Aleksandra Horecka

APPLYING THE THEORY
OF KAZIMIERZ AJDUKIEWICZ AND JÓZEF M. BOCHEŃSKI
TO THE FORMULATION OF AN ONTOLOGICAL THESIS.
A SKETCH OF NON-ENDURANTISTIC SEMANTICS

1. A Sketch of Ajdukiewicz’s Theory of Categories of Expression

Among all of Ajdukiewicz’s definitions of category of expression, the most well-known is that:

(Ajd. Def. category-of-expression) Expression $A$ taken in meaning $a$ and expression $B$ taken in meaning $b$ belong to the same category if and only if each sentence $Z_g$, consisting of expression $A$ used in meaning $a$, after exchanging expression $A$ into expression $B$ used in meaning $b$ (without a changing of meaning and mutual connections of all other expressions) turns into a sentence and vice versa; every sentence $Z_g$, consisting of expression $B$ used in meaning $b$, after exchanging expression $B$ into expression $A$ used in meaning $a$ (without a changing of meaning and mutual connections of all other expressions) turns into a sentence.

The basic assumption, accepted by Ajdukiewicz, is the one-operator principle. This rule has two different formulations. The first one runs as follows:

(OOP.1) In each complex meaningful expression, the relations of attachment which hold between the operators and their arguments must have such a form that the whole expression can be divided in such a way that one of the parts of that expression is an operator and the
other parts belong to the operator as its arguments. We call such an operator the «principal operator of this expression».\footnote{Ajdukiewicz (1935), p. 226.}

The second formulation is stronger – only one way of division is permitted:

\[\text{(OOP.2)} \] Each meaningful and univocal expression composed of more than one word, so each sentence also, can only be divided in one manner in such a way that one of the parts refers to the others and connects them into a uniform whole (Ajdukiewicz 1985, p. 345).

As we think, and what we’ll show in a further passage, principle (OOP.1) and principle (OOP.2) have a different field of application.

The main doubt concerning the one-operator principle (OOP) is relevant to its application: how does one recognise whether a certain expression is meaningful? And, how does one distinguish the operator from its arguments?

Ajdukiewicz maintained that in each meaningful and complex expression it is indicated somehow as to which expressions are the functors and which are the arguments.\footnote{Cf. Ajdukiewicz (1935), p. 226.} What is more, he claimed that if the operator has more than one argument, it must also be marked which argument is first, which is second, which is third and so on.\footnote{Cf. Ajdukiewicz (1935), p. 226.} Perhaps he claimed this because he was convinced that an analogy between the expressions of natural and artificial languages exists, \textit{e.g.} the word “likes” in the sentence “John likes Peter” plays a similar role to “+” in “3 + 5.”\footnote{Cf. Ajdukiewicz (1927/28), p. 7.}

However – as Ajdukiewicz remarked – there is a fundamental difference between artificial and natural languages: the expressions of an artificial language are univocal, whereas the expressions of a natural language, the expressions of common speech, often have an uncertain meaning, \textit{i.e.} they are ambiguous. In many cases, acknowledgment of the meaningfulness of an expression must be preceded by a precise statement of the meaning of its components and by settling the syntactical categories to which the components belong.

Ajdukiewicz proposes to distinguish “common natural language” from “language” in its exact meaning:

We use the word “language” in such a meaning that in one and the same language there are no ambiguous names (and no ambiguous expressions belonging to any semantic category). According to this we will not acknowledge as language, the set of