

# Ajdukiewicz and Kotarbiński on Names: a Pretext for Ontological Games

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Leśniewski's Ontology was one of the most inspiring aspects of Polish philosophy in the 20<sup>th</sup> century. I would like to reveal two original ways of thinking about names present in Polish pre-war philosophy and inspired by Leśniewski's ideas, *i.e.* Kotarbiński's reism and Ajdukiewicz's criticism of the latter. It seems obvious, at least in texts of the philosophers quoted above, that the question of names was hiding much deeper quarrels. Although Kotarbiński's and Ajdukiewicz's positions were not in radical opposition, several disagreements between them were very fruitful regarding their respective works. This paper gives an overview of their respective contributions to logic presented against the background of their philosophical positions

All along his philosophical life, Ajdukiewicz nourished his writings by criticisms addressed to theses contained in Tadeusz Kotarbiński's *Elementy* (Kotarbiński 1929). This significant volume was prepared for university students but appeared much too rich and much too innovative to serve this purpose. One year after, Ajdukiewicz published a famous review of the *Elementy* (Ajdukiewicz 1930), which is not only a precious criticism of Kotarbiński's book, but also an excellent account of his own views. He continued the dialogue with Kotarbiński through many other papers, and – as we will see – he worked upon his attitude toward Kotarbiński's writings for years.

One of the major issues of *Elementy* was what Kotarbiński called “reism”<sup>1</sup>, ontological and semantic theory. Materialism represents its ontological side, and its semantic one is a radical nominalism. When Ajdukiewicz starts to criticize reism, he admits that he finds himself unable to formulate the main thesis of that theory. Even if he clearly sees the project of reducing of all Aristotelian categories to the one of things, he notices a hesitation between ontological and semantic formulations.

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Ajdukiewicz quotes what is supposed to be the main thesis of reism: “any name, which is not a name of a thing, is considered as an apparent name”. He is convinced that this is a mere tautology, based on arbitrary definitions. He proposes then an interpretation of reism that he finds more plausible than what is explicitly present in Kotarbiński’s text: “names denoting things constitute a closed semantic category”. This means, quite trivially: in a meaningful sentence, if we replace the name of a thing by an expression which is not such a name and if the meaning of the other expressions remains unchanged, then what we obtain is a nonsense. On the other hand, if we replace this name of a thing by another name of a thing, then we get a sentence, false or true, but certainly meaningful.

If we concede this interpretation, says Ajdukiewicz, we should define the language we are talking about, even though Kotarbiński seems to think that this should be valid for any language. While the very notion of semantic category was introduced to prevent us from antinomies, we are confronted here to a quite radical norm that forbids, for example, putting together words like “table” and “pain” into the same semantic category. Is this restriction justified? Ajdukiewicz does not see any danger of antinomy in considering as meaningful [*sensowne*] sentences like “Something is a pain” and “Something is a table”.

<sup>1</sup> Known also as pansomatism or concretism – the modification of signification comes with the discovery of Brentanian version of dualistic reism and with Ajdukiewicz’s criticisms.

A reist is confronted to a fundamental problem: the negation of the existence of apparent names. If his ontology admits only genuine names, how is he able to say, for example, that “events do not exist”? The interpretation of genuine names as a distinct category implies that this proposition is senseless, whereas in a metaphorical language this proposition is simply false. All what a reist can tell is – as it has already been said – that every object is a thing, because the non-existence of literal relations or qualities cannot be consistently expressed in a reistic language. Ajdukiewicz thought that Kotarbiński’s project, as for its ontological ambitions, might have hidden a conviction of our ability to conceive our world in a “direct” way, without any conceptual apparatus. The critic accused the reist to be close to Kantian research of noumenons.

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The nature of mathematics as presented by reism faces some very similar criticisms to those encountered by a nominalist in mathematics. Ajdukiewicz criticizes Kotarbiński’s conception of numbers: the author of *Elementy* maintained – at least at the time of that book – that numbers do not exist in themselves. According to him, they are a sort of apparent names and constitute a useful convention. They are obviously not the object of mathematics, because mathematics talks about things, as natural sciences do; the only difference between them is what they say about things. Then the arithmetic expression:

$$2 + 3 = 5$$

is an abbreviation, whose proper and detailed formulation would be the following:

For every  $x$ :  $3x + 2x = 5x$   
 (where  $x$  is a variable and takes as values names of things or persons)

On the contrary, Ajdukiewicz maintains there is nothing more than numbers he has to think about when counting. Reading “ $2 + 3 = 5$ ”, he does not think of it as of a metaphor, hiding some particular objects. What, by the way, should be understood by the expression: “what

mathematics talks us about”? “If what it talks about are referents of names (values of variables of names), thus mathematics talks about nothing, since there are no names in its theorems. But if what it talks about are objective correlates of functors occurring in these theorems, which have no arguments, then it talks about numbers; it is so because – in the arithmetical sentence “ $2 + 3 = 5$ ” – numbers, and nothing else, are the final arguments.” (Ajdukiewicz 1930, fragm. not translated in Eng.) One can evoke Gardies stating that classical algebra is a language that abandoned the primitive purpose of communication to the one of creation (Gardies 1975, 57). This idea seems to be very present in the conflict between Ajdukiewicz and Kotarbiński.

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Ajdukiewicz recognizes the instrumental utility to the postulates of semantic reism: he concedes that replacing apparent names by genuine ones helps to avoid a whole range of philosophical problems, appearing as false. Even if in his grammatical research Ajdukiewicz did not seem to be interested in historical semantics, he formulated some remarks on this topic in his famous essay “The Scientific World-Perspective”. According to the Polish philosopher, the modifications of paradigms proper to the history of science perturbed our primitive use of language which matched, “in a simple and naïve manner” (Ajdukiewicz 1934a), what we experienced and what we lived. The fact that we are sometimes unable to distinguish the rules of one’s language means only that this person hesitates between different languages, says Ajdukiewicz. The question to ask here would be the following: what language-game are you playing?

In any case, Ajdukiewicz still did not see any fundamental danger hidden behind the use of apparent names. Subsequently, he said that the second way of considering reism – this time as an ontological theory – seems trivial to him. This triviality seems extremely interesting because, though imperfectly formulated, reism was the most radical version of nominalism and of materialistic monism known at that time. Ajdukiewicz approaches the problem formally: the thesis saying

that every object is a thing, "All  $A$  is  $B$ ", means "For every  $x$ , if  $x$  is  $A$ ,  $x$  is  $B$ , and some  $x$  are  $A$ " (i. e.  $A$  is not an empty name); "For every  $x$ , if  $x$  is an object,  $x$  is a thing, and some  $x$  are objects". Then it remains trivial, says Ajdukiewicz, to maintain that objects exist.

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This criticism of reism, both ontological and semantic, was not innocent from the metaphysical point of view, since Ajdukiewicz was, in the early thirties, quite a radical conventionalist. Classical conventionalism underlines the difference between report sentences (purely describing ones) and sentences having an interpretation. The first ones belong to the primitive part of our language – the one we have learnt in our childhood – whereas the second need an interpretation with a set of more or less sophisticated rules. "These additional meaning-rules are called 'conventions', 'coordinative definitions', etc." (Ajdukiewicz 1934; 1978, 78). Ajdukiewicz's contribution to this position can be summarised by the following lines:

Our point of view is significantly more radical than that of the conventionalism just discussed. We see no essential difference between a report sentence and an interpretation-sentence. [...] We can avoid accepting such sentences [...] if we are willing to choose a conceptual apparatus in which their meaning does not occur. Thus, and it seems with some justification, we designate our point of view as that of a *radical conventionalism*. (Ajdukiewicz 1934; 1978, 79).

The main difference between this version of conventionalism and the classical one relies on the attitude towards the concept of truth. While Le Roy or Poincaré used to talk about "commodity" of scientific theories, Ajdukiewicz, on the contrary, insisted on the use of the notion of truth when dealing with rules and interpretations. The assertability of a sentence is fully determined by the mastery of the language in which it is formulated. Ajdukiewicz's conception of meaning with its semantic rules did not focus on the "sense" of propositions, but on their acceptability. What interests him is not whether an expression is meaningful, but whether it fits to one's conceptual apparatus. A linguistic world-picture was then given by the

set of all the theses of a given language, i.e. the sentences which are to be accepted in virtue of the rules of this language. This shows how opposed he was to the very idea of universal rules for every language, as those stated by reism. As he said in 1960,

I have concentrated all my efforts to demonstrate that, for every language, there exist the rules for accepting sentences; [...] if someone violates them, he will not speak the given language anymore. (Ajdukiewicz 1960, VII)

There are many possible conceptual apparatus with specific languages, and most of them are able to provide a set of sentences truly describing world's nature. Ajdukiewicz was then convinced that reism has its own language. This language could have been criticized by Ajdukiewicz's one, but it was also judged as competent to provide a true and coherent conception of the world. There is a temptation to state that Ajdukiewicz interpreted reism not at all as contradictory to some other, more elaborated, ontology, but only as formulated in an alternative language. This is quite a surprising suggestion coming from someone defining himself as opposed to anti-irrationalism. Nevertheless, the peculiarity of his conventionalism was to underline that many paths can lead to truth. In this context, he should admit that a theory like Platonism can be paraphrased in a way to obtain, I keep on with our example, a reistic account of reality. And this idea is still waiting to be proved.

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Just before publishing "Die syntaktische Konnexität" (Ajdukiewicz 1935) Ajdukiewicz made public a small but essential article in Polish, "On the Problem of Universals" (Ajdukiewicz 1935a). He introduced there the formalisation of semantic categories. A proposition [*zdanie*] in its logical sense, says Ajdukiewicz, *i. e.* an expression which is either true or false, plays a crucial role in the definition of semantic category:

[E]xpressions  $A$  and  $B$ , taken in sense  $a$  and  $b$  respectively, belong to the same semantic category if and only if every sentence  $S_A$  containing expression  $A$  in sense  $a$  upon replacement of  $A$  by  $B$  taken in sense  $b$  (the meaning of all other expression sand their interconnections remaining unaltered) is transformed into an expression which is also a sentence, and if vice versa: every sentence  $S_B$  upon replacement  $B$  by  $A$  (with analogous qualifications) is also transformed into sentence. (Ajdukiewicz 1935a; 1978, 95)

“Socrates” and “Plato” belong thus obviously to the same semantic category, whereas “Socrates” and “walks” do not seem to do: when we replace the word “walks” by “Socrates” in a proposition “Socrates walks”, we obtain “Socrates Socrates”, which is not, at least at first glance, a sentence. This definition of semantic category is quite identical to the one advanced in the famous “Die syntaktische Konnexität”. And even if there is a controversy very present among logicians of whether general and individual names form a unique semantic category, Ajdukiewicz, within this context, is not particularly outraged by a sentence like “Every Socrates is mortal”, which is the result of the replacement of a general term by a singular one in the sentence “Every man is mortal”.

Ajdukiewicz has found the idea of semantic categories in Leśniewski’s struggles against Russell’s paradoxe and his theory of types. According to Jan Woleński (Woleński 1987, 141) and as it has also been underlined by Leśniewski himself<sup>2</sup>, the conceptual bases of semantic categories are to be found in Aristotelian categories and in Husserl’s semantic categories (*Bedeutungskategorie*), as a natural continuation of grammatical repartition of expressions in sentences. Ajdukiewicz was convinced, unlike Leśniewski, that what Husserl really meant by his semantic categories was closer to our understanding of syntactic categories. His use of the notion of category seems to be disconnected from Leśniewski’s original idea of constructional nominalism, and adopted as a convenient tool to measure the syntactic connection of sentences. Leśniewski distinguished three categories: sentences (the basic one), names and different fun-

<sup>2</sup> Leśniewski (1929, 14).

ctors. Ajdukiewicz's conception was very close, although he thought that names and sentences were basic categories, whereas functors was a derived one. Besides, number of other categories may be constructed with the help of those three ones. With his conventionalist background, Ajdukiewicz remained convinced that there can be no unique answer, and the choice of semantic categorisation is arbitrary. In consequence, his acceptance, in 1935, of Leśniewski's categorisation does not seem to be in contradiction with his doubts concerning putting names of things and general names into the same semantic category.

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In the above quoted article on universals, Ajdukiewicz compared the classification introduced by Leśniewski and continued by Kotarbiński to the one we find in *Categories*. Aristotle's semantics also has a category for functors and one for sentences, but it divides names into at least two different basic categories: the names which can be predicates, and names which can only be subjects. Ajdukiewicz thought that the meaning of the term "universal" must be different in two different conceptual apparatus, like Kotarbiński's and Aristotle's semantics. Parenthetically, Georges Kalinowski proposed a convincing demonstration showing that Leśniewski's struggle against universals does not affect moderate realism, as the one we meet in Aristotle's writings (Kalinowski 1995).

Ajdukiewicz proposed (Ajdukiewicz 1935a; 1960, 102-104) then a formalisation of Aristotelian categories, and gave an interpretation of one and the same sentence according to the two points of view:

Aristotle*i* – individuals' names*g* – general names*s* – sentences“is” :  $\frac{s}{ig}$  or  $\frac{s}{gg}$ Socrates is a man:  $i \frac{s}{ig} g$ Dogs are mammals:  $g \frac{s}{gg} g$ Kotarbiński*n* – names*s* – sentences“is” :  $\frac{s}{nn}$ Socrates.is a man:  $n \frac{s}{nn} n$ Dogs are mammals:  $n \frac{s}{nn} n$ 

The method of verification of the syntactic connexion remains the same, and a sentence is connected if a unique letter or a fraction is the result of the simplification. In these considerations the verb “to exist”, quite problematic in Kotarbiński's writings, may have two different forms in Aristotle, and within his language none of them leads to contradiction. By the way, in “Die syntaktische Konnexität”, Ajdukiewicz does not quote Aristotle, but he still underlines that natural language distinguishes two parts in the basic category of names, analogous to those mentioned above.

This article, as we said, shows the multiplicity of possible categories, but it also goes against Kotarbiński's idea that a proper name is an expression fitting the role of predicate in a proposition of type “*A* is *B*” with a fundamental meaning of the verb “is”. Kotarbiński, as Leśniewski did, accepted a very special sense of the word “is”, proper to Polish or Latin language, but inexistent in French or English because of the presence of articles before nouns. He needed it to underline the ontological challenges of the expression “being something”. This is a fundamental, as he wants it, use of the word, like in the sentence “Sokrates jest człowiekiem” or “Socrates est homo”, and not as in sentences “There is Justice” or “Every man is mortal”. As far, says Ajdukiewicz already in 1930, as we did not make a statistical research on how do people use their “is” in this kind of sentences, there is no way to determine what they do mean by that.

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In 1960, Ajdukiewicz commented Kotarbiński's reaction to his critics from 1930: "This dispute incited – at least this is the impression I have – a weakening of the first form of the doctrine: from an ontological thesis it has been transformed into a thesis proposing a program of language construction" (Ajdukiewicz 1960, VI). It is obvious that his paper deeply influenced Kotarbiński, but it seems that his interpretation of this influence is almost the exact opposite of what had really happened. Kotarbiński accepted a huge part of formal remarks concerning his thesis, but he did not abandon his materialist and monistic world-view. By the way, merely semantic reism (with no ontological claims) would have no reason to exist. Czesław Lejewski formulated this idea with a particular lucidity:

There is not much point in avoiding abstract noun-expressions in disciplines of lesser generality. Elimination of onomatoids from final pronouncements is of paramount importance only if these final pronouncements are meant to be used in ontological arguments. (Lejewski 1979).

"Concretism" or "pansomatism" – as others names of his conception – almost lost its concern for language as itself, because the ordinary language is far too complex to be governed by simple rules. This movement is analogous to Wittgenstein's evolution from the *Tractatus* to the *Philosophical Investigations*: some primitive presumptions remained the same, but as they appeared far from being exhaustive, the whole philosophical framework needed to be modified.

Kotarbiński ended up asking his readers just to have in mind the idea that whatever they say, they should be conscious that the only genuinely existing objects are things, singular and spatio-temporal. Unlike Wittgenstein, he tried to keep some semantic classifications present in his early papers, since we can still read, in a posterior article (Kotarbiński 1949), that there are 3 kinds of concrete names: singular, general (predicates) and empty ones (Santa Claus), and we should

always be able to bring back all we are talking of to them<sup>3</sup>. Anyway, his disinterest in issues of philosophy of language and of logic came from his commitment to practical philosophy, to what he called praxiology and autonomous (independent) ethics. Since logic and philosophy are to be *organon* – one should not forget the strong Aristotelian tradition of the Lvov-Warsaw School – Kotarbiński did not see any fundamental reason to waist his time in more and more abstract formal debates. The formulation of his ontology turned out, quite surprisingly, to be either trivial and tautological or nonsensical. Subsequently, he concentrated on how things should function rather on what they are.

We have then seen how Ajdukiewicz, at least in the thirties, tried to give the impression of someone quite uninterested by ontological issues. He was reluctant to give any opinion on the nature of the world – he concentrated his attention mainly on formal correctness of languages susceptible to express true or false propositions. This attitude can be illustrated by the way he dealt with the problem of identity of mental and physical phenomena and with the issue of extensionalism in logic (Ajdukiewicz 1934b). Ajdukiewicz was, already in 1934, conscious of the limitations of possible applications of formal logical rules to the events of the world. He noted that even the validity of a concrete syllogism – “If all man is mortal, and Socrates is a man, then Socrates is mortal” – cannot have pure logical principles as its only justification. Ajdukiewicz opened a perspective for a possible creation of a logical language, formed as paraphrases of general propositions of logic, with new, even if sometimes arbitrary and restricted meanings for a number of expressions. These restrictions, according to him, would be quite a decent price for the exactness we would obtain.

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<sup>3</sup> Kotarbiński's comment to many critics of reism: “il s'est produit un déplacement de ce que les théoriciens des litiges appellent *onus probandi*. Auquel des partis plaidant en justice la tâche de fournir les raisons valables qui convaincraient le tribunal de se ranger à ses revendications? En général, on n'exige pas aujourd'hui des adversaires du réisme d'expliquer pourquoi il n'est pas possible d'éliminer de toute proposition tous les noms apparents; on demande au contraire aux adeptes du réisme de prouver que ceci est toujours possible à exécuter.” (1966, 476).

Kotarbiński's radical nominalism and materialistic monism as ontological postulates remained in deep conflict with Ajdukiewicz's whole methodological approach – the latter was, incidentally, relentlessly reducing the field of application of his ideas. It seems that the most perturbing element in this conflict is the problem of the limits of what can be said and of the limits of logic as *organon*. Kotarbiński conceded that many of his formulations contained some obvious mistakes and changed his language, but he did not abandon any of his world-attitudes. It would be almost trivial to recall the ideas of a few last propositions of Wittgenstein's *Tractatus*. Philosophy limits the thinkable and helps in finding the way to express the things clearly (4. 113 – 4. 116). Finally, all what can be said about the world, can be expressed only in the language of natural sciences. We find, in Kotarbiński's later writings, a temptation to insist on dealing with tiny things, temptation accompanied by a particularist method, but no attempt to make explicit the universal structure of the world.

## References

- AJDUKIEWICZ K. (1930). Elementy teorii poznania Tadeusza Kotarbińskiego. *Przegląd Filozoficzny* 33, 1/2; [Engl. trans. in Woleński 1990].
- AJDUKIEWICZ K. (1934). Das Weltbild und die Begriffsapparatur. *Erkenntnis* 4, 259-287. [Engl. trans. (The World-Pictures and the Conceptual Apparatus) in Ajdukiewicz 1978, 67-89].
- AJDUKIEWICZ K. (1934a). Die wissenschaftliche Weltperspektive, *Erkenntnis*, V; [Engl. trans. (The Scientific World-Perspective) in Feigl & Sellars 1949, 182-188 and in Ajdukiewicz 1978, 111-117].
- AJDUKIEWICZ K. (1934b) O stosowności czystej logiki do zagadnień filozoficznych. *Przegląd Filozoficzny*, 38, 323-327. [Germ. version (Über die Anwendbarkeit der reinen Logik auf philosophische Probleme) *Actes du VIII Congrès International de Philosophie*, Prague, 1936, 170-174; Engl. trans. (On the Applicability of Pure Logic to Philosophical Problems) in Ajdukiewicz 1978, 90-94].

- AJDUKIEWICZ K. (1935). Die syntaktische Konnexität. *Studia Philosophica* I; [Engl. trans. (Syntactic Connection) in McCall S. 1967. 207-231].
- AJDUKIEWICZ K. (1935a) W sprawie 'uniwersaliów'. *Przegląd Filozoficzny* 37, 219-234. [Engl. trans. (On the Problem of Universals) in Ajdukiewicz 1978, 95-110].
- AJDUKIEWICZ K. (1960). *Jezyk i poznanie I*, Warszawa: PWN.
- AJDUKIEWICZ K. (1965). *Jezyk i poznanie II*, Warszawa: PWN.
- AJDUKIEWICZ K. (1978). *The Scientific World-Perspective and other Essays (1931-1963)*, Giedymin J. (ed), Dordrecht: Reidel.
- FEIGL H. & SELLARS W. (eds). (1949) *Readings in Philosophical Analysis*. New York: Appleton-Century-Crofts.
- GARDIES J.-L. (1975). *Esquisse d'une grammaire pure*. Paris: Vrin.
- KALINOWSKI G. (1995) Les démonstrations de la non-existence des objets généraux chez Leśniewski. *Recherches sur la philosophie et le langage* 16, 121-146.
- KOTARBIŃSKI T. (1929). *Elementy teorii poznania, logiki formalnej i metodologii nauk*. Lwow: Wydawnictwo Zakładu Narodowego Imienia Ossolinskich.
- KOTARBIŃSKI T. (1949). O postawie reistycznej czyli konkretyzycznej. *Mysl wspolczesna*, 10/41.
- KOTARBIŃSKI T. (1966). Franz Brentano comme réiste. *Revue Internationale de Philosophie*. 78/20, 459-476.
- LEJEWSKI C. (1979). On the Dramatic Stage in the Development of Kotarbiński's Pansomatism. In Woleński (1990).
- LEŚNIEWSKI S. (1929). Grundzüge eines neuen Systems der Grundlagen der Mathematik. *Fundamenta Mathematicae* 14. 1-81.
- MCCALL S. (ed). (1967). *Polish Logic 1920-1939*. Oxford: Clarendon.
- WITTGENSTEIN L. (1922). *Tractatus logico-philosophicus*, London: Routledge and Kegan Paul.
- WOLEŃSKI J. (1987). *Filozoficzna szkoła lwowsko-warszawska*, Warszawa: PWN.
- WOLEŃSKI J. (ed). (1990). *Kotarbiński, Logic, Semantics and Ontology*. Dordrecht, Boston, London: Nijhoff / Kluwer (Philosophy Series vol. 40).