Сущность, имя и вещь в «компьютерной» онтологии Аристотеля

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Аннотация. В данной статье речь идет об элементах классической и неклассической онтологических систем в учении Аристотеля о сущности, категориях и языке. Удивительным выглядит то, что в классических памятниках античной философской мысли встречаются онтологические модели, близкие современной аналитической философии и компьютерным наукам. Аристотель впервые рассуждает о сущем, данном в категориях языка. Так совершается переход от предметного индивида к логическому субъекту и затем к части речи. Природа знания опирается на единичное представление всеобщего. По Аристотелю, в действительности существует только множество произвольно обозначенных уникальных единичных вещей. Но виды и роды выстраивают определенные логические отношения между ними. Таким образом, языковая актуализация знания о мире возможна только относительно видов и родов, т.е. логической структуры, поскольку вещь сама по себе (неописанная) не обладает никакими характеристиками, но при этом она независимо наличествует в бытии. С одной стороны, Аристотель представляется как сторонник классической номиналистской онтологии – мир вещей есть множество существующих в бытии единичных безатрибутивных объектов. С другой – онтология Аристотеля представляет собой множество объектов, полагаемых высказыванием в качестве существующих. То есть это могут быть объекты из вымышленных или невозможных миров, но языковые дескрипции приписывают им функции пропозиционального значения. Язык в обоих случаях – просто способ непротиворечивого описания. Такая трактовка позволяет описывать онтологию Аристотеля в терминах компьютерных онтологий.

Ключевые слова: категории; сущность; онтология языка; имя; таксон; номинализм.

Substance, name and thing
in aristotle's «computer» ontology

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Abstract. In this article, we will discuss the elements of classical and nonclassical ontological systems in Aristotle's doctrine of the substance, categories and language. It is amazing that the classic heritage of ancient philosophical thought include ontological models similar to the contemporary analytic philosophy. Aristotle was the first to speculate on the substance in terms of language categories. It is the transition from the subject individual to a logical entity and then to a part of speech. The nature of knowledge is based on a single representation of the universal. According to Aristotle, only a plurality of randomly designated unique individual things exists. However, the species and genera build some logical relations between them. Therefore, the language updating of the knowledge of the world is possible only with respect to species and genera, i.e., a logical structure as thing in itself (not described) does not have any features but exists independently in the reality. On the one hand, Aristotle supports the classical nominalistic ontology (the material world is a complexity of things existing in the reality of single non-attributive objects). On the other hand, Aristotle's ontology is a complex of objects believed existing by a statement. That is, the objects can be from imaginary or impossible worlds, but the language descriptions credit them with the function of propositional value. In both cases, language is just a method of consistent description.

Keywords: categories; substance; ontology of a language; name; taxon; nominalism.

Introduction

It is a well-known fact that within the issue of the relation between the name and the thing, Aristotle creates an ontological model as opposed to the opinion of his teacher Plato.

In order to understand the key disagreement of Plato and Aristotle's ontological model, it is necessary to compare their interpretations of the relations between concepts and of things. Aristotle agrees with the basic provisions of the Platonic theory of ideas, postulating a transition from Eidos to sensory distorted phenomena and concepts, grasping the true substance of things, as well as a name containing some semantic nucleus connected to the same substance of the thing.

Nevertheless, Aristotle sharply criticizes the independent ontological status attributed to notions and ideas by Plato. For Aristotle, a concept is the result of the work of reason comprehending the essential characteristics of the individual objects. Such sharp criticism of the teacher is based on the fact that the Platonists, according to Aristotle, had adopted Heraclites' idea of the eternal change of life, and that they had sought the source of the order of things (cosmos) in transcendental eidetic universals.

Traditionally, four Aristotle's theses criticizing the theory of ideas are stated:

1. As an idea contains all the common features of certain things, they do not have anything that is not contained in the things themselves; therefore, ideas are useless for the process of cognition.

2. The transcendental remoteness of the world of ideas makes it useless for perceptual knowledge; therefore, there is no reason for the existence of objective connection between things and ideas.

3. The third objection is due to Russell's paradox and the theory of sets. Aristotle sees the logical contradiction in the fact that «individual» ideas may be generalized by «general» ideas, as then the general ideas would contradict their position of «individual» for the more general.

4. The universality of ideas does not explain the cause of motion and establishment in the world, the origin and death, because the world of ideas is a limited closed system of ideal meanings [1; 2].

We plan to discuss two questions in this article:

What are the universal bases of being for Aristotle?

How does his ontological view affect the interpretation of the language system?

1. Aristotle's pseudonominalism

The most common view defines Aristotle's doctrine as pure nominalism. According to this approach, for Aristotle, only individual things exist, and only the general is studied, which is expressed through the «whatness», the notional self-identical unity. It is believed that for Aristotle, substance is expressed through specific difference, i.e., through semiotic and analytical work of the cognitive mind. Some authors [3] interpret Aristotle's universals through Nous (mind), the «form of forms», the primary drive, the «idea of ideas», which in fact, identified with the Aristotle's universals with Plato's Logos.

Aristotle clearly separates the concept of the substance and universals. His universals lose their self-ontological status and acquire logical reasons, becoming descriptive qualities of a substance. E.g. «an apple is red» not because there exists some ideal redness, but because there exists an apple with its inherent characteristics. However, the nature of an apple is related to its true substance, in other words, these are the properties, which the substance may not lose without ceasing to be itself. Further, Aristotle argues that the entity is only inherent in single unique items (Socrates, Napoleon or a specific thing) because they possess qualities that can be described consistently.

As it is well known, Aristotle was a supporter of the theory of the establishment of random names, so he did not connect language names with the substance of things. However, the substance of things, despite the inconsistency of the term and its ambiguous use in the «Metaphysics», was correlated with the logical relationship between the name and the predicate. In short, according to Aristotle, there actually exists only a plurality of randomly designated unique individual things. However, the species and genera build certain logical relations between them. Thus, the language updating of the knowledge of the world is possible only with respect to the species and genera, i.e. a logical structure as thing in itself (non-described), does not have any features but exists in being independently. There is simply nothing to say about it. Knowledge is possible only in general, which is updated in the individual.

For this reason, Aristotle creates an innovative categorical approach. To describe the logical relationships of individual things a special language and a vocabulary of categories are required (Table 1).

Table 1

Aristotle's category system

Ὀυσία	What?	**Substantia**	Substance
Ποσόν	How numerous?	**Quantitas**	Quantity
Ποιόν	Which?	**Qualitas**	Quality
Πρός τί	Related to what?	**Relatio**	Relation (related)
Ποῦ	Where?	**Ubi**	Where (Place)
Πότε	When?	**Quando**	When (Time)
Κεῖσθαι	To exist	**Situs**	Position
Ἔχειν	To (be) possess(ed)	**Habitus**	Possession (state)
Ποιεῖν	To do	**Actio**	Action
Πάσχειν	To suffer	**Passio**	Undergoing

The categories doctrine is the doctrine of the possibility of con-sistent language statements that do not allow to distort the truth of the expression. Criticizing the sophists for the substitution of concepts and the use of polysemic terms, Aristotle made a breakthrough separating the levels of word usage into grammar and logic. In the terms «a man is» and «a man is fair» the verb «to be» reflects different functional meanings [4]. In one case, the ontological content of a seme is revealed, in the second, the verb is as an ontological connector.

It is important to understand that with the help of categories Aris-totle describes the characteristics of being, i.e. it creates a descriptive system for constructing unambiguous representative statements. This principle is used today for working with databases.

Beingness consists of individual things that are classified by gen-der and type of relationships through language. Naturally, Aristotle was a supporter of the random category concept. However, the complexity of the ancient thinker was that the linguistic ordering of the knowledge of individual things created system of relations between logical objects that could be verified empirically in the physical world (!). Thus the question of a universal general still remained opened.

2. Categorial understanding of Substance

In the well-known quote «… Saying that substance does not exist, or saying that a non-substance exists is to say false; and saying that substance exists, or saying that a non-substance does not is to tell the truth», the verb «to say» is in the focus, since the semantics of an expression carries the speaker from the objective world into the area of language worlds.

S. Neretina and A. Ogurtsov rightly point out that Aristotle was the first time to speak about the importance of language for ontological models. «Metaphysics is not just the doctrine of the substance as such, regardless of human subjectivity and intersubjectivity of meanings, but the doctrine about being as it is given in the language structure, in the methods of naming and predication, in syntactic, semantic and grammatical forms» [5]. As a result, Aristotle declared a category a part of speech.

The linguistic analysis of the concept of «substance» in the works of Aristotle is of particular interest as here he raises the serious issues of the impact of linguistic representations on the ancient ontological system. This is where from the logical tradition originates.

The interpretation of the concept of «substance» is very different in the «Categories» and «Metaphysics». In his first works, Aristotle divides substances into the «first» and «second»: the first substances are individuals (a single person, a horse or a dog), i.e. this is the sentence subject, the subject of a statement in the logical and grammatical sense; the second substances are genders, species and general concepts. Yet, later in the «Categories» he states that the substances exist independently, only the first ones have the supreme being, and the latter emerge in being as they approach the first. In the «Metaphysics», Aristotle's understanding of the «substance» is located between the Latin concept of *substantia* («standing under») and *essentia* (substance of existence of this thing – «whatness»). To understand what really is the substance according to Aristotle, it is advisable to analyze the connection between his ontology and the syllogistics and the theory of language.

As a result, Aristotle defines Substance[1] through four fundamental characteristics: 0) Substance as such; 1) Substance as the basis for the quality of a thing, as a substrate; 2) as a linguistic substrate or a sentence subject; 3) as the subject of logic judgment. All three features of a

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[1]   We capitalize the word here as it includes all Aristotle's interpretations of substance.

Substance are interconnected, they are not three meanings of the word but three aspects of the Substance beingness [6]. Now, if we apply the linguistic forms to describe all four levels, we will have the following picture: level 0) can not be described as any «statement about the …» automatically brings us to level 1); at level 2) a thing is transformed into a subject; and, finally at level 3) we are talking about the logical subject connected with the world of things through formal characteristics.

3. Ontology of language

Let us consider the relationship of Aristotle's logical doctrine and his understanding of the language substance.

As we know from the history of science, Aristotle attempted to systematize the knowledge of almost all fields of science in his time. Language as an organized structure of grammatically conjugated elements was first realized by Stagirite.

Surprisingly, despite the fact that modern linguists treat Aristotle's fundamentals of propositional logic with great reverence, Aristotle himself did not consider language as a separate object of philosophical reflection. However he singled out three areas of language functioning. Alas, they all were outside the ontological plane: first *dialectics*, the science of proof and refutation; second, the *poetics*, which is the science of compiling stories that excite passions: epic, tragedy, comedy, etc. (what we now would call fiction); third *rhetorics*, the science of drafting speeches glorifying one and condemning another. All three sciences or arts are directly related to the word, to the speech. Aristotle developed his theory of language within these disciplines [7].

Aristotle begins his work «On the interpretation» in line with Plato by pointing out that, as thoughts are signs of things, words are signs of thoughts. From the further Aristotle's discussion, it is clear that for him the structure of a language is an abstract copy of the structure of the world, reproducing through submission. Therefore, to describe reliably the connections between things and thoughts, one needs to describe credibly the relationship between syntactic and grammatical elements. Further, Aristotle defines the name and the verb as the fundamental elements of a linguistic structure, thus making an important point: 1) nothing false or true can be made without a predicative connector; 2) the name, unlike the verb, has no expression in the category of time; 3) no part of a word outside the integrity means nothing (a blow to the

etymological speculations of that era);

Therefore, the name and the verb for Aristotle are the foundation of any sentence. Aristotle defines speech as «a meaningful sound combination, separate parts of which mean something as the utterance, but not as an affirmation or negation» [8]. He then follows by the classification of sentences breaking them into the following pairs: 1) affirmation and negation; 2) simple and complex; 3) opposing and contradicting; 4) true and false.

It should also be noted that Aristotle was the first to introduce the classification of predicates by the logic type. This innovation made the theory of syllogisms more formal. That is, the theory of true statements construction was built based on logical grounds and not on a description of the object properties or on the principles of evidence.

According to Yu. S. Stepanov, in Aristotle's doctrine, the predicate was not considered an act of attributing features to a subject. Predication created a classification of description results. Here we see three types of terms: 1) category, genus; 2) predicate; 3) predicable, predicate type. In the first case, the term «category» refers to the actually existing genus or species of the things as such; in the second case, the predicate is a sentence member; and in the third case, the predicate is a classification unit of logical predicates (taxon).

Aristotle's logic contains a contradiction we have found interesting.

On the one hand, the Greek thinker was a consistent supporter of the contractual theory of naming; on the other hand, he subordinated thought to the word. The theory of syllogisms is based on the formula of «S is P», which in its turn includes the theory of deducing unambiguous concepts, distinguishing the signs of concepts, procedures for definition and separation, etc. However, the key aspect here is the linguistic expression of the ontological ligament «is». In other words, the subject S exists and is present in our cognitive field due to the presence of the predicate P. That is, the world of objects is acquired by identifying similar and different properties. Thinking and speaking about a subject reproduces the subject in the imagination making it real. That is why Aristotle's most preferred methodological tool was to investigate the meanings of words. «First is the adoption of the provisions, second is the ability to understand how many values every name uses» [9].

On the other hand, Aristotle was well aware that «the representation in the imagination» of each person are different, and the com-

munication at the level of logic is possible only if $S \equiv S$. Therefore, he created a theory of generating concepts, which eliminated the content aspect and the representation of things in the syllogism logic is reduced to the universal S, P, M and other terms. Aristotle's formal universalism determined the development of the philosophical knowledge of the language for a long time. Only centuries later, the language ceased to be a rhetorical researchers' tool for expressing the universal mental substances, a means of sounding or figurative allegories. Until the late 18th – early 19th century. The philosophy of language developed in line with the analytical approach in which mental structures were seen as identical to the structures of being.

Conclusions

We proceed to conclusions. Obviously, Aristotle did not share the Platonic transcendentalist approach to the ontology of language. For Aristotle, language is primarily a taxonomically ordered system of expressing the connection of individual things and signs. Despite the fact that Aristotle's universals are have the nature of logical and semantic descriptions, the Greek philosopher failed to avoid the idea of a certain beginning of all sense (νοῦς).

One could argue that Aristotle's doctrine of the nature of names combined the modern computational understanding of the term «ontology». On the one hand, we see the nominalistc metaphysical interpretation of the material world as a plurality of single non-attributed objects existing in being. On the other hand, Aristotle's ontology is a plurality of objects believed existing by the existing theory. That is, they can be the objects of imaginary or impossible worlds but the language descriptions credit to them the functions of propositional value. In both cases, the language is just a method of consistent description. We emphasize that the classification of taxonomic objects by genera and species is the basis of any information system.

Aristotle's understanding of the substance of a thing is also in two ontologies: the substance is a real individual or a propositional subject; at the same time, substance is a system of logical relationships. Actually, the correspondent criterion of truth is reduced to the degree of affinity of the two ontologies.

While the language system in Aristotle's doctrine of categories appears to be an important ontological component, the language as an

object is represented in the philosopher's works only as a rhetorical tool for speech activity.

Aristotle was the first to introduce a classification of predicates according to the logical principles. The truth of statement was then confirmed not by comparing the semantics with the original of the signified, but by a consistent logic model of a statement. Name lost it connection to the substance or empirically verifiable properties of speech but acquired a conditionality of a logic variable. We can concluded that Aristotle's doctrine includes the elements of both classical and non-classical ontological systems.

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