

On Ajdukiewicz's project of the semantic theory of knowledge

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Abstract. Ajdukiewicz's the project of semantic theory of knowledge comes down to the statement that reflection upon logically understood concepts and judgments – which constitute the logically understood knowledge – is equivalent to the reflection upon terms and sentences whose meanings are those concepts and judgments. The value of this equivalence lies in the fact that it allows to apply the results obtained in metamathematics, treating of expressions and sentences, to epistemology, which pursuant to the mentioned equivalence is also treating of expressions and sentences, and which – similarly to mathematics – is also a metatheoretical discipline. What is more, this equivalence allows to maintain the connection of semantic theory of knowledge, that speaks about expressions and sentences, with traditional theory of knowledge, that speaks about concept and judgments understood in a logical way.

This equivalence was justified by Ajdukiewicz. Yet in his justification he did not refer to any philosophy of a language, including the philosophy of language and knowledge. Not every philosophy of language is a philosophical language reason of this justification, that is not every philosophy of language is a philosophical language justification of this justification. The one which is appropriate for this project is, in my opinion, Edmund Husserl's intentional theory of expressions from his *Logical investigations*. Indicating the appropriateness of this philosophy of language for this project is the main task which I undertake in this paper.

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Keywords. Ajdukiewicz's metaepistemological opinions; logical understood concepts and judgments; linguistic meanings of expressions; concepts and judgments determined as to their contents; Husserl's intentional theory of meaning.

This paper is based on a part of research results, which have been presented in my monograph [41].

1. Introduction

1.1.

The name “semantic theory of knowledge” was introduced by Kazimierz Ajdukiewicz. He used it for the first time in a paper titled *A Semantical Version of the Problem of Transcendental Idealism* [*Problemat transcendentalnego idealizmu w sformułowaniu semantycznym*], in which he wrote that the semantic theory of knowledge is such a manner of practicing the theory of knowledge

[...] in which epistemological problems are programmatically studied from the perspective of language as a system of expressions endowed with meaning. Its theses are formulated in such a way that they concern expressions, i.e. sentences and terms, but sentences and terms of a definite language which endows them with meaning [14, p. 142].¹

That paper is composed of two parts: a lecture explaining what the semantic theory of knowledge is, which lecture is *de facto* a meta-epistemological *credo* of this philosopher, and of an implementation of this theory consisting in analysis of the principal thesis of Heinrich Rickert’s transcendental idealism, and in consequence in refuting this thesis as being contradictory to Gödel’s first incompleteness theorem. I isolate this lecture from the entire paper, since it enjoys a specific, meta-epistemological autonomy, and I describe it as a “meta-epistemological proposal of a semantic theory of knowledge”. This proposal and its implementations – since apart from the one indicated above, there were others – are one of the most profound developments of the twentieth century analytical philosophy.

The proposal itself, in terms of volume, was presented on *two pages* of the abovementioned paper, and is *de facto* an introduction thereto. That I attach such importance to these two pages and focus my deliberations around them, results from the fact that I do not find in the entire philosophical-analytical literature an argumentation which would as convincingly support the thesis that cognitive questions should be approached from the language perspective.

Those Ajdukiewicz’s papers which semiotically analyse traditional philosophical problems, in particular those whose subject is the dispute between epistemological and metaphysical idealism and epistemological and metaphysical realism are the implementations of the abovementioned meta-epistemological proposal. If an epistemological analysis of these problems was described as “semantic theory of knowledge”, and exactly this name is used in this case, then the proposal of

¹This paper is an extended version of his lecture, which he gave at the Third Polish Philosophical Congress in Cracow in 1936. A historical-terminological remark: the concept of “the semantic theory of knowledge” was used for the first time by Ajdukiewicz during that lecture and not in the abovementioned paper. One needs to remember however that using the term “semantics” in the 1930s, Ajdukiewicz understood this term in the same manner in which the term “semiotics” is understood contemporarily. If we therefore abstracted from this historical context and applied the contemporary terminology to Ajdukiewicz’s semantic-epistemological studies, then we should describe these studies as “semiotic theory of knowledge”, since Ajdukiewicz’s semantic theory of knowledge engages all three components of logical semiotics, i.e. syntax, semantics and pragmatics.

the semantic theory of knowledge can be described as “an answer to the question, whether a semantic theory of knowledge is possible, and if yes, under what conditions”.

The semantic theory of knowledge analyses traditional philosophical problems approaching them from the language perspective, and does so in a manner that makes it possible to apply logical tools, which is particularly important for a semantic epistemologist. Thus, the proposal of the semantic theory of knowledge is an answer to the question whether it is possible to approach knowledge from the language perspective, and if it is, how to do it, as knowledge understood in a traditional manner is composed of the cognitive subject's cognitive acts and their results. In other words, the proposal of the semantic theory of knowledge is an answer to the question, whether it is possible to translate a cognitive act and its result into a linguistic act and result, and if it is, how to do it, for this translation to be a translation as to the scope, and at the same a translation which perceives the language as a logically analysed medium.²

I therefore treat the question about the philosophy of language as interesting, or even as indispensable for the proposal of the semantic theory of knowledge, since the philosophy of language is fundamental for the discussed proposal, as well as for every meta-philosophical declaration characteristic for an analytical philosopher proclaiming that instead of concepts and propositions it is possible and advisable to speak of expressions, i.e. of names and sentences, whose meanings these concepts and propositions are. When presenting his proposal, Ajdukiewicz did not legitimize it from the point of view of philosophy of language and to be precise from the point of view of the philosophy of language and knowledge understood as cognitive acts and results connected with them, i.e. as cognitive creations. And I find this question, the question of philosophical-linguistic legitimisation of the meta-epistemological proposal, to be of key importance, which is reflected in this article. And as a philosophy of language adequate in this respect I indicate the

²Ajdukiewicz contends, speaking of the semantic theory of knowledge, that speaking of sentences is equivalent to speaking of propositions, which are the meanings of those sentences – c.f. [14, p. 141]. He therefore contends – I understand his pronouncement this way – that those two ways of speaking are a translation as to the scope. The context in which the equivalence claim appears, is as follows: “So, for example, sentences about the relation of consequence or about the relation of inconsistency, etc. between judgments are equivalent with sentences asserting suitable relations between the sentences whose meanings are those judgments” (ibid, p. 141). The question which I am posing at this point, but to which I am not giving a definite answer is as follows: Perhaps we should be speaking in this case not only of a translation as to the scope, but also of a translation as to the content. What motivates me to ask this question is the fact that the philosophy of language underlying Ajdukiewicz's theory of knowledge is – of which I am deeply convinced – the Husserlian intentional theory of expressions. And from the perspective of this theory it is impossible to speak of the meanings of sentences, without at the same time speaking of sentences, and the other way round. What is more, it is impossible to speak of meanings of expressions, i.e. of the contents of acts understood *in specie*, without speaking of these acts, as well as of expressions, in which these acts are involved as their meaning intentions.

philosophy of Edmund Husserl presented in the second volume of his *Logical Investigations*³, which – similarly to the solutions contained in both volumes of *Logical Investigations* – influenced the philosophical convictions of many representatives of the Lvov-Warsaw School, and apart from them – which is obvious – also the most distinguished Husserl’s student, i.e. Roman Ingarden. This is the philosophy that makes it possible to reasonably speak of a close link between thinking and speaking, which I wish to particularly emphasize, and provides thereby a philosophical-linguistic legitimisation for the meta-epistemological proposal. And by legitimizing this proposal, it makes it possible to demonstrate the links between the traditional theory of knowledge with the semantic theory of knowledge.

The fact that I perceive Husserl’s philosophy of language as underlying Ajdukiewicz’s meta-epistemological proposal and its implementation, i.e. underlying the semantic theory of knowledge, is not only an assumption of mine, but – which I try to demonstrate – an assumption that is fully justified. Although, when justifying his proposal, Ajdukiewicz does not rely on Husserl’s philosophy of language, nonetheless when speaking of knowledge determined as to its content and of knowledge undetermined as to its content, and the concepts of knowledge understood in this way are of key importance for this proposal, he makes a reference to the “spirit” of Husserl’s deliberations contained in *Logical Investigations*, and, which is symptomatic, Ajdukiewicz makes use of a similar example as was used by Husserl in Investigation V when he spoke of the intentional and semantic essence of an act, which concepts correspond to Ajdukiewicz’s concept of “knowledge determined as to its content”.⁴ Even if in the fragment of his paper which discusses knowledge determined as to its content (and knowledge understood in this manner is based on the close link between thought and language) Ajdukiewicz makes use of Husserl’s establishments in an implicit manner, yet three years later in a paper titled *Język i znaczenie [Language and Meaning]*, when writing in another context about the link between thought and language, he explicitly relies on Husserl, and to be more precise: on Investigation I: *Expression and Meaning* from volume one of *Logical Investigations*.⁵

³In the English language edition of *Logische Untersuchungen Untersuchung I* (Investigation I) titled *Ausdruck und Bedeutung (Expression and Meaning)* is included in volume one, whereas in the original it is included in volume two. Referring to the original, I will be thinking of [19].

⁴Fragments of Ajdukiewicz’s and Husserl’s work, which are convergent in this respect, are: [14, pp. 142–143] and [21] (Investigation V: *On intentional experiences and their ‘contents’*, §20 *The difference between the quality and the matter of an act* and §21, *The intentional and the semantic essence*), pp. 121–125, as well as [20] (Vol. 2, Part 1 of the German Editions) (Investigation I: *Expression and Meaning*, §28 *Variations in meanings as variations in the act of meaning*), p. 223.

⁵See: [10, p. 147] and/or [17, p. 37]. A sentence from this pages which is worth citing is: “The representation [of a sentence – A.O.] enters fully into the judgment-process and, indeed, forms its essential part. This has been convincingly demonstrated by Husserl”. This sentence ends in a footnote referring to E. Husserl [19, Investigation I: *Ausdruck und Bedeutung*]

1.2.

The proposal of semantic theory of knowledge originated not only in the Husserlian and anti-psychological climate, but also in the nominalist and logical climate. The latter climate in Polish philosophy was created by such philosophers as Jan Łukasiewicz, Stanisław Leśniewski, Tadeusz Kotarbiński, Alfred Tarski. And this other climate also needs to be borne in mind, if one speaks of the semantic theory of knowledge understood both as a proposal and as implementations of this proposal, and this climate was postulated, in order to present philosophical problems in a nominalist form. This is what J. Łukasiewicz wrote about the nominalist form of contemporary logic, and what *mutatis mutandis* applies to analytical philosophy pursued in a logical manner:

Contemporary logic has a nominalistic guise. It refers not to concepts and judgements, but to terms and propositions, and treats those terms and propositions not as *flatus vocis*, but – having a visual approach – as inscription having certain forms. In accordance with that assumption, logic strives to formalize all logical deductions, that is, to present them so that their agreement with the rules of inference, i.e., the rules of transforming inscriptions, can be checked without any reference to the meanings of the inscriptions [29, p. 198] and/or [34, p. 222].

This is what Łukasiewicz wrote, but then he added that the nominalist form is indeed only a form, since the language of logic is impossible to be treated consistently in a nominalist manner, without encountering insurmountable difficulties thereby. Consequent nominalism requires for example that the language be treated finistically, i.e. it allows one to operate on a finite number of inscriptions only, despite the fact that both in case of artificial languages as well as in case of natural languages one needs to take into account an infinite number, in case of the latter group of languages – at least a potentially infinite number. Nominalism requires also – let us add – that expressions be treated only as expressions-specimens, and does not allow expressions-types, yet it is impossible to manage without the latter.

Łukasiewicz, unlike Leśniewski, Kotarbiński and Tarski, was not always a nominalist, after all in the 1930s he no longer was one, nonetheless each of these philosophers and logicians, irrespective of the fact whether he was a factual nominalist, presented philosophical and logical-philosophical questions in a nominalist way⁶. And it is this presentation made in a nominalist way that makes it possible to analyse these issues with the use of the contemporary logical apparatus, in

⁶At some point Łukasiewicz was a nominalist, however his nominalism resulted from his philosophical immaturity. This is what he wrote on nominalism in an article [30] from 1937: “I will quite frankly admit that if someone had asked me not that long ago whether as a logician [i.e. a logician – A.O.] I professed to nominalism, I would have given an affirmative answer without hesitation, since I had not been giving much thought to the nominalist doctrine itself, and I only focused on logic practice. And so, logic aspires to the greatest accuracy possible, and this accuracy can be attained by construction of a language that would be as precise as possible.[...] [Yet] is this strive for language precision and formalisation nominalism already? I do not believe so. Logic would assume a nominalist standpoint, if it treated names and sentences only as signs of a certain form, without caring whether these signs meant anything. Logic would then become a study of some ornaments or figures, which we draw and order in accordance with certain rules, playing with them as if with a game of chess. It would be impossible for me to accept this view. [...] I could no longer assume today a nominalist standpoint in logic. But I

which one speaks of expressions, and not of concepts and propositions, which were handled by traditional logic, and which were and are handled by the traditionally conceived theory of knowledge.

If we were to elaborate on this compactly put postulate, ordering us to present philosophical questions in a nominalist form, and to adjust it to the needs of epistemology understood in an anti-psychological manner, this postulate could be as follows:

*speaking of products of cognitive acts needs to be replaced by speaking of expressions, including of sentences of language L, since the logical-linguistic ways of understanding them are not entangled in disputes, in which products of cognitive acts constituting the meanings of expressions, i.e. logically understood concepts and propositions, are entangled. What is more, such presentation of the issue is heuristically promising, since it provides a possibility to use in epistemology results obtained in meta-mathematics, i.e. in a meta-theoretical discipline analogous to epistemology. And it is justified to use these results, if one demonstrates that the products of cognitive acts, described by non-psychologically understood epistemology, are meanings of expressions of language L, in which the cognitive subject verbalizes his cognitive acts. In such case, speaking of expressions of language L, in which cognitive acts are verbalized, will be tantamount to speaking of products of these acts.*⁷

I contend that the proposal of the semantic theory of knowledge was an implementation of the above postulate. What is more, it was the fullest and the most meaningful implementation. Contending the above, I do not forget that Ajdukiewicz was at the same time far from factual nominalism, which is demonstrated by Ajdukiewicz's appreciation that he always had for the Husserlian theory of language and his repeated defence of the universals (Cf. the same author on this: [1], [9], [15]).

2. Presentation of the meta-epistemological proposal of the semantic theory of knowledge and analysis thereof

2.1.

The theory of knowledge can be pursued as a theory of cognitive acts or a theory of objective cognitive contents. Objective contents can be understood in various ways – Kazimierz Twardowski understood them as products of cognitive acts, Bernard Bolzano – as *Begriffe* and *Sätze 'an sich'*, Gottlob Frege - as *Sinne* and *Gedanken*, Edmund Husserl - as expression meanings (*ausdrückliche Bedeutungen*), and also as meanings 'in themselves' (*Bedeutungen 'an sich'*), and others – as creations of an objective spirit.

am saying this as a philosopher and not as a logician. Logic cannot resolve this problem, since it is not philosophy" ([31, pp. 212–214] and/or [33, pp. 239–241]).

⁷To emphasize the significance which I attach to these contentions, I am writing down this postulate using a different font.

If the theory of knowledge is to be a theory of objective and at the same time *determined cognitive contents*, a theorist of knowledge must approach knowledge from the perspective of language, and this means that he needs to treat logical concepts and propositions, which comprise objective cognitive contents, as linguistic meanings of terms and sentences. And the theory of knowledge understood in such way is identical to the semantical theory of knowledge, which does not directly describe such concepts and propositions, but describes them indirectly, since it directly describes expressions, whose logical meanings are those concepts and propositions.⁸

That we need to approach knowledge from the perspective of the language if we want to speak of knowledge determined as to its content, results from the fact that it is impossible to name a certain cognitive content, i.e. some designated logical concept or proposition, other than by characterising this concept or proposition as a linguistic (logical) meaning of a certain term or sentence. Relativization of concepts and propositions understood in such way, results in the fact that the theory of knowledge describing them is not a theory of knowledge in general, i.e. it is not a theory of concepts and propositions 'hanging in the air', as father J.M. Bocheński called them, but is a theory of knowledge determined as to its content. And if knowledge in logical sense is understood as identical to language meanings of expressions, *then each sentence which asserts something about concepts and propositions in a logical sense, corresponds to an equivalent sentence which asserts something about terms and sentences, whose meanings these concepts and propositions are, i.e. each sentence of the traditional theory of knowledge, describing knowledge understood production-wise, corresponds to an equivalent sentence of the semantic theory of knowledge.*⁹

⁸The contents described in this paragraph is the matter of the meaning intention act together with the quality of this act. These two components of the act understood in such way constitute its meaning essence, and the meaning essence understood *in specie* is the logical meaning of the expression – the expression in which this act is involved. The meaning essence of an act ascribing meaning to an expression is an immanent content of the act, i.e. the subjective, empirically-real content. Yet this essence understood *in specie*, i.e. the product of its idealising abstraction, gives us the ideal content, i.e. logical, objective content. I will return to the issue which I am signalling right now at the end of this chapter. And the fact that when I speak of cognitive contents I understand them in the Husserlian way is justified by the fact that more or less clearly this is the way they were understood by Ajdukiewicz, as well as by the fact that such understanding of cognitive contents makes it possible to justify the strict connection between thought and language, i.e. the strict connection between knowledge determined as to its contents with the logical (language) meaning of expressions, which I have already described in the Introduction.

⁹The traditional theory of knowledge is both about cognizing and knowledge, i.e. it is both about cognitive acts, as well as about products of these acts (speaking the language of actions and products of Kazimierz. Twardowski). If we – in the name of anti-psychologism – limited the subject of study of the theory of knowledge to products of cognitive acts, then we would receive the abovementioned equivalence of the traditional and at the same time anti-psychologically oriented theory of knowledge (speaking of concepts and propositions in the logical sense) and the semantic theory of knowledge (speaking of expressions of language *L*, whose meanings these concepts and propositions are).

Ajdukiewicz in the following manner justifies the necessity to approach knowledge from the perspective of language, i.e. he justifies in the following manner what I call the “proposal of a semantic theory of knowledge” – below I quote extensive fragments of this justification, which are at the same time the essence of the semantic theory of knowledge, i.e. the thing which is the subject of analysis in this paper:

[...] It is impossible to name a given concept or judgment except by characterizing them as the meanings of certain terms or sentences. Prima facie, the contrary appears to be the case, namely that one does not have to study concepts and propositions indirectly through language. For to refer to certain determinate cognitions (with definite content) one uses such phrases as, for example, ‘the concept of a triangle’, ‘the proposition that $2 \times 2 = 4$ ’, etc. In such phrases one does not mention – or so it appears – any expressions whose meanings would be those cognitions. This is an illusion, however. In a phrase like ‘the concept of a triangle’, provided it is to serve as a singular name of a determinate concept, the word ‘triangle’ is not being used in the usual way as, for example, in the sentence ‘a triangle is a plane figure’, where ‘triangle’ denotes a class of geometrical figures; in the phrase ‘the concept of a triangle’ the word ‘triangle’ occurs *in suppositione materiali*, i.e. as its own name. For if we were to regard ‘the concept of a triangle’ as containing ‘triangle’ in the normal supposition, i.e. as a name of triangle, then that expression would have, from this point of view, the same syntactic structure as, for example, ‘John’s father’. ‘John’s father’ denotes the only object, which stands in the fatherhood-relation to John. Similarly, other expressions of the same structure, provided they are singular names, denote a unique object which stands in a certain relation to the object denoted by the term in the genitive case. The relation in question is indicated by the noun in the nominative case. (In Russell’s logical symbolism, so-called descriptive function ‘ Rx ’ corresponds to expressions of this sort.) One may say, therefore, that John’s father is identical with the (unique) object which stands in the relation of fatherhood to John. Now if the ‘concept of a triangle’ were to be regarded as having the same syntactical structure as ‘John’s father’, then one would have to say that ‘the concept of a triangle’ denotes the only object which stands to triangle in the relation of being its concept or – in other words – that the concept of a triangle is identical with the only object which stands to triangle in the relation of being its concept. By analogy, if we consider in a similar fashion ‘the concept of a trilateral figure’ one would have to say that the concept of a trilateral figure is identical with the only object which stands to the trilateral figure in the relation of being its concept. However, a triangle is the same as a trilateral figure. If, on the other hand, a is identical with b , then whatever the relation R , the only object which stands in the relation R to a is identical with the only object which stands in the relation R to b . Therefore, the only object which stands to a triangle in the relation of being its concept, i.e. the concept of a triangle, would be identical with the only object which stands to a trilateral figure in the relation of being its concept, i.e. the concept of a trilateral figure. This is not the case, however; the concept of a triangle is not identical with the concept of a trilateral figure (nota bene, if the expressions used here, ‘the concept of a triangle’, and ‘the concept of trilateral figure’ are to serve as singular names of certain determinate concepts and not as universal terms denoting classes of concepts which correspond to the symbolic schema ‘ $\vec{R}x$ ’).

In order to talk about a determinate concept of a triangle, we must not use ‘the concept of a triangle’ as if the term ‘triangle’ in the normal supposition (as the name of triangle) occurred in it. Rather we ought to understand that term as containing the word ‘triangle’ in the material supposition, i.e. as the name of itself. Accordingly, expressions like ‘the concept of a triangle’ – if they are to be singular names of determinate concepts – ought to be used as abbreviations of expressions such as “the concept which constitutes the meaning of the term ‘triangle’ ” i.e. as expressions each characterizing its designatum as an object which is the meaning of the term ‘triangle’. If we want to name a determinate concept we ought, therefore, to write either “the concept which constitutes the meaning of the word ‘triangle’ ” or – briefly – “the concept of

'triangle' ” keeping in mind that the word 'triangle' is used here in *suppositione materiali*, i.e. as the name of itself. This does not mean that 'the concept of a triangle' with 'triangle' in the normal rather than material supposition, is not a grammatically correct expression. It is; one has to bear in mind though that then it is not a singular name of a determinate concept, but rather a universal term to whose extension belong all concepts which constitute the meanings of the terms co-extensive with the term 'triangle'.

The semantic theory of knowledge is thus intentionally on the same path which had been followed by the epistemologists (without their realizing it) whenever they talked about certain determinate concepts, judgments, etc., or, which should have been followed by them had they expressed their ideas more precisely [14, pp. 142–143] and/or [7, pp. 266–267].

2.2.

Below I present an analysis and a commentary to the above justification, which I will begin with elementary, but - as it will prove in the course of the analysis - indispensable distinctions:

1. The designatum of the *concept* of a triangle is a triangle.

The designatum of the *concept* of a trilateral figure is a trilateral figure, and a triangle is the same as a trilateral figure.

But:

2. The designatum of the *name* “concept of a triangle” is any concept referring to a triangle, and there are *many* such concepts. One of them is the concept of a triangle constituting the meaning of the name “triangle”.

The designatum of the *name* “concept of a trilateral figure” is any concept referring to a trilateral figure, and there are *many* such concepts. One of them is the concept constituting the meaning of the name “trilateral figure”.

Both the first and the second name are general names – each of them has more than one designatum.

3. The designatum of the *name* “concept of ‘triangle’ ” is the concept of a triangle being the meaning of the name “triangle”, and there is only *one* such concept.

The designatum of the *name* “concept of ‘trilateral figure’ ” is the concept of a trilateral figure being the meaning of the name “trilateral figure”, and there is only *one* such concept.

Both the first and the second name are singular names – each of them has one designatum.

However:

4. The denotation of the name “concept of a triangle” is a set of concepts of the same scope as the name “triangle”.

The denotation of the name “concept of a trilateral figure” is a set of concepts of the same scope as the name “trilateral figure”,

and therefore: these names have the same denotation, which is a multi-component set.

5. Denotation of the name “concept of ‘triangle’ ” is a one-component set, which is the concept of a triangle being the meaning of the name “triangle”.

Denotation of the name “concept of ‘trilateral figure’ ” is a one-component set, which is the concept of a trilateral figure being the meaning of the name “trilateral figure”,

and therefore: these names have different denotations.

I wish to emphasize a material difference between point (1) and points (2) and (3): in point (1) one speaks of the designatum of the *concept* of a triangle, whereas in points (2) and (3) one speaks of the designata of the *names*: “concept of a triangle” (“concept of a trilateral figure”) and “concept of ‘triangle’ ” (“concept of ‘trilateral figure’ ”). There also is a difference between point (2) and point (3), which is demonstrated by different use of the word “triangle”: in the first case the word is used in the normal supposition – in point (2), and in the second case it is used in *suppositione materiali* – in point (3). And this makes the names in point (2) general names, i.e. names with multiple designata, and each of the designata is a concept referring to a triangle, but the names in point (3) are singular names – their designata are elementary concepts¹⁰, each of which is the meaning of the name put in the internal quotation marks. I will return to these distinctions in further analyses, for now I will express them in the shortest manner possible:

The name “triangle” designates a triangle, the concept of a triangle also designates a triangle, but the name “concept of a triangle” designates any concept referring to a triangle, and the name “concept of ‘triangle’ ” designates one concept, the concept of a triangle, which is at the same time the meaning of the name “triangle” and which refers to a triangle.

Let us therefore use the above distinctions in commentaries and analyses of the quoted justification: If we are anti-psychologists, then following Ajdukiewicz, we differentiate concepts in the psychological sense from concepts in the logical sense, as well as – propositions in the psychological sense from propositions in the logical sense; and bearing in mind the distinctness of both types of concepts and of both types of propositions, we include both the former and the latter into the scope of epistemological deliberations¹¹. The former, i.e. the concepts, are respectively – psychological and logical meanings of nominal expressions; the latter – are

¹⁰In this case I am speaking of elementary concepts, and not of singular concepts. I call them elementary concepts since they are elements of sets, which in this case are general concepts. And so, for example the concept of a “triangle” being the designatum of the name “concept of ‘triangle’ ”, is an element of a set of concepts with the same scope, i.e. of concepts each of which refers to a triangle. We cannot however say about the concept of a triangle that it is a singular concept. Singularity of a concept means, this is the language usage in this respect, that the concept has one designatum only. Yet, any triangle, and there are many of them, is a designatum of the concept of a “triangle”. With respect to the name “concept of ‘triangle’ ” we can indeed say that it is singular, since there exists only one such concept, which is the designatum of the name “concept of ‘triangle’ ”, and which at the same time is the meaning of the name “triangle”.

¹¹The direct subject of deliberations of the semantic theory of knowledge are expressions whose logical meanings are concepts and propositions understood logically, and thus an indirect subject of deliberations of this theory are those propositions and concepts – deliberations concerning

psychological and logical meanings of sentences. By restrictive understanding of cognitive acts, i.e. by such understanding of cognitive acts which classifies only verbalized cognitive acts as acts deserving to be called “cognitive” and by acceptance of the Husserlian philosophy of language¹², concepts in the psychological sense are identical to acts of meaning intention involved in intuitive presentations of nominal expressions, whereas propositions in the psychological sense are identical to acts of meaning intention involved in intuitive presentations of propositions. And consequently, concepts in the logical sense are identical to understood *in specie* intentional essences of acts involved in intuitive presentations of nominal expressions, whereas propositions in the logical sense are identical to understood *in specie* intentional essences of acts involved in intuitive presentations of sentences.

Bearing in mind the above, and limiting oneself to the example of the *ambiguous* name “concept of a triangle” (written down without caring for potential internal quotation marks), one is able to indicate the following meanings, which are connected with this name:

these propositions and concepts are equivalent to deliberations concerning expressions. The semantic theory of knowledge programmatically narrows the object of its interest to knowledge understood logically. This does not mean however that the author of the semantic theory of knowledge eliminates from the scope of epistemological deliberations knowledge understood psychologically, i.e. concepts and propositions understood psychologically. He never did so. In any case, it is impossible to speak of logically understood concepts and propositions in abstraction from their psychological counterparts, since they are, these logical units, ideally understood meaning essences of the acts of conceiving and judging involved in nominal expressions and sentences. This is how they were described by the author of *Logical Investigations*, and following this author, i.e. Husserl, Ajdukiewicz understood them in the same way. And the fact that he explicated them in a syntactic-pragmatic manner in his directive concept of knowledge is a separate matter, which is not mutually exclusive with the former. One should add one additional remark to the above: despite the fact that the semantic theory of knowledge directly describes expressions equipped in meaning, which means it is pursued based on language interpreted intentionally (but after the breakthrough caused by the semantic works of Tarski, the author of the semantic theory of knowledge included in a significant manner the semantic aspect of language into his conceptual apparatus), it needs to be born in mind that the author of the semantic theory of knowledge treats linguistic expressions as three-layer objects: the physical sign – the act of meaning intention involved in that act (being the psychological meaning of the expression) – the logical meaning (being the ideal understanding of the intentional essence of a meaning generating act). And since it is impossible to speak of an expression without the meaning intention act, it needs to be stated that this is a subjective-objectivist view of language expressions. The objectivist component is the expressed sign and the logically understood meaning; the subjective component is the act of meaning intention involved in the expression sign.

¹²Speaking of the Husserlian philosophy (concept) of language (expression or meaning) in this article, I always mean the one which this philosopher presented in *Logical Investigations*. One needs also to bear in mind that Ajdukiewicz accepted this philosophy throughout the entire period of his academic activity, and not only at the time when after his doctoral thesis he was going in 1913 for Göttingen, to Husserl and Hilbert, being under the impression of *Logical Investigations*, but also at the time when he was writing his last work [12], an unfinished work, interrupted by the author's death. ([12] was prepared for print by H. Mortimer and K. Szaniawski, *Foreword* was written by K. Szaniawski, the work was published two years after the author's death). I have described the fact that Ajdukiewicz accepted the Husserlian concept of the language also as the author of [12] in my articles, e.g. [37], [42].

1. If in the name “concept of a triangle” the word “triangle” is in normal supposition, i.e. if it is not put in quotation marks, then this name has the following form: “concept of a triangle”, and as such it is a general name.
2. If in the name “concept of a triangle” the word “triangle” is in *suppositione materiali*, i.e. if this word is put in quotation marks, then this name has the following form: “concept of ‘triangle’ ”, and as such it is a singular name.

Ad (1) Similarly as in the case of other names, also in this case we differentiate the objective references of names: “concept of a triangle” and “concept of ‘triangle’ ”, from the meanings of these names. Both the objective references of these names – and when saying this I mean their designata – as well as their meanings are concepts, however these are not the same concepts¹³. Let us deal with the objective references of these names, since they, and not their meanings, are possible to be taken into account, when we analyse the question of knowledge both determined and undetermined as to its content, i.e. the question whose purpose it is to legitimize the principal thesis of the semantic theory of knowledge. And this thesis proclaims that instead of concepts and propositions understood logically, we can speak of expressions, whose meanings these propositions and concepts are. What is more: we not only can, but we ought to speak of expressions, if we wish to discuss knowledge determined as to its content. And this is tantamount to the assumption that we ought to speak of those concepts and propositions, which are the meanings of these expressions.

The name “concept of a triangle” is a general name, and its designatum is every concept which refers to a triangle, i.e. every concept whose designatum is a triangle; and there are many such concepts. The designatum of the name “concept of a triangle” is therefore: the concept of “triangle”, the concept of “trilateral figure”, the concept of “polygon with the sum of internal angles equal to 180°” etc. When, however, we speak of a concept, we could have in mind a concept in the psychological sense or a concept in the logical sense; thus the name “concept of a triangle” is not only a general name, but at the same time an ambiguous name – each of its meanings indicates, as its scope, a set of concepts in the psychological sense or a set of concepts in the logical sense.

A concept in the psychological sense is an act of consciousness of specified quality and specified matter, i.e. – in case of the latter – of specified sense of objective understanding. Unity of the both of them, i.e. unity of the quality and of the matter of the act, is the intentional essence of the act, whereas a concept in the logical sense is the intentional essence of the act understood *in specie* or to put it in other words: its ideal abstraction. Speaking of concepts in the psychological

¹³That concepts are meanings of these names results from the fact that the meaning of each name is a concept. However, the meanings of these names are concepts of a higher tier as compared to concepts being the designata of these names. And so, the name “concept of ‘triangle’ ” has a meaning which is a concept, and it has a designatum which also is a concept. The latter, i.e. the designatum of the “notion of ‘triangle’ ” is the meaning of the name “triangle”; the former is the meaning of the name “notion of ‘triangle’ ”. And thus the meaning of the name “concept of ‘triangle’ ” is a concept of a concept, to be precise: a concept of a concept of a “triangle”.

sense, I obviously mean acts ascribing meaning to nominal expressions, i.e. acts of meaning intention involved in intuitive presentation of these expressions; the intentional essences of these acts are meaning essences of these acts. These essences understood *in specie*, i.e. the logical meanings of expressions – irrespective of the fact whether this is a nominal or a propositional expression¹⁴ – are described by Husserl with the general name of “expression meanings” (*ausdrückliche Bedeutungen*) and juxtaposed with meanings ‘in themselves’ (*Bedeutungen ‘an sich’*), which have not ‘happened’ to be meant by any expression.

Let us call the ideal abstractions of meaning essences of acts ascribing meaning to expressions – “ideal contents”¹⁵. We will then say that if we spoke of the name “concept of a triangle”, and took into consideration its logical meaning, then the designata of this name would be ideal concepts, i.e. ideal (logical) concepts, such as: concept of a triangle, concept of a trilateral figure, concept of a polygon with the sum of internal angles equal to 180° , etc., each of which refers to a triangle. In other words, speaking of the name “concept of a triangle”, we would have in mind the *plurality* of its ideal contents. Thus to the question: what do we have in mind when we speak of the name “concept of a triangle” we should answer: we have in mind the *plurality* of these ideal concepts. And if this is so, then the name “concept of a triangle” *is not determined as to its content* or, to put it in other words, *it is not specified as to its content*¹⁶.

All of these ideal contents, which comprise the plurality of ideal contents, can be *linked* to a relevant nominal expression, and then the general name “concept of a triangle” will ‘break up’ into a plurality of singular names, each of which is determined as to its content. This linking will consist in that, that a particular ideal content, *by being linked to a relevant expression, shall become the meaning of this expression*. It therefore turns out that the abovementioned plurality of ideal contents is nothing else than the plurality of potential meanings of expressions determined as to their content.

What has been said so far with respect to this issue, can be expressed in the following manner: If in the name “concept of a triangle” the expression “triangle” is used in normal supposition,¹⁷ then the name “concept of a triangle” will not be

¹⁴I understand a propositional expression as an expression whose logical (language) meaning is a proposition in the logical sense.

¹⁵This is exactly how E. Husserl describes them (and he adds that they can be also described as logical or intentional contents, as an intending sense or sense, or simply as meaning), when he juxtaposes them with subjective (immanent, empirically-real) contents, i.e. those on which the idealizing abstraction is carried out – cf. [20, pp. 196, 200, 202]. This immanent content would be meaning in the psychological sense (psychologically understood concept or proposition), whereas the ideal (logical) content would be meaning in the logical sense (a logically understood concept or proposition).

¹⁶An analogous reasoning can be carried out, if speaking of the name “concept of a triangle” we are taking into consideration its psychological meaning as well. Then instead of concepts in logical sentence, i.e. of ideal contents of cognitive acts, we will be speaking of concepts in the psychological sense, i.e. of immanent contents of these acts.

¹⁷In [14] which is analysed in this point of the deliberations, Ajdukiewicz uses two types of suppositions: the *suppositione materiali* and the normal supposition, and then – making a reference

a singular name of the concept being the meaning of the name “triangle”, but will be a general name, denoting an entire class (set)¹⁸ of elementary concepts, each of which is a meaning of the name equivalent to “triangle”, such as for example the name: “trilateral figure”, “polygon with the sum of internal angles equal to 180°”, etc.

Und thus, if an elementary concept being the meaning of the name “triangle” is the designatum of the singular name “concept of ‘triangle’”, then the designata of the general name “concept of a triangle” are concepts being the meanings of a *possible* complex name in the form of: $a_1 \wedge a_2 \wedge \dots \wedge a_n$, where:

1. any a_k is the symbol of a name designating a *partial* content, comprising the full content of the general concept of a triangle;
2. symbol “ \wedge ” is used to denote conjunction understood as a name-forming functor with name arguments;
3. n belongs to the set of natural numbers, whereas k is greater or equal to 1 and smaller or equal to n .

An example of such a complex name is: “a triangle **and** a trilateral figure **and** polygon with the sum of internal angles equal to 180° **and** ...”. Account taken of the number of elementary concepts comprising the scope of the name “concept of a triangle” which is nearing infinity, i.e. the full content of the general concept of a triangle, also the number of components of the complex name in the form of: $a_1 \wedge a_2 \wedge \dots \wedge a_n$ will be nearing infinity.

Conclusion: the name “concept of a triangle” does not mean, unlike the name “concept of ‘triangle’”, a concept determined as to its content, that is – in other words – the concept of a triangle is not, unlike the concept of “triangle”, a concept determined as to its content. And saying this, we bear in mind that the name “concept of ‘triangle’” is an abbreviated form of the name “concept being the meaning of the name ‘triangle’”.

Ad (2) The name “concept of ‘triangle’” is a singular name. Its sole designatum is the concept being one of the ideal concepts comprising the abovementioned pluralities of ideal concepts – to be precise: it is the ideal content connected with the expression “triangle” and being the meaning of this expression. And since it is linked with the expression “triangle”, therefore the fact of this link needs to be marked, by putting this word into special quotation marks, which – being an integral part of this expression – cause this expression to occur in *suppositione*

to the normal supposition – he uses the name “ordinary” and makes no comment on this. I believe that Ajdukiewicz’s use of the name “ordinary supposition”, in the context of the previously introduced – in the analysed paper – distinction into *suppositione materiali* and the normal supposition, means that when he speaks of the normal supposition and he means the one which was described by Piotr Hiszpan as *suppositio personalis*, and which in a different terminology has been described as *suppositio simplex*, i.e. as regular (or ordinary) supposition or as simple supposition.

¹⁸In this paper I am using these terms interchangeably. Ajdukiewicz speaks in this case of a class of concepts (cf. the extensive fragment of his justification cited above concerning the indispensability of approaching knowledge from the language perspective).

materiali. Therefore, the name “concept of ‘triangle’ ” is *de facto* an abbreviation of the expression “concept being the meaning of the expression ‘triangle’ ”, and the name “concept of ‘trilateral figure’ ” is an abbreviation of the expression “concept being the meaning of the expression ‘trilateral figure’ ”, and the name “concept of ‘polygon with the sum of internal angles equal to 180°’ ” is an abbreviation of the expression “concept being the meaning of the expression ‘ polygon with the sum of internal angles equal to 180°’ ”, etc. And thus names: “concept of ‘triangle’ ”, “concept of ‘trilateral figure’ ” etc. are names whose designata are concepts determined as to their content, i.e. such concepts as: concept of “triangle”, concept of “trilateral figure”, etc. are concepts determined as to their content, but such names as: concept of a triangle, concept of a trilateral figure are not.

2.3.

There is a passage in *Logical Investigations* pertaining to the issue of being determined as to content, which corresponds to what has been discussed above, but which moreover has a certain more general value – both ontologically and epistemologically. It is worth citing this passage, here it is:

Everything that is, can be known “in itself”. Its being is a being definite in content [*ist inhaltlich bestimmtes Sein* – A.O.], and documented in such and such “truths in themselves”. What is, has its intrinsically definite properties and relations [. . .]. But what is objectively quite definite, must permit objective determination, and what permits objective determination, must, ideally speaking, permit expression through wholly determinate word-meanings. To being-in-itself correspond truths-in-themselves, and, to these last, fixed, unambiguous assertions. Of course, to be able to say all this actually, would require, not merely the necessary number of well-distinguished *verbal signs*, but a corresponding number of *expressions* having precise meanings – in the strict sense of expressions. We must be able to build up all expressions covering all meanings entering into our theory, and to identify or distinguish such meanings with self-evidence [20, p.223] and/or [19, p. 90].

This passage can be commented on in the following manner: Also with respect to a general concept, for example with respect to the general concept of a triangle, it is possible to say that it is determined as to its content, however this is a determinateness of another kind, namely a determinateness *in itself* and only *in itself*. On the other hand, with respect to an elementary concept, e.g. with respect to the elementary concept of “triangle” or with respect to the elementary concept of “trilateral figure”, we will say that it is a concept specified as to its content for *cognitive subject S speaking language L*, and a cognitive subject always speaks some language. What is more, one is a cognitive subject, only if at the same time one is a linguistic subject – this is what an analytical philosopher would say. And this means that one is a cognitive subject, if his cognitive acts are at the same time acts involved in intuitive presentations of word creations, that is if his cognitive acts are acts ascribing meaning to expressions. This issue was understood in this way by Ajdukiewicz, who at the same time claimed that a convincing, phenomenological description of this issue had been provided by Husserl in the second volume of *Logical Investigations*.¹⁹

¹⁹See: [16, p. 37, footnote 2]. This footnote refers to the abovementioned Investigation titled *Expression and Meaning* from Husserl's *Logical Investigations*. And this is this fragment from

2.4.

When an analytical philosopher equalizes concepts and propositions understood in the logical sense with the logical (linguistic) meanings of expressions, what he means are concepts understood as singular (elementary) objects, and not general concepts, and the analytical philosopher does so in the name of the postulate demanding determinateness of knowledge as to its content. This determinateness is assured by the abovementioned equalization, which at the same time is a close link between knowledge and language. Determinateness of knowledge understood in the above way constitutes also the linguistic objectification (in the sense of inter-subjectification) of knowledge, i.e. it makes knowledge universally important.

An analytical philosopher rejects concepts and propositions ‘in themselves’ since they are not meanings of actual expressions, but are at most meanings of possible expressions – analogous to the aforementioned *possible* complex name in the form of: $a_1 \wedge a_2 \wedge \dots \wedge a_n$. General concepts understood this way are a class of possible meanings of a thinkable multi-element nominal expression, whose every element – being an argument of the name-forming conjunction functor – means one of many contents comprising a general concept and each of these contents is an elementary concept. Lack of acceptance for concepts ‘in themselves’ in this case means as much as negating a contention saying that these concepts make up knowledge understood in the logical sense, which at the same time has the value of objectivity in the sense of: *actual* inter-subjectivity, i.e. in the sense of: *actual* determinateness as to its content.

Strictly speaking, an analytical philosopher does not have to reject concepts ‘in themselves’ just because they are general concepts. He does not have to reject

Language and Meaning, which ends in a reference to this investigation and which is written entirely in accordance with the spirit and the letter of the *Logical Investigations*: “Articulate judging takes place mostly (if not always) in reference to voiced or unvoiced speaking, viz. reading, writing, listening, etc. That is to say, articulate judging is a composite psychic process in which usually there can be discerned a more or less fragmentary intuitive representation of a word-image. This intuitive representation is then mixed with certain others (without analysis of the distinguishable components) into the unity of the articulate judging. We consider it fallacious to characterize matters in such a way that in the cases above judging is linked to the sentence-representation simply on the basis of association. The representation enters fully into the judgment-process and, indeed, forms its essential part. This has been convincingly demonstrated by Husserl. An articulate judgment-process whose essential part is the intuitive representation of a sentence we shall call ‘verbal judging’. (Here we leave open the question whether there are in general articulate but non-verbal judgments.) Scientific judgment-processes in mature form are always of the verbal sort” ([16, p. 37]).

The last sentence of this quotation deserves attention, since this sentence says the same thing that has already been said above, namely that that a cognitive subject is cognitive in the strict meaning of the work “cognition” (“knowledge”) if, and only if the cognitive subject is a linguistic subject. What is also noteworthy is the fact that the justification of this thesis has been taken by the author from the phenomenological linguistic descriptions of expressions and their meanings written by the father of phenomenology, E. Husserl, and yet the representatives of this philosophical belief do not acknowledge this thesis which perceives a cognitive subject as a linguistic subject (I have devoted the final remarks contained in point 7 of this article to this issue).

them also because in their content constitution they are transcendent with respect to language, which means that they are transcendent with respect to the subject. Such concepts can occur in an analytical philosopher's ontology, as long as they do not aspire to be actual knowledge; since – in an analytical philosopher's opinion – only knowledge determined as to its content deserves to be described that way.²⁰

2.5.

An analytical philosopher, when speaking of knowledge, can have in mind either possible or actual knowledge, whereby he is willing to ascribe epistemological value only to the latter:

- a) Possible knowledge – means knowledge undetermined as to its content, but which is possible to determine. Such knowledge is composed of logical propositions, which are possible meanings of sentences, and of general concepts composed of elementary concepts (elementary contents), each of which is a possible meaning of some nominal expression.
- b) Actual knowledge – means knowledge determined as to its content. Such knowledge is composed of logical propositions which are actual meanings of sentences and from elementary concepts being meanings of actual expressions, which are the components of general concepts.

Speaking of general and elementary concepts, what I mean are logical concepts, also known as ideal concepts. With respect to general concepts understood in such way I contended that they are a *class* of possible meanings of a thinkable multi-element nominal expression, each element of which – being an argument of the name-forming conjunction functor – means one of many contents *comprising the general concept*, and each of these contents is an elementary concept.

²⁰With respect to the issue of the possibility of existence in an ontology of an analytical philosopher of concepts and propositions not being meanings of expressions, I would like to note the following thing: And so, in an article [8] from 1948 Ajdukiewicz distinguishes three meanings of the term “science”: the psychological meaning, by which science is composed of concepts and propositions in the psychological sense; the logical meaning, by which science is composed of concepts and propositions in the logical sense, being the logical (ideal) meaning of terms and sentences, and the ideal meaning, by which science is composed of concepts and propositions in the logical sense, to which it could have happened that they never became meanings of any expressions. Thus, the last understanding of the term “science” is composed of meanings ‘in themselves’ (the Husserlian *Bedeutungen ‘an sich’*), to which it could have happened that they never became meanings of any expressions (the Husserlian *ausdrückliche Bedeutungen*). Although when speaking of ideal understanding of “science” Ajdukiewicz speaks only of ideally understood sentences, and not of ideal meanings ‘in themselves’, nonetheless speaking of such ideal sentences, i.e. *de facto* of sentences ‘in themselves’, is equivalent to speaking of meanings ‘in themselves’; what is sure is that the ontic status of these beings is the same – they are for sure radically atemporal, unlike concepts and propositions understood psychologically, but also unlike concepts and propositions understood logically, being at the same time the logical meanings of expressions (*ausdrückliche Bedeutungen*), which concepts and propositions, being involved in expressions of a particular language *L*, are thus involved in time, i.e. in the temporality of this language and the history of science pursued in the language.

Ajdukiewicz described general concepts as *classes* of concepts, and I would like to add that they are classes of elementary concepts.²¹

R. Ingarden, whose philosophy of language also conceives of such concepts, treated them, as one can suspect, as *wholes*, i.e. as *collectives*. He understood meanings of expressions as actualizations of *a part* of ideal senses contained in a general concept.²² If he indeed conceived of ideal concepts as collectives, then I find Ajdukiewicz's, rather than Ingarden's, approach to be right, among others due to the fact that Ajdukiewicz's approach makes it possible to speak of content-deprived general concepts, and I am inclined to consider transcendental concepts to be such content-deprived general concepts.²³ Yet, it is impossible to reasonably

²¹Cf. [14, p. 143]. Ajdukiewicz writes in there that such expressions as "concept of a triangle" or "concept of a trilateral figure" mean entire classes of concepts. He does not write that they mean the entire classes of elementary concepts. The adjective "elementary" is my qualification in this respect used to designate a concept determined as to its content.

²²Cf. [23, p. 139] and/or [27, Chapter V 16]. Strictly speaking, Ingarden does not use the expression "collective", he does use the expression "part", however. And this is the signalled view of Ingarden, which needs to be quoted in full, since the matter of ideal concepts and of the relation between them and meanings of expressions, is one of the most important, if not the most important matter in the philosophy of language: "[...] m e a n i n g of the word 'square' within its material content contains c u r r e n t l y only a certain p a r t of what is contained in the c o n c e p t of a square, *resp.* in the idea of a square. On the other hand, the meaning of the expression 'rectangular equilateral parallelogram' contains c u r r e n t l y a n o t h e r part of the content of t h e s a m e concept, and namely the part thanks to which its object gets constituted through the multiplicity of ideal qualities equivalent to squareness" [23, p. 139, translated by A.O.].

²³I write about transcendental concepts, as content-deprived general concepts in an article [36]. On this topic see also my article [39]. When I speak of the content emptiness of transcendental concepts, what I mean, which I have expressed in the abovementioned articles, is the objectivist understanding of content, i.e. such understanding by which the content of a given concept is composed of features inherent to all designata of a given concept, i.e. the characteristic features of the designata of that concept. Not going into details connected with this issue, in this footnote I will only state that account taken of all designata of the transcendent concept of "being", we will not demonstrate any such feature C, which could be common for all designata of the distributively understood concept of "being". And this means that the concept of "being" is content-deprived. Yet, the content described in these deliberations is the content connected with the act of consciousness, and to be more precise: the immanent content of the act understood *in specie*, or in other words, this is the content being the result of idealising abstraction carried out on the immanent content – and thus an ideal, objective content, which is also described as "the sense of the objective understanding" or in short as "sense". If however the transcendent concept of "being" is content-deprived, within the aforementioned meaning, i.e. such meaning where content is defined in categories of features, then it is also content-deprived within the second meaning of the term "part", in case of which speaking of content one means *the sense of objective understanding*. This is so, because features are also objects (but objects of a different tier than the objects they are inherent to), and being objects, they are thus objects of objective understanding, which is inherent to sense. Absence of a feature common for all designata of the transcendent concept of "being" entails thus the absence of the sense of objective understanding, *ergo*: the absence of logically understood content. At a side, the same feature C can be, as any other object, presented with the use of acts of various content, and thus various senses can refer to the same feature C – this is the main reason why we should differentiate between content specified in categories of features from contents understood logically, that is, in other words –

speak of an empty whole or an empty collective, since from the perspective of mereology empty sets do not exist.

If one acknowledges that a general concept is a class of elementary concepts, one needs to acknowledge at the same time, that a general concept is an object of a logical type superior towards the elementary concept corresponding thereto, and in consequence, names which mean general concepts (e.g. the name “concept of a triangle”) are of a higher logical type (are names of a higher syntactical category), than the names marking elementary concepts (e.g. the name “concept of ‘triangle’ ”). And if this is so, then the conjunction being a name-forming functor with name arguments, as already discussed, needs to be understood in an enumerative sense, and not in a synthesizing sense. We would be dealing with synthesizing sense, if general concepts undetermined as to their content were collectives of elementary concepts determined as to their content.²⁴

2.6.

This *content*, being the focus of our deliberations in this paper, whose central theme is knowledge determined as to its content, is the matter of the meaning intention act stemming from *Logical Investigations*, which, as a dependent moment of the act, coexists together with another moment, inseparably connected with the latter and as dependant, i.e. with the quality of the act, described several years later by Husserl in *Ideas* as the “theoretical character of the act”. Unity of them both, being an immanent content of an act, constitutes the intentional essence of the act. And the latter understood *in specie* is the objective, i.e. ideal content of the act.

Bearing in mind the influence of Husserl's philosophy's of language on the philosophy of language of the author of the semantic theory of knowledge, one must – speaking of these matters – use Husserlian terminology, and moreover one must, in relation to the subparagraph 2.1. of this paper and the footnote to that subparagraph, describing the subjectively and objectively understood cognitive content, refer to a relevant passage from *Logical Investigations*. This passage constitutes a philosophical-linguistic background and a philosophical-linguistic legitimization of the semiotic justification of the thesis, quoted at the beginning of this chapter, that if one wishes to speak of knowledge determined as to its content, one must necessarily approach it from the perspective of the language.

Our distinction posited two sides in every acts: its quality, which stamped it as, e.g., presentation or judgement, and its matter, that lent it direction to an object, which made a presentation, e.g., present *this* object and no object. [...] One can readily see, In fact, that *even if quality and objective direction are both fixed at the same time, certain variations remain possible*. Two

from content understood as intentions of expressions. This issue, only signalled at this point, deserves to be treated separately

²⁴Conjunction understood as a name-forming functor with name arguments, in an expression “A and B are C” has: (1) enumerative sense, when both the object marked with “A” as well as the object marked with “B” belong to the class of objects marked with “C” and when at the same time A and B are different objects; (2) synthesizing sense, if the objects marked with “A” and with “B” taken together create a new, different object marked with “C”.

identically qualified acts, e.g. two presentations, may appear directed, to the same object, without full agreement in intentional essence. The ideas *equilateral triangle* and *equiangular triangle* differ in content, though both are directed, and evidently directed, to the same object: they present the same object, although ‘in a different fashion’. [...] The matter, therefore, must be that element in an act which first gives it reference to an object, and reference so wholly definite that it not merely fixes the object meant in a general way, but also the precise way in which it is meant. [...] It is *the objective, the interpretative sense (Sinn der gegenständlichen Auffassung, Auffassungssinn)* [...]. In so far as quality and matter now count for us (as will be shown later) as the wholly essential, and so never to be dispensed with, constituents of an act, it would be suitable to call the union of both, forming one part of the complete act, the act’s *intentional essence*. To pin down this term, and the conception of the matter it goes with, we simultaneously introduce a second term. To the extent that we deal with acts, functioning in expressions in sense-giving fashion, or capable of so functioning – whether all acts are so capable must be considered later – we shall speak more specifically of the *semantic essence* of the act. The ideational abstraction of this essence yields a ‘meaning’ in our ideal sense [21, pp. 121–123].²⁵

Meaning-generating acts, as mentioned above, are described by Husserl in *Logical Investigations* also as *die Bedeuten* or as “meaning intentions” (*die Bedeutungsintentionen*). The ideal content of these acts, obtained as a result of the abovementioned abstraction, is the expression meaning (*ausdrückliche Bedeutung*), meaning connected with the language, unlike the meaning ‘in itself’ (*Bedeutung*)

²⁵During the Lectures on Logic Semiotic, which Ajdukiewicz gave at the John Casimir University of Lvov in Autumn 1930, he spoke in the same manner of the logical meaning of expressions. In the last lecture from that cycle, i.e. in Lecture XVIII given on 9 December 1930, he repeated a fragment of Investigation V from the second volume of *Logical Investigations*, which I have already quoted above. Lecture XVIII, being the last of the cycle, was a summary of that cycle, it therefore presented conclusions which Ajdukiewicz accepted, and one of the main topics, which these lectures were devoted to, was the issue of meaning of expressions. I edited and published Lecture XVIII as a component of my paper [40]. I quoted fragments of Lecture XVIII in article [42]. As to the answer to the question, what the logically (linguistically) understood meaning of expressions is, I would like to cite the first and the last sentence of this Lecture – here they are: “One of the best solutions in this case is what was done by Husserl . . .” [40, p. 171]. Then Ajdukiewicz present the Husserlian understanding of the meaning of expressions, repeating what Husserl said in the above quotation from Investigation V, and this is followed by a conclusion, constituting the last sentence of this lecture, and at the same time the last sentence of the entire cycle of lectures on logical semiotic, which is as follows: “We can say now that the meaning of a word in such and such form is the meaning essence of thoughts, which must be involved in this word for this word to be used as a word of such and such language” [40, p. 172]. If one wanted to correct Ajdukiewicz, and it is necessary to do this at this point, then one would need to say that the logical meaning of an expression (and this is the understanding of meaning that he has in mind) is not the meaning essence of an act of meaning intention involved in this expression, but it is this essence understood *in specie* or, in other words, the ideal abstraction of this essence. This is so, because the essence of an act of meaning intention is the quality and the matter of this act, and those comprise what you can call the immanent content of the act, and the objective (ideal) content is the immanent content understood *in specie*.

'*an sich*'), which is extra-linguistic. Ajdukiewicz explicated these expression meanings in a semiotic manner and in accordance with the spirit of Hilbert²⁶, as common properties of synonymous expressions in a given language L. Yet he did so not with the use of syntactic categories, but with the help of syntactic-pragmatic categories, since the latter, the pragmatic categories – describing acts of understanding of expressions or acts of acceptation of sentences – are capable of coping with explication of quality and matter of a meaning-generating act. Therefore, expression meanings – as described by Husserl in the abovementioned work, and as described by Ajdukiewicz after him – are understood *in specie* essences of meaning intention acts, i.e. they are – roughly speaking – meaning acts *in specie*. Individual meaning intentions fall under an ideal *species*, and this *species* is something that – as in Aristotelian conceptual realism – exists *in individuo* (cf. [24, p. 438]) within the scope of meaning-generating acts, i.e. within the scope of meaning intentions.

Expression meanings are those meanings 'in themselves' that 'happened' to be meant by a given expression, but apart from them there exist also such meanings 'in themselves' (*Bedeutungen 'an sich'*), which even due to our limited cognitive capabilities will never be expressed in meaning-generating acts, i.e. they will never

[...] become real in human mental life [20, p. 233].

This is because acts of meaning intention are their realization and not their *quasi*-realisation, as it is the case with the already mentioned views of R. Ingarden in this respect. What is ideal, objective and transcendent through operation of an intending act falls within the scope of this act. And since without this act there is no expression, since the act makes an expression an expression, finding its support in a physical expression sign, then an expression is a physical-psychological-logical creation. Such understanding of expressions cannot affect the proposal of semantic theory of knowledge claiming that speaking of expressions is tantamount to speaking of logically understood concepts and propositions, which are the meanings of expressions.

The psychological components of these creations – are the contents of the meaning-generating acts, which are subjective (immanent) cognitive contents. Those, in turn, understood *in specie*, are objective cognitive contents and are identical to the logical meanings of expressions, and logical meanings are identical to linguistic meanings.²⁷ And so, by the aforementioned determination of cognitive acts

²⁶During the session of the International Philosophical Congress in Prague in 1934, Ajdukiewicz presented his most important work to that date in the following manner: "As the first person in Poland – as it seems – he formulated (under the influence of Hilbert) an idea of strictly formalized deductive study of structural (and thus abstracting from the meaning of words) directives of reasoning. Following this idea, he tried to define the meaning of words as a logical structure of certain relations existing between expressions of a given language, which apart from the sound of the expressions is necessary for a characteristic of the language" [2, p. 405, translated by A.O.].

²⁷I demonstrate the fact that Ajdukiewicz's directive theory of meaning defining meaning of expressions as a class of abstraction (common feature) of synonymous expressions is an explication of Husserl's intentional theory of meanings of expressions in an article [37] and [42]. The main topic of this article is to present the explicating sequence from the act of meaning expression

in terms of acts of meaning intentions involved in expressions, the cognitive subject is a linguistic subject, to be precise: it is a part thereof, it is not identical therewith, since not every linguistic activity is a cognitive activity, but every cognitive activity is at the same time a linguistic activity.

The last sentence requires a commentary. An analytical philosopher, and I mean in this a case a philosopher who accepts the Husserlian theory of expressions, does not find cognitive acts to be identical to meaning intention acts, but for certain agrees with the thesis that each cognitive act is *de facto* an act of meaning intention involved in a sentence, which is a verbalization of an act of judgement. This is so, since only verbalized cognitive acts – and what is more only literally verbalized acts, which will be discussed below – deserve, in the opinion of an analyst, to be called cognitive acts, and a verbalized cognitive act is an act whose component is a more or less exact visual presentation of a word creation. And therefore, to be precise, the abovementioned thesis has – in another, equivalent wording – the following form: the scope of the concept “cognitive act” is subordinate to the scope of the concept of “linguistic act” or, to put it in other words, the scope of the concept “cognitive activity” is subordinate with respect to the scope of the concept “linguistic activity”. Therefore, consequently, it needs to be said with respect to the cognitive subject that it is not identical to the linguistic subject, but is ‘in the power’ of the linguistic subject, or in other words, that the cognitive subject is a component of the linguistic subject.

2.7.

When discussing these things, it is impossible not to mention the phenomenological standpoint in this respect – the thesis of a phenomenologist concerning the issue of the relation between the scopes of the concepts: cognitive act and linguistic act

in specie (ausdrückliche Bedeutung) up to the language expression as a common feature of synonymic expressions. The conclusion of this article - which I quote literally - is as follows: Ajdukiewicz's *explicatum* for the Husserlian *ausdrückliche Bedeutung* is a shared property of synonymous expressions, hence identical ones. Husserlian identity of species is Ajdukiewicz's synonymy. The possible sequence of expressions demonstrating that Ajdukiewicz's *explicatum* is translatable with no change of sense to Husserlian categories (and conversely, too, of course) would be as follows:

i) linguistic meaning — the same as shared property of expressions (The precise shape of this sentence would be this: the meaning of expression E in language L is the same as the shared property of synonymous expressions with this expression in language L. The remaining sentences of the sequence ought to be made more precise in a similar fashion, which I have given up for stylistic considerations),

(if an expression — the same as to be used as an expression, then)

ii) linguistic meaning — the same as shared property of the uses as expressions of language,

(if used as an expression of language — the same as to be understood, then)

iii) linguistic meaning — the same as shared property of the acts of understanding,

(if an act of understanding — the same as an act of meaning-intention, then)

iv) linguistic meaning — the same shared property of acts of meaning-intentions,

(if a shared property of acts of meaning-intentions — the same as their essence, that is species, then)

v) linguistic meaning - the same as an act of meaning-intention in specie [42, p. 151].

is that the scopes of these concepts intersect, which means that *only some* of the cognitive acts are linguistic acts, i.e. some cognitive acts are linguistic acts and some are not. Crossing of the scopes of these concepts, and to be precise their independence²⁸, results from the fact that a phenomenologist believes, contrary to an analytical philosopher, that although some cognitive acts and their results are not verbalized, yet they have every right to be classified as cognitive. Cognitive acts are the acts and results of direct knowledge, specific for this philosophical belief²⁹.

In this situation it could seem that the standpoint of an analyst and the standpoint of a phenomenologist are contradictory, since the following categorical sentence: Every C is L (where C symbolizes cognitive acts, and L – linguistic acts), expressing the thesis of an analyst, and the complex sentence: Some C are L and some C are not L , expressing the thesis of a phenomenologist, seem to be in a relation of contradiction, i.e. seem to be disjunctive. It turns out, however, that different ways of understanding of the cognitive act by the analyst and the phenomenologist result in the fact that this dispute is an apparent one, since each of them substitutes a different value for the name variable C . Distinctness of these values results from the different answers given to the following questions: What deserves to be called “a reason legitimizing knowledge”? Should we limit ourselves only to those reasons which result in knowledge having the feature of objectivity, understood as inter-subjective verifiability and communicability? Or should we perhaps, at the expense of objectivity understood in such way, valorise in knowledge an objectivity understood otherwise, namely as objective validity? In other words, what should an epistemologist value more: intersubjectivity of knowledge at the expense of a smaller number of truths, or should he valorise a greater number of truths at the expense of the intersubjectivity of knowledge? As it is easily noticeable, answers to these questions are not axiologically neutral, and therefore the dispute between an analyst and a phenomenologist with respect to the role of the language in knowledge is not a dispute in the strict sense of the word, since, first, they understand the term “knowledge” differently, and second, the dispute as to the manner of understanding the term “knowledge” is not a dispute in the strict meaning of the word, since it is axiologically involved. A closer examination of this dispute would lead us to the conclusion, that each of them, the analyst and the phenomenologist, differently understands not only the cognitive actions and results, but also the issue of verbalization of cognitive actions

²⁸If scopes of two names (concepts) are crossing, and the logical sum of those scopes is properly contained in the class, within which their mutual relation is considered, then such crossing of scopes is referred to as “independence of names (concepts)”. If however a logical sum of the crossing scopes of names (concepts) is equal to the class, within which their mutual relation is considered, then this relation is described as “sub-opposition of names (concepts)” – on this cf. [28, pp. 98–101].

²⁹As to the non-verbality of cognitive acts and results in phenomenological research – see: e.g. [22]. What deserves particular attention in this respect are also the lectures of R. Ingarden from 1948/1949 given at the Jagiellonian University, concerning the role of language in science (in knowledge) – see: [26, in particular p. 95 et seq.].

and results, i.e. each of them differently understands the term “linguistic actions”, which is involved in this dispute – for the phenomenologist these can be a kind of linguistic actions that are unacceptable for the analyst, since the analyst does not accept for example the language of comparisons and metaphors – this issue is tackled in the fragment from Ajdukiewicz’s speech at the 1935 Paris Philosophical Congress, which I present below.

As to the aforementioned dispute in the strict meaning of the word, we would be dealing with it, if the standpoints of the disagreeing parties were possible to express with sentences in the logical sense and if these sentences were in the relation of contradiction or in the relation of exclusive or ordinary alternative or in the relation of disjunction ³⁰.

2.8.

One should bear in mind the differences between the standpoint of an analytical philosopher (Ajdukiewicz) and of a phenomenologist (Husserl or Ingarden) with respect to the question of the relation: cognitive acts and results vs. linguistic acts and results (and therefore, the differences between their standpoints with respect to the question of the relation: cognitive subject vs. linguistic subject), when one speaks of the fact that the intentional theory of expressing and meaning, presented in the second volume of *Logical Investigations*, was used by Ajdukiewicz to present verbalized cognitive acts and results connected therewith in the Husserlian way, as well as, which is connected with the above, to understand the linguistic meaning of expressions in the Husserlian way, and in consequence, to understand in this way knowledge determined as to its content. Ajdukiewicz did not acknowledge however, and this needs to be borne in mind, the sources of direct knowledge which are characteristic for phenomenology. And, for example, in the course of a discussion with R. Ingarden, after his congress paper, he concluded:

If some concept of proposition (in the logical sense) does not constitute a meaning of any expression, then it is impossible to say anything about it, which would pertain to its content. All that pertains to such concepts and propositions would therefore be inexpressible, and therefore it could not belong to any science, if science is understood as something that is publically (inter-individually) available. This remark pertains in particular to the alleged theory of indirect knowledge [6, p. 338].

He expressed similar views at the aforementioned Paris International Philosophy Congress. Discussing the meta-philosophy accepted in the Lvov-Warsaw School, he said that:

In order to make science, it is not enough to observe the rules of intellectual honesty, i.e. to allow oneself to be guided by expressing opinions by nothing else than an honest conviction rooted in deep reflection. It is also necessary to express oneself in an intersubjectively communicative language, and claim only that which one is able to determine and justify, being certain of such justification.

Further, for a linguistic utterance to be intersubjectively communicative, it is not enough for such utterance to be easily understandable for others – it is also necessary that one is able to make sure that the utterance has been understood in its correct sense. We consider a justification

³⁰I write more about the dispute between the analyst and the phenomenologist on the role of language in knowledge an article [38].

to be sure, if it is controllable by others, who could verify and repeat it. Intellectual work, which were unable to meet the presented requirements, could never become an object of cooperation and would not deserve the right to be called science.

Observing these two postulates determines the method and the language, limiting at the same time the field of our philosophical activity. If we want to satisfy both of the requirements we are discussing, we can make use neither of the Bergsonian intuition nor of Husserl's "Wesenschau" (with all due respect for their significance in the fields relevant for them), nor of any other similar methods, until the results, to which they lead, can be formulated in an intersubjectively communicative manner and can be verified in a manner which will allow us to be sure. Although theses arrived at with the use of these methods can be verbally communicative, yet use of words in this case is only suggestive, which means that words are used only to invoke desired mental reactions of the listener. One therefore expresses these theses in a metaphorical manner, and uses thereby comparisons and examples, one is unable however to formulate them in expressions of direct character, i.e. such expressions which to be received correctly need only to be understood literally [18, pp. 123–124].³¹

3. Conclusion

Semantic theory of knowledge grew out of the spirit of the anti-psychological breakthrough, and therefore – according to this theory – if we want to speak of logically (linguistically) understood knowledge determined as to its content, then instead of logical concepts and propositions, comprising knowledge understood in the logical way, we should speak of expressions, whose linguistic meanings these concepts and propositions are – and this will be semiotically substantiated. And moreover, what I have been trying to demonstrate, this will be also substantiated from the perspective of the philosophy of language, if this philosophy is the philosophy presented in the *Logical Investigations*. What is more, by proceeding this way, we can apply, in the theory of knowledge conceived of in such manner, any results obtained in meta-mathematics, which is a meta-theoretical discipline analogous to epistemology. Logically understood concepts and propositions, being the linguistic meanings of expressions, are their logical meanings, and being at the same time intentions³² of expressions, are identical to the contents of mental acts understood *in specie* – the acts which are expressed by these expressions.

³¹During that speech Ajdukiewicz used the name "the Lvov-Warsaw School" – perhaps this was the first time this name was used for the first time.

³²In the 1930s Ajdukiewicz did not deal with the question of intentionality. The first work in which the concept of "intentionality" was described more extensively is Ajdukiewicz's article [9] from 1958 in which – additionally to the topic indicated in the title – he argues that due to the intentional character of certain expressions, it is impossible to eliminate real definitions from the general theory of definitions and to replace them with nominal definitions in objective stylistics, without encountering insurmountable difficulties. The need for such replacement is motivated by some philosophers with their nominalist views, since the universale is the thing to which the real definition refers to.

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