are connected, how they interact, how the structure of grammar is organized. There are two ways to answer this question. One answer is the so-called tiered language models. The second answer is the language models, in which the central position is occupied by the syntax.

The tiered language models are built on the rule "from simple to complicated", that is, they rely on a consistent complication of the original unit on the particular stage. We are starting from phonetics, which handles the sound aspect of language, then turn to the morphology, in which a double-sided linguistic unit first appears – morpheme. Morphology makes words from units – morphemes. Let us then proceed to the syntax, in which expressions and sentences are constructed from words. And further the sentences in the area of a coherent text (discourse) are united into bigger linguistic unities. Semantics takes part in all levels. It expounds appropriate units, because the meaning is present in a morpheme, in a word, in a phrase, in a sentence, and, of course, in the discourse.

Other types of models are the models where the syntax is centered. The cause for such syntax position is the fact that recursive rules appear for first time in it. In 1957 such pattern with a centered position of syntax was offered by American scientist Noam Chomsky, and for the last half a century is the period when the syntax has been most rapidly developing among all fields of linguistics. No doubts, Chomsky suggested such model, because logical arguments about the architecture of language lead to it. They are the following.

Chomsky puts Plato's problem for the first time in relation to the natural language. This is problem of mismatch between our experience and our knowledge: one cannot know as much, based only on the experience he had. Plato put the question about the issue of the space between our language knowledge, our ability for language skill and the language experience which we acquire in the process of study of language according to the problem of natural language

On the one part, one can make and understand an unlimited number of language phrases, and such, which he has never perceived before. On the other part, specifically the experience of children in language acquisition is terminal, no matter how great it is. Chomsky offers the following decision for this question. On the one hand, this is a special pattern of language study. Plato proposes that through our experience we get knowledge of the matters on the ground of innate ideal concepts, so language study occurs through the application of a linguistic experience of a child on innate universal grammar. For the structure of the pattern of language this dilemma has very definite effect.

Knowing of the language does not make the capacity for perception and production of a set of standard sentences, albeit very big. Proper sentences cannot be set by a list. Knowing of the language is the operation of the procedure which allows to create a potentially unlimited number of language compositions having a terminal set of source units and the final set of principles.

If we find out cause of this endlessness, basically we have a limited number of original models with a limited quantity of rules, the result may also be limited. If we imagine such a grammar, which says: if we connect a noun and an adjective, then we

will get a good linguistic phrase, and if we connect a noun and a verb, then we will also get a good linguistic expression. Such grammar in Russian dictionary would produce such statements as, for example, "the butterfly flies", "colorful butterfly flies", "clever student studies", "young child plays" and so on. There will be more such language products than original lexical units, but nonetheless a terminal quantity.

The rules which level up our grammar are recursive. Recursion "is a phenomenon where a linguistic rule can be applied to the result of the application of the same principle." The simplest recursive rule in the English language is the organization of phrases from nouns. We can take nouns "friend" and "student" and get the phrase "friend of the student". Then we can apply this phrase again to the entry of this rule, to obtain another random phrase "sister of the friend of the student." Next phrase may be "son of the sister of the friend of the student" and so on. It is understood that this method is in principle endless.

We should say that this endless nature of this procedure is consciously or unconsciously used in different language games by native speakers. We can take, for example, British nursery rhyme "There was a crooked man" by Mother Goose:

There was a crooked man, and he walked a crooked mile,
He found a crooked sixpence against a crooked stile;
He bought a crooked cat which caught a crooked mouse,
And they all lived together in a little crooked house.

Thus, if the ability for endless complication is a ground, fundamental quality of linguistic structures (certainly, in the morphology there are also recursive rules, but recursiveness in the syntax is the most important attribute), it results that in the syntax the constructive character of language activity emerges in the syntax, so the syntax is made the cornerstone.

Syntax produces an endless number of language works. Other language modules perform the so-called interpretive function concerning the syntactic representations. They help to make a phonetic structure of a language phrase, as

morphology and phonetics do, or create interpretation of a sentence as it is done by semantics.

Morphology and semantics should be available for the syntactic representation because we know that the different grammatical categories characterize different parts of speech. Morphology provides, syntactically defined word markers, so it only interprets syntactic representation of a sentence.

As for the semantics, it is necessary to approach the syntactic structure for a correct understanding of a sentence. And it is clearly seen in the semantic equivocation caused by distinctions in the syntactic architecture. This principle of the relationship of the semantics and syntax, the rule during interpretation we have to rely on is known as the rule of composition integrity, or the principle of Frege – after the name of its creator, a German philosopher, logician and mathematician. It sounds in the following way: the value of the complex linguistic expression is a function in the mathematical sense of its parts and the ways of their syntactic connection. Thus, if we need to know the value of a linguistic expression “zyx”, we need to have not only the values of “z”, “y” and “x” individually, but also the sequence in which z, y and x were connected together. In fact, it is clear if we imagine two different values of the phrase "intelligent males and females" what did we first connect: "males and females" or "intelligent males"?

Comma imposes us a particular syntactic architecture of the sentence. The example may be seen in the following famous joke: An English professor wrote the words: “A woman without her man is nothing” on the chalkboard and asked his students to punctuate it correctly. All of the males wrote: “A woman, without her man, is nothing.” All of the females in the class wrote: “A woman: without her, man is nothing.” Punctuation is powerful.

So we can see that the syntax, on the one part is the only language component providing creative character of language activity, and on the other part, it creates representations that are necessary for the correct phonetic and semantic representation of sentences. In this scope, it is considered in generative grammar that

the syntax is the central and the most important part of language. The syntax is the language for them.

References

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