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АРИСТОТЕЛЕВСКОЕ НАСЛЕДИЕ КАК КОНСТИТУИРУЮЩИЙ ЭЛЕМЕНТ ЕВРОПЕЙСКОЙ РАЦИОНАЛЬНОСТИ

МАТЕРИАЛЫ МОСКОВСКОЙ МЕЖДУНАРОДНОЙ КОНФЕРЕНЦИИ ПО АРИСТОТЕЛЮ

ИНСТИТУТ ФИЛОСОФИИ РАН, 17-19 ОКТЯБРЯ 2016 г.

Под общей редакцией В.В. Петрова



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Аристотелевское наследие как конституирующий элемент европейской рациональности. Материалы Московской международной конференции по Аристотелю. Институт философии РАН, 17–19 октября 2016 г. / Под общ. ред. В.В. Петрова. М.: Аквилон, 2017. – 708 с. + хіі, с илл. (Гуманитарные науки в исследованиях и переводах [Т. VII]: изд. с 2010 г.)

Книга представляет собой сборник материалов Московской международной конференции «Аристотелевское наследие как конституирующий элемент европейской рациональности», прошедшей в Институте философии РАН 17–19 октября 2016 г. в год празднования 2400-летнего юбилея Аристотеля. В книге собраны работы отечественных и зарубежных ученых, исследователей Аристотеля и специалистов в смежных областях знания, рассматривающих многообразные аспекты учения самого философа, а также особенности усвоения его учения в последующей традиции. Дается анализ теорий и идей самого Аристотеля, рассматривается отношение его взглядов к предшествующим учениям. В ряде публикаций исследуется рецепция и трансформация аристотелизма в последующей интеллектуальной, философской, научной традициях: западноевропейской латинской, византийской, ренессансной, нововременной. Особый раздел книги составили работы, исследующие влияние аристотелизма на естественные науки. В составе авторов — ученые из России, постсоветских государств, дальнего зарубежья.

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Fabien SCHANG

FROM ARISTOTLE'S OPPOSITIONS TO ARISTOTELIAN OPPOSITIONS

- **1.** *Being*. Being is to be considered from two extreme standpoints inside Aristotle's philosophy. His theory of *categories* deals with ontology and relates to whatever is, proposing an exhaustive list of the various ways of being. His theory of *oppositions* deals with duality and relates to whatever things that cannot be at the same time. Let us start by paying attention to these two theories.
- 1.1. On what there can be. According to Aristotle, there are ten ways of being for everything expressed in a discourse. These are: substance, or *ousia* ("Socrates", "This particular man", "I"); quantity, or *poson* ("all men", "some man", "six men"); quality, or *poion* ("mortal", "white", "too-footed"); relation, or *prosti* ("taller than", "smaller than", "disciple of"); place, or *pou* ("in Moscow", "in Athens", "in front of me"); time, or *pote* ("at 4pm", "today", "tomorrow"); position, or *keisthai* ("is lying", "is standing", "is sitting"); having, or *echein* ("is armed", "is shod"); action, or *poiein* ("is reading", "is telling", "is seeing"); passion, or *paschein* ("is read", "is told", "is seen"). These ten categories can be combined with each other into an indefinite number of sentences. For example, "The wise Socrates always sits nearby my father's" pools together a set of six categories including quality ("wise"), substance ("Socrates"), time and quantity ("always"), position ("sits"), place ("nearby"), and relation (my father's").
- 1.2. On what there cannot be. While categories refer to the various ways of being, oppositions may be said to refer to the various ways of non-being. A number of descriptions can be found both in Aristotle's *Categories* (Chapter 10) and *Metaphysics* (Δ10). Thus, Aristotle sees four kinds of opposites, or *antithesis*: relatives ("double" vs "half", "father" vs "son"); contraries ("black" vs "white", "good" vs "evil"); opposed by possession and privation ("sight" vs "blindness", "vertebrate" vs "invertebrate"); opposed by affirmation and negation ("Socrates is sitting" vs "Socrates is not sitting"). In a nutshell, opposites are whatever cannot cohere or stand together: Socrates cannot be the master of Aristotle and the disciple of Aristotle (opposed relatives); Socrates cannot be white and black (opposed contraries); Socrates cannot be seeing and blind (opposed by possession and privation); Socrates cannot be sitting and not sitting (opposed by affirmation and negation).

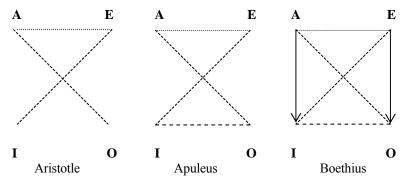
The first three kinds of opposition are of *metaphysical* order: these are attributes that cannot cohere in mundane things. At the same time, the fourth kind of opposition is of *logical* order: it is so when given predicates cannot be true of sentential subjects. Aristotle also views two sorts of logical oppositions: contradiction, and (logical) contrariety. There is only one law of coherence, in Aristotle's corpus: the Law of Non-Contradiction (LNC), saying that 'The same thing cannot at the same time both belong and not belong to the same object and in the same respect¹. It is well known that such a logical relation has been figured into the so-called Aristotelian square of opposition. However, the latter has never been conceived by Aristotle himself. Again, Aristotle assumed only two sorts of logical opposition: contrariety, and contradiction. By contraries (enantios), Aristotle meant propositions that cannot be true together. By contradictories (antiphatikos), he meant propositions that cannot be true together or false together. Despite the occurrence of four sorts of logical relation in the aforementioned square, Aristotle considered only two of these as genuine oppositions: 'Verbally four kinds of opposition are possible, viz. universal affirmative to universal negative, universal affirmative to particular negative, particular affirmative to universal negative and particular affirmative to particular negative. But really there are only three: for the particular affirmative is only verbally opposed to the particular negative. Of the genuine opposites — I call those which are universal contraries, e.g. "every science is good", "no science is good"; the others I call contradictories'2

Oppositions between categorical sentences are composites of quality and quantity, assuming that substances are singular terms that are kept aside from Aristotle's syllogistics. Let S be the symbol for subject-terms in a sentence (e.g. science), and P be the ensuing predicate-term (e.g., good). These are two kinds of quality, while quantity is expressed by two prefixed expressions like "every" (or "all") and "some". Then every categorical sentence is of the form "Every / Some S is / not P", including a set of four quantifications (totally or partly, affirmatively or negatively). Borrowing from the medieval symbolization (affirmatio, negatio), it results in the following specifications of "Science is good":

A Universal affirmative: Every S is P ("Every science is good")
 E Universal negative: No S is P ("No science is good")
 I Particular affirmative: Some S is P ("Some science is good")
 O Particular negative: Some S is not P ("Some science is not good")

² Aristotle, *Prior Analytics*, 63b21–30.

¹ Aristotle, *Metaphysics*, Γ3,1005b, 29–30.



While Aristotle assumed only two sorts of logical opposition (contrariety, contradiction), Apuleius (123–170 C.E.) inserted the additional relation of subcontrariety, or *upenainenai* (or *hupenantios*), whose term was coined by Alexander of Aphrodisias (≈150–215 C.E.). Any two sentences are subcontrary to each other whenever these cannot be false together. Then Boethius (480–525 C.E.) squared the square by the fourth relation of *subalternation*, an ordered relation according to which the first sentence cannot be false whenever the second is true.

- **2.** Existence. Existence is a special case of being, to be defined broadly speaking as "what is the case". Notwithstanding the tricky defining notion of "case", this means that existence refers to whatever is actual or belongs to reality. In order to clarify the meaning of existence, let us try to think about it by its counterpart of inexistence. Are existence and inexistence complementary with each other?
- 2.1. On what there is (to be). It is worthwhile to note that existence is not among Aristotle's ten categories. For this reason, the controversy about whether existence is a property or not should be answered negatively from an Aristotelian perspective. How to express existence, if this cannot be made by a predicate or any other expression of being? One plausible candidate for this purpose is to be found under the category of substance, or *ousia*: only the terms of substance should be in position to be words for existing things, albeit not proper definitions of these within a given language. One related criterion for existence is uniqueness, as stated by Aristotle: 'Now that which underlies a thing is that of which everything else is predicated, but it itself cannot be predicated of anything else'³.

This underlying criterion amounts to say that whatever exists cannot be used as a predicate term in an arbitrary sentence, thereby making a difference between two senses of substance: *primary* substances, which correspond to the notion of individual or *upokeimenon*; *secondary* substance, which can be used as

³ Aristotle. Metaphysics 1028b 36.

universals and somehow match with *eidos* (concept, or idea. In other words, there may be two kinds of subject-term in a sentence but only one substance, by contradistinction to the broader notion of quality. However, uniqueness cannot be a sufficient criterion of existence without neglecting the ensuing debate of universals in the Middle Age. Are there tables, or only instances of tables that occur as proper substances? Rather than reintroducing the controversy between realists and nominalists, let us say that the truth a sentence of the form "S is P" is no sufficient condition to entail the existence of S.

Jumping into the recent history of analytic philosophy, let us recall what Quine said about the notion of existence from a logical point of view. According to him, 'To be is to be the value of a bound variable' in a canonical language based on first-order logic and including quantifiers⁴. Thus, the sentence "Socrates is white" should be regimented into the formal sentence $(\exists x)$ $Sx \land Wx$: there is some thing x such that x is Socrates (or "Socratizes") and x is white. But just as Strawson rightly noted to this respect, nothing prevents such a formalization from quantifying over such more abstract, secondary properties as in "Jealousy is evil". This sentence says that there is some x such that x is jealous and x is evil. Again, the question whether there is something more "behind" jealousy than a concept or a mere individual is left open to the ontological controversy between realists (or, better, conceptualists for whom concepts exist) and nominalists (for whom only spatiotemporal individuals or substances exist).

Another criterion to assess existence, beyond the previous quarrel, is a property of sentences themselves rather than their terms: truth, or *aletheia*. Indeed, the latter can be viewed as a good test for existence if one assumes that only existing things can make sentences properly true. For truth was taken by Aristotle to rely upon facts, in accordance to the correspondence theory of truth assumed in these lines:

What is more, there cannot be anything between two contradictories, but of any one subject, one thing must either be *asserted* or *denied*. This is clear if we first define what is truth and what is falsehood. A *falsity* is a statement of that which is that it is not, or of that which is not that it is; and a *truth* is a statement of that which is that it is, or of that which is not that it is not. Hence, he who states of anything that it is, or that it is not, will either speak truly or speak falsely. But of what is *neither being nor nonbeing* it is not said that it is or that it is not.

The beginning of the above quotation states the famous Law of Excluded Middle (**LEM**) in terms of assertion and denial: every sentence is said to be either true or false, according to the way things are and their linguistic expressions of affirmation or negation. At the same time, the end of the quotation seems to contra-

⁴ Quine. On What There Is. P. 15.

⁵ Aristotle. Metaphysics 1005b 15-20 (our italics).

dict the first lines by assuming that there is something between being (what is) and nonbeing (what is not). Does it mean that a sentence can be neither true nor false, despite **LEM**? A way to disentangle this point is to note that every proposition is true or false whereas indeterminate sentences — whose content cannot be assessed by facts — are none. Thus, Aristotle's oppositions put the limits of coherence by **LNC** whilst raising other troubles around these limits of discourse by **LEM**. Two such case studies have been considered within Aristotle's *Organon*: indeterminate events (*On Interpretation*, chapter 9), on the one hand; empty terms, on the other hand. The next section will focus on the latter issue through the well-known problem of *existential import*. Is *bivalence* restricted to discourse about existing things?

2.2. On what there is not. In his definition of truth and falsity, Aristotle referred to "what is not" the case. For example, truth is expressed by any sentence stating of what is not that it is not. And yet, non-being rose a big trouble within philosophy of logic by the following ontological question: cannot one say something true about what is not, that is, non-existing things? Despite the contrary impression made by Aristotle's definition of truth, let us consider the well-known Parmenide's Paradox. According to the latter, to say something about what is not entails that it is somehow: 'What can be spoken of and thought must be: for it is possible for it to be, but it is not possible for "nothing" to be'⁶.

A blatant ambiguity is included in the above statement. It concerns the meaning of "nothing": does it mean "not so(mething)", or "not(hing) at all"? In the former reading, existence is assumed hereby as a precondition of being. In the latter reading, existence is not assumed anymore because Parmenides merely talks about *unsayable* things, i.e., things that cannot be even predicated and thereby occur into a sentence. Take the example of a fictional character like Sherlock Holmes: he is said to be a detective since Arthur Conan Doyle coined this character; therefore, he is not unsayable after all.

Then Bertrand Russell relaunched the issue of ontological commitment by asking how sentences about empty terms may be true. In the famous case "The King of France is bald", something is said about a fictional character whose reference in the real world is empty. Russell's logical analysis betrays some confusion about the meaning of negation in terms of its scope. According to his treatment of so-called negative existentials, "The King of France is bald" is false because there is no *x* such that *x* is the King of France (and bald) and "The King of France is not bald" is equally false because there is no *x* such that *x* is the King of France (and bald). In other words, falsity is due to the inexistence of the subject-term rather than the terms it is predicated of.

Does the issue of existential import mean that Aristotle's logic is restricted to discourse about existing things? In case existence should occur as a precondi-

⁶ Parmenides. Fr. 6.

tion for truth, not only "dragons are dangerous" but also "dragons are dragons" are false once there is no dragon. A better analysis of the situation requires a distinction between affirmation and denial, on the one hand, truth and falsity on the other hand. A confusion between these two pairs lies at the core of Parmenides' Paradox and misreads the square of opposition.

Let "Dragon are dangerous" be an initial statement. Its proposition is a universal affirmative of the form A, meaning "Every dragon is dangerous" or "All dragons are dangerous". Then its contrary is the universal affirmative E: "Every dragon is not dangerous", or "No dragon is dangerous". Its contradictory is the particular negative **O**: "Some dragon is not dangerous", or "Some dragons are dangerous", or "Not every dragon is dangerous". Its subaltern is the particular affirmative I: "Some dragon is dangerous", "Some dragons are dangerous", or "Not every dragon is not dangerous". While the square of opposition has been blamed for being inconsistent when dealing with empty terms, we take the affirmative lexicalization of its terms to be the sole culprit. For let us assume that A is false. Then O must be true by definition, which can hardly be accepted if this requires that there be some dragons that are not dangerous. Conversely, assuming that universals terms are always true by definition does not solve the problem anymore: assuming that A is true (even if there are no dragons) by relying upon the conditional meaning of universals, it entails that I is equally true and requires again that there be dragons. In other words, the trouble comes from the existential flavor of particular sentences I and O and their alleged ontological commitment. We want to reject such a controversy in the following, after recalling the surrounding debate.

It is traditionally said two things about Aristotle's logic. First, that he assumed non-empty terms as instantiations of the subject-terms S in any predication of the form "S is P". Second, that he ignored singular terms in his logical analyses (e.g., Socrates). Such statements have been widespread through his medieval commentators, as witnessed by Horn:

For Aristotle, *Not every man is white* was indeed taken to be the canonical contradictory of *Every man is white* (*De Interpretatione*, 24b6), but there is no suggestion that it is not considered to be equivalent to *Some man is not white*; for Apuleius and Boethius, these two forms were explicitly taken to be notational variants. Abelard's results, despite the consistency of his argumentation, were apparently too counterintuitive to be taken seriously; later medieval (and modern) logicians almost without exception rejected this distinction between *non omnis* and *quidam non*⁷.

The problem is about which of the four canonical propositions **A**, **E**, **I**, **O** do have existential import according to Aristotle's logic, these entailing that their subject-term exists. Horn sees four main positions in this respect:

⁷ Horn. A Natural History of Negation. P. 26.

- (i) Existential import is determined by the *quality* of the proposition: affirmative (**A** and **I**) propositions entail existence, while negative ones (**E** and **O**) do not;
- (ii) Existential import is determined by the *quantity* of the proposition: universals (**A** and **E**) have no existential import, while particulars (**I** and **O**) do;
- (iii) Existential import corresponds to a *presupposition* associated with **A**, **E**, **I** and **O** propositions;
- (iv) The question of existential import is entirely absent from the Square of Opposition⁸.

Our own answer is that propositions have no ontological commitment *per se*; rather, any contradictory of an ontologically committed proposition should be deprived of such a commitment. But this does not preclude any of the four main propositions to be committed in a particular situation, or not. Furthermore, Read (2015) recalled that Aristotle made a relevant distinction between two uses of negation in a proposition: 'It is clear that "is not-white" and "is not white" signify different things and that one is an *affirmation*, the other a *denial*.

So in a case in which there is no S, then "Some is not-P" is false whereas "Some S is not P" is true. In order to do justice to this distinction, let us introduce two possible interpretations of negative statements prefixed by "No", or "Not every": propositions *with* import (symbols: $\mathbf{X}_{imp!}$), such that there is a x such that x is S, and every / some x is P / is not P; propositions *without* import (symbols: $\mathbf{X}_{imp?}$), such that either there is no x such that x is S or every / some x is P / is not P. In the first case, a Strawsonian interpretation is assumed in that each proposition is prefixed by an existential quantifier over the subject-term S. In the second case, the ambiguity of negation arises again because "without import" may mean either "with explicitly no import" (there is no S) or "with no information about whether there is import".

A generalization of these readings has been already made in Chatti & Schang (2012), echoing with Read (2015) whilst giving a comprehensive interpretation of every categorical proposition in classical first-order logic. Thus, for every proposition of the form $\mathbf{X} = \{\mathbf{A}, \mathbf{E}, \mathbf{I}, \mathbf{O}\}$, propositions with import are of the form

$$\mathbf{X}_{imp!} =_{df} (\exists \mathbf{x}) \mathbf{S} \mathbf{x} \wedge \mathbf{X}$$

and propositions without import are the form

$$\mathbf{X}_{imp?} =_{df} \neg ((\exists \mathbf{x}) \mathbf{S} \mathbf{x} \wedge \neg \mathbf{X})$$

⁸ Ibid. P. 24.

⁹ Aristotle. Prior Analytics I, 46, 52a 24–26.

For example, $A_{imp!}$ is an affirmative universal with existential import: there is some S (or there are Ss), and every S is P. Formally:

$$\mathbf{A}_{\mathrm{imp!}} =_{df} (\exists \mathbf{x}) \mathbf{S} \mathbf{x} \wedge (\mathbf{x}) (\mathbf{S} \mathbf{x} \supset \mathbf{P} \mathbf{x}).$$

On the other hand, $A_{imp?}$ is an affirmative universal without existential import: either there are no Ss or every S is P, thereby matching an alternative reading with the above negated conjunction through de Morgan's rules. Formally:

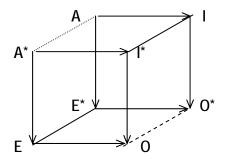
$$\mathbf{A}_{\text{imp?}} =_{df} \neg ((\exists x) Sx \land \neg ((x)(Sx \supset Px)) \equiv \neg (\exists x) Sx \lor (x)(Sx \supset Px).$$

The following tables show a comparative set of the resulting eight propositions, where each of the initial four categorical statements is given a twofold interpretation.

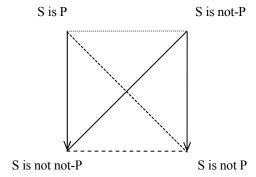
| | | Read (2015) | Chatti & Schang (2013) |
|---|----------------------|----------------|------------------------------|
| 1 | Every S is P | \mathbf{A} | $\mathbf{A}_{\mathrm{imp!}}$ |
| 2 | Every S is not-P | \mathbf{A}^* | $\mathbf{E}_{imp!}$ |
| 3 | No S is P | ${f E}$ | $\mathbf{E}_{imp?}$ |
| 4 | No S is not-P | \mathbf{E}^* | $\mathbf{A}_{\mathrm{imp?}}$ |
| 5 | Some S is P | I | $\mathbf{I}_{imp!}$ |
| 6 | Some S is not-P | \mathbf{I}^* | $\mathbf{O}_{\mathrm{imp!}}$ |
| 7 | Not every S is P | O | $\mathbf{O}_{\mathrm{imp?}}$ |
| 8 | Not every S is not-P | O^* | $\mathbf{E}_{imp?}$ |

The important difference between the two kinds of negation is sorted out by Read with the star X^* , to be read "... S is not-P" and opposing to X as "... S is P". Borrowing from Englebretsen (1981), propositions X^* are *counter-affirmations*, contraries of predicate terms that are expressed by affixal negations, e.g., "immortal" vs "mortal", by distinction from the denied "not mortal". It is only thanks to this two-tiered negation that the problem of existential import can be overcome through a distinction between two lexicalized forms of I and I0, disentangling the ambiguity between affirmative propositions "... S is not-P" and negative propositions "... S is not P". By doing so, I and I0 need not be rendered as particulars anymore and correspond first to contradictory negations of universals.

The logical result is an enriched set of eight non-equivalent categorical statements, rather than the four traditional ones. The geometrical result is a logical cube of oppositions, as depicted by the following figure occurring both in Chatti & Schang (2013) and Read (2015).



To summarize, a solution to the problem of existential import requires a prior distinction between predicate negation ("is not") and predicate term (affixal) negation ("is-not"); this also advocates an introduction into *term logic*, in order to make sense of traditional logic, along with a corresponding distinction between denial and counter-affirmation (see Englebretsen 1981). The distinction between denial and counter-affirmation helps to preserve bivalence, as a law of assertion and denial (rather than counter-affirmation); it also settles the famous sea-battle case (*On Interpretation*, Chapter IX): if there will be a sea-battle tomorrow (symbols: *p*), affirming *p* or affirming not-*p* differs from affirming *p* or denying *p*. In the first case, there is an opposition between *contraries* and their common statement is false now because of the indeterminacy of future events. In the second case, the opposition stands between *contradictories* and is true now in denying by lack of evidence. Thus, Aristotle's logic needs term logic to be consistent regardless of the criterion of existence. Such a refinement may be helpful to make sense of the debate opposing "substance: to "essence".



Indeterminate events are *neither* affirmed *nor* counter-affirmed, but denied. Again, a proper logic of terms may give rise to more oppositional structures be-

yond the basic square. For there may be several ways of being, i.e., several compositions of categories, as witnessed the so-called categorical statements which are a combination of quality (S is P) and quantity (every, not every).

Some fundamental questions are in order. How many such modes of composition can there be? Lines, squares and cubes differ by the *number* of the composites in opposed beings. Basically, each of *n* predications can be either asserted or denied among a range of 2^n opposed terms. Are there fundamental modes of compositions (a priori)? It seems that every mode of being is about substance S and quality P: every mode of being is a *predication* (P is true/false of S), whether affirmative or negative. Are there reduction laws between some compositions? Taking the case of alethic and temporal (*de re* vs *de dicto*) modalities, it might be said that alethic necessity is a composition of quality and time (always / never). Are S and P independent categories? If yes, then necessity is irreducible to time and substance is irreducible to quality (*essentialism*). All these questions are left open, merely showing the questioning power that lies inside Aristotle's philosophy of being.

3. Essence

3.1. To be, or not to be? That is the question (on Individuals). What is the essence of a thing? Its quiddity is an answer to the question about what it is (quid est): "S is P" is the logical form of such answers as "Socrates is a man", "Men are mortal", "Mortality is natural", "Nature is beautiful", and so on. What entity of natural language can or cannot play the role of S and P?

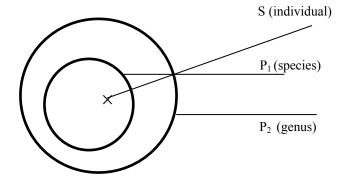
Following Aristotle's Organon, being is a combination of predicates that are true or are not true of a subject; now there are further forms of opposition between beings, including the case of modalities (see *On Interpretation*, Chapter 14). Some attributes are said to inhere to things either necessarily (by nature), or accidentally (possibly). An extensional reading of modalities turns the latter into quantifiers, including them into category of quantity. Take for example the statement "Every man is mortal", necessity is to the effect that every S is P and it is so (or not) at every time or place. Now what are S and P in any such statement, if not substances? But they are not so in same order — they can be given as a genus, a species, or an individual, thereby occurring as primary or secondary substance in a given predication. The proper name "Socrates" is a primary substance (hupokeimenon, pros ti), whereas "man" is a secondary substance (eidos, ideia). In order to make sense of substance and quality, let us say that the subject-term is a set-theoretical extension or element of the set P. Then "S is P" is true if and only if S is an element of P, i.e., S belongs to the finite set $P = \{S_1, ..., S_n\}$ S_n . In this sense, there cannot be Ps without Ss. At the same time, S is an individual which is to be defined by a set of properties P and, if so, this means that there cannot be Ss without Ps. How to settle this circularity problem between S and P? A way out is to characterize individuals or primary substances not as ultimate or basic elements from which everything is composed; rather, our suggested solution is to deal with individuals as the resulting products of classes, i.e., secondary substances. Primary substances may be metaphysically prime, but they are not so from a logical point of view. In order to make this issue more precise, let us recall that there can be two distinctive accounts of primary substance: according to hacceism, S is a substance that is by means of an extraproperty going over predication; according to predicativism, S is a finite set of predicates which cannot be what it is without predication. An advantage of predicativism is that it overcomes some paradoxes (as Noah's boat) by using the categories of position and time to define substances. Moreover, it helps to reply to Parmenides' Paradox by departing nothingness from nonexistence. Indeed, nothingness is what cannot be predicated at all (ontological antilogy) and is the contrary of fullness which cannot be individuated (ontological tautology). Inbetween these two duals, beings are a mixture of nothingness and fullness: this serves as a depiction of Aristotle's hylemorphism, according to which everything is a mixture of matter (hyle) and form (eidos). Every subject S is an indefinite string of properties P inside the categories of Being. This explanation leads to argue against ontological atomism and for semantic holism. By saying "every thing", it is meant an arbitrary composition of being (so-and-so) and not-being (so-and-so), i.e. a composition of duals.

3.2. To be, and to be not! That is the answer (on Individuation). Two main sorts of category ae prominent thus far, namely: quantifiers (time-place), and qualities (substance-position-relation-having-action-passion). In "every x is a P", P belongs to the qualities of every individual as an ultimate class. This means that there are two dimensions of meaning: a *qualitative* dimension, with a finite string of qualities or predicates; a *quantitative* dimension, composed of sets of times t and places s. Let us illustrate this twofold aspect of meaning by the following table, where 1 and 0 are yes- and no-answers to questions about properties of individuals. In other words, 1 means that S is P and 0 means that S is not P.

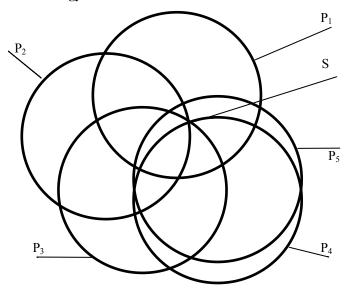
| Socrates At $t = \{t_1, t_2,\}$ In $s = \{s_1, s_2,\}$ | white 1 | philosopher 1 | bald 0 | Russian 0 |
|--|------------|------------------|-----------|--------------|
| Vladimir Putin At $t = \{t_1, t_2,\}$ In $s = \{s_1, s_2,\}$ | 1 | 0 | 0 | 1 |

The difference between atomist and holist ontologies is that the individual occurs either as a basic element of a set P or as the final intersecting product of several sets P, respectively.

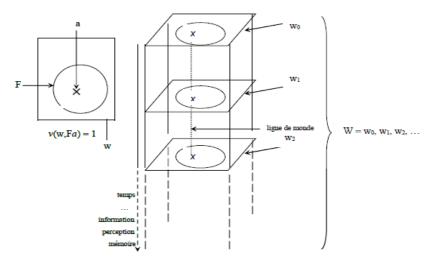
Atomist ontology



Holist ontology



Another way to figure out the manifold forms of quantitative information is by introducing the parameter of depth, as shown in the following scheme: any two individuals are made different from each other either from the qualitative dimension of predication, or from the quantitative parameters of space, time, or even memory. These parameters can be superposed to each other, whereas any predication belongs to one of these vertical range of quantitative meaning.

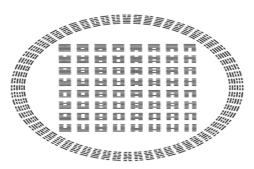


Such a non-atomist or holist ontology does not infringe **LNC** at all, since "S is P_1 and not P_2 " obviously differs from "S is P_1 and not P_1 ".

To conclude on Aristotle's theory of oppositions, one can depict the four well-known oppositions as four modes of "so-being" for any given thing. Contraries are said of those things that cannot be so-and-so together, that is, having the same properties at once. However, these things may lack one same property at once. Contradictories are said of those which cannot be so-and-so together and cannot be not so-and-so together. Subcontraries are said of those that cannot be not so-and-so together, while these can be said to be so-and-so together. Finally, any thing is said subaltern to another thing if the former cannot be not so-and-so whenever the latter is so-and-so.

Our holist view of meaning leads to a characterization of individuals by means of finite properties; the result can be viewed in two theories differing in space and time: in the modern Boolean logic, bits are concatenated to each other in the form of *bitstrings* connecting strings of 1s and 0s. In the ancient Book of Change, or *I Ching*, a set of 64 hexagrams was meant to characterize the mutable state of course of every thing. The reader will easily make the link between these two theories, also noting that Aristotle's basic theory of predication is opposed by no way to this more complex picture of things.

The *I Ching* ("Book of Changes", 1st m. BC): Shao Yong (1011-1077 C.E.)'s sequence of hexagram:



4. Conclusion

4.1. *Synthesis* (On Aristotle's Ontology). The present paper proposed a transition from Aristotle's oppositions to Aristotleian oppositions, from a logical discourse of truth-values to an ontological discourse of bitstrings. The nexus between logic and ontology relied on Aristotle's theory of hylemorphism.

Three main concepts help to throw some light on how these aspects of his philosophy may be articulated to each other: substance, judgment, and values.

Firstly, substance is given to be a translation of *ousia*, a product of the process of *predication* from *hyle* through *eidos* — notice that *hyle* is a sort of unformed matter deprived of *eidos*. Predication proceeds hereby as an eidetic formation of things as predicable subjects in a sentence. The "form" of sentences is given by a set of predicates individuating a subject. Logic and ontology have to do with forms and formalization, respectively. If the related "formation" amounts to the process of assigning forms to subjects terms, then it resorts to the area of *ontology* and is closely related to the grammar used in a given language. If "formalization" amounts to the process of assigning forms without subject, then it resorts to logic by talking about things in a very general way. This is how Aristotle presented his syllogistic theory, replacing general terms by mere variables whenever the meaning of a sentence entirely relies on its given form.

Secondly, judgment is made in the form of affirmation and denial; it represents a crucial speech-act in the world-making process of predication, and the two further notions of *truth* and *falsity* are by-products of these speech-acts.

Thirdly, values are assigned to the terms of language in various ways. Traditionally, the values of subject-terms are individuals and the values of propositions are truth-values. In our holist view of meaning, the picture is more complex and should be zoomed on. For individuals are two-dimensional, spatio-temporal entities made of a finite set of properties. This means that individuals are many-valued things, assuming that a collection of such properties makes individuals appear as intersections of classes rather than basic element of classes.

As Quine will claim it much later on, there is 'No entity without identity' 10.

¹⁰ Quine. Ontological Relativity and Other Essays. P. 23.

To translate this statement in our mixed context of logic and ontology, this means that there is no *ousia* without *eidos*, i.e., no subject without predicate in a language and no substance without essence in the world. On the one hand, any subject S results from a concatenation of predicates P_1, P_2, \ldots in space and time. On the other hand, any "thing" is a mixture of being (the Boolean 1) and notbeing (the Boolean 0). If so, then both Absolute being (strict concatenation of 1's) and Absolute Non-being (strict concatenation of 0's) are nothing (or nothing) in the sense of not being things at all. In other words, to be everything and to be nothing ontologically amount to the same 11 .

Does Quine's statement also suggest that there is no identity without existence, thereby leading from entity to existence by transitivity? Aristotle's logic makes sense regardless of the criterion of existence, as far as the preceding explanations hold. Philosophers may have been abused by language in their investigation on meaning, as if a speaker could not understand what is referred to in a sentence without making ontological commitments by the same token. In our holist theory of meaning, individuals are finite bitstrings in the qualitative dimension of meaning while quantifiers resort to the qualitative dimension of meaning. This helps to how speakers may be easily misled by the following opposed expressions: "no thing" and "nothing", "every thing" and "everything", or "some thing" and "something". Only the latter are synonyms, whereas the first two paired expressions are not¹².

Valid expressions
no thing is everything
nothing is no thing
no thing is nothing
every thing is something
some thing is something
something is some thing

Invalid expressions
nothing is everything
nothing is something
everything is every thing
no thing is something
every thing is everything
everything is nothing
something is everything

4.2. *Pros and Cons*. What arguments are there for or against a general theory of Aristotelian oppositions, beyond the restricted use of Aristotle's oppositions? For, we argued in this paper that opposition is on a par with identity with respect to

¹¹ This echoes what Hegel claimed in his *Wissenschaft der Logik*: "Das reine Sein und das reine Nichts ist also dasselbe, besteht zu Recht" (S. 74).

¹² A similar conceptual confusion between qualities and quantities has been summarized in the following joke. Jean-Paul Sartre is sitting at a French café, revisiting his draft of *Being and Nothingness*. He says to the waitress: — I'd like a cup of coffee, please, with *no cream*. The waitress replies, — I'm sorry, Monsieur, but we're out of cream. How about with *no milk*?

the ontological properties of beings: there does not make sense to talk about what is or what is not without understanding what opposition consists in.

On the one hand, the theory of opposition is a sound pattern of rational thought in at least three respects. Firstly, a reduction of metaphysical to logical opposites is technically possible by introducing contraries in term logic, or privatives in tense and alethic logic. Secondly, this theory turns out to be an elegant gathering of "intellectual structures" developed by Robert Blanché, leading to a large range of conceptual oppositions by combining the basic parameters of quality and quantity. Thirdly, such a theory offers a very general inquiry into a meta-opposition between *identity* (consequence) and *difference* (opposition); the logical notion of consequence relates to identity through the positive criterion of value-preservation between formulas, whereas opposition relates to difference through the negative criterion of value-non-preservation between any meaningful entities (sentences, concepts, individuals).

On the other hand, one may argue against such a theory of opposition that it remains a language-dependent theory. For one thing, it requires an ontology of *substance* such that any lack of subject entails a lack of meaning in sentences. How to make sense of oppositions in quantum physics, for example? Besides, opposition has been depicted as a logic of inclusion. The main role of predication makes Aristotle's logic a pioneer of set theory, or monadic predicate theory; does it mean that Aristotle's philosophy is the culprit of contemporary settheoretical *paradoxes* as well as the ensuing foundation crisis of the early 20th century? Indeed, it is taken for granted that relation primes over predication or inclusion in scientific theories. For want of any modern adaptation of the theory of opposition to this requisite of modern science, this ultimate point may constitute the most controversial legacy of Aristotle throughout the history of ideas.

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Eugene AFONASIN

ARISTOTLE AND THEOPHRASTUS ON THEORETICAL AND METHODOLOGICAL FOUNDATIONS OF METEOROLOGY

In the article, I discuss some theoretical and methodological views of Aristotle and Theophrastus, designed to illustrate their approaches to natural phenomena. It becomes clear that, indeed, the student of Aristotle frequently professes ideas that would surprise the philosopher of Stagira. For instance, he insists that the *kosmos* is a living and ordered whole, and its innate movement is something which cannot be explained with the help of such *ad hoc* teleological constructions, as the first mover. The analysis of Theophrastus' *Metaphysics* is supplemented in the article by observations based on his Syriac *Meteorology* and a selection of the fragments of his and Aristotle's lost scientific works.

Keywords: metaphysics, its foundation and ancient critics, the history of exact and natural sciences, empirical method.

Elena ALYMOVA, Svetlana KARAVAEVA

DISCUSSIONS ON "THE GOOD"

EARLY ARISTOTLE VS PLATO

The paper is dedicated to one of the most crucial issues of the contemporary studies in Ancient Philosophy concerning not only the studies and interpretations of Aristotle's thought but also those of Plato's philosophy. We propose to reconstruct a meeting of the Teacher and his Pupil at a crossroads. The issue which interests us embraces the relations between Plato and Aristotle in the early period of the latter. The focal point is going to be the so-called lecture of Plato "On the Good" testified by the secondary sources going down after all to a homonymous Aristotle's text. This text being rendered unfortunately only by some later commentators gains in relevance because of its importance for those who support the idea of the so-called "unwritten doctrine" of Plato and those who are rather sceptical of it.

Keywords: philosophy of Plato and Aristotle, the "unwritten doctrine" of Plato, "On the Good".

Dmitry BALALYKIN, Nataliya SHOK

THE SIGNIFICANCE OF ARISTOTLE'S WORKS IN THE DEVELOPMENT OF ANCIENT GREEK RATIONAL MEDICINE

This article examines the line of development of ancient rational medicine, the foundation for which was laid in the works of Aristotle. It involves the use of the apodictic method, which is founded on logical necessity, real data, and rigorous requirements for reasoning. The authors regard the apodictic method of demonstration in medicine as anatomical dissections, a rational doctrine of general pathology, and clinical taxonomy. Aristotle was the first to conduct a comprehensive analysis of the principles of demonstration; he discovered patterns of similarity in the anatomical structure of living beings and created a doctrine of the theory of motion. The principles of comparative anatomy and theory of knowledge that he proposed influenced the formation of Galen's method of inquiry. The authors conclude that in the course of his medical activity, he thoroughly explored the practice of applying the apodictic method. Galen created an anatomical and physiological system and a doctrine of general pathology that explained the principles and mechanisms by which diseases develop through the lens of the teleological approach. He also formulated the necessary methodological framework for this doctrine. In Galen's research practice, the apodictic method manifested too in his attention to the use of anatomical dissections and vivisections for the purpose of studying the structure and functions of the parts of the human body.

Keywords: Apodictic method, dialectical method, theory of motion, history of medicine, Aristotle, Galen.

Igor BERESTOV

THE INFINITE REGRESS IN *MET.* Z, 17 AND THE DIFFICULTY WITH THE UNITY OF A COMPOSITE OBJECT

Aristotle (*Met.* Z, 17, 1041b 15–22) writes that the composite contains not only its elements, but, apart from them, "something else". We interpret this "something else" as the order of the elements, the nexus or the structure that connects the elements. Aristotle asks: is this structure an element of the composite that is constituted by its connection of the elements? Aristotle answers this question in the negative, for, if the structure is an element of the composite, then

the composite contains also a second structure that connects the first structure with the initial elements. Thereby the second structure constitutes the composite that contains the first structure and the initial elements. That which we have said just now apropos of the first structure and its elements, we can reiterate apropos of the second structure and its elements, etc. Thus an infinite regress of structures, which are parts of the initial composite, arises. This regress of structures is essential to understand the problematic character of the concept "the composite". We show that Aristotle's way to block the infinite regress through the recognition of possibility for an entity to connect its original elements and itself in the composite itself is unacceptable. In some other places (viz. *Phys.* A, 3; *De Interp.*, 11) Aristotle is well aware that it is impossible to block the infinite regress in this way — at least in the case of certain types of complex objects. We inquire into the foundations, which could incline Aristotle towards his intention to stop the infinite regress in this way.

Keywords: Aristotle, composite, element, whole, infinite regress, substance, one and many, self-predication, actuality, potentiality.

Dmitry BIRIUKOV

PERIPATETIC LINES IN GREGORY NYSSA'S TEACHING OF UNITED MAN

Gregory of Nyssa's concept of United Man, vividly discussed in the current academic literature, is reviewed. According to this concept, all people constitute, in a certain sense, a single person, and the word "man," which points to the humankind in general and not to a human individual, could be properly used only in the singular but not in the plural form. Despite the reconstruction of the historical and philosophical background of this concept proposed by J. Zachhuber and R. Cross, it is suggested that there is no need to look for the sources of Gregory's inspiration in either Alexander of Aphrodisias or Neoplatonic authors. Instead, I argue that, in his general treatment of these subjects, Gregory relied on the Peripatetic philosophical context, manifested, for example, in his use of the principle of "greater-lesser" and the concept of participation of individuals in their natural species. The main source of the Peripatetic ideas for Gregory was Porphyry's *Isagoge*, which is especially evident in the concepts of "whole man" as well as the association of the individual with "divisibility" and the general with "unity", although Gregory might also have been aware of other writings belonging to the tradition of commentaries on Aristotle's Categories.

Keywords: united man, species, individual, divisibility, unity, participation.

Irina BLAUBERG

FELIX RAVAISSON AND HIS WORK "ESSAI SUR LA *METAPHYSIQUE* D' ARISTOTE"

Felix Ravaisson (1813–1900) — French philosopher-spiritualist, the predecessor and teacher of Henri Bergson. He is the author of two-volume work "Essai sur la Metaphysique d' Aristote", which, according to the researchers, has marked a significant milestone in the French study of Aristotle's philosophy in the nineteenth century. The first volume (1837) contains a historical-critical overview, the purpose of which was to identify the true plan of "Metaphysics", and a detailed analysis of the Aristotle's teaching. In the second volume (1845) the author examines the development of ancient philosophy after Aristotle in terms of the relationship between the first principle of the universe and the world. Interpretation of the Aristotle's philosophy, proposed by Ravaisson and based, in large measure, on the ideas of F. Schelling, formed the basis of his conception of "spiritualist realism".

Keywords: French philosophy of the 19th century, spiritualism, Aristotle, Felix Ravaisson, Maine de Biran.

Angelina BOBROVA

ARISTOTLE'S SYLLOGISMS AND DIALOGUE ANALYSIS

The issue of the paper is the question of syllogistics efficiency for dialogs analysis. Such address to syllogistics and syllogisms does not influence on their customary interpretation, *viz.* syllogistics as a deduction theory. The contribution is not aimed at the dialogical essence of syllogisms demonstration. I offer to study not so much syllogism inner structures as the way of how such reasoning can be inserted into the process of argumentation. Aristotelian theory is appraised from the point of contemporary logical approach offered by C.S. Peirce, as American scholar's ideas clarify why syllogisms can be seen as dialog parts. The paper is a survey that argues for the correlation between dialogs and syllogisms. As an example of such correlation, I scrutiny a formal dialog system, in which syllogisms play an essential role.

Keywords: Aristotle, syllogism, reasoning, dialog, questions, answers.

Elisa CUTTINI

ETHICS WITHIN THE FRAMEWORK OF VENETIAN ARISTOTELIANISM

FRANCESCO PICCOLOMINI AND SEBASTIANO VENIER

Francesco Piccolomini was an esteemed professor of Natural Philosophy at the University of Padua. He also dealt widely with ethical issues, and wrote the Universa philosophia the moribus (1583, 1594²), which was well known throughout Europe and is considered by scholars as one of the most important ethical treatises of the Italian Renaissance. My research aims to show that Piccolomini retraced the idea of the unity of practical philosophy supported by Aristotle, for whom ethical virtues find their highest application in the political context, and the righteous man can achieve his fulfilment employing himself actively participating in improving the society. This element was also characteristic of the thought of the Venetian patrician Sebastiano Venier, who attended Piccolomini's private lessons to prepare for a political career. In the De Nobilitate libri quatuor (1594), he asserted that all men, especially if they are of noble descent, can achieve true nobility by striving to acquire virtues, in order to contribute to collective well-being. Therefore, my work highlights the persistence of the Aristotelian tradition of ethics in the second half of the sixteenth century, and it also contributes to the understanding of the bond between man and society in the Venetian Republic.

Keywords: Renaissance Aristotelianism, Francesco Piccolomini, Sebastiano Venier, practical philosophy, moral responsibility, moral nobility.

Andrey DAROVSKIKH

THE POWER OF SEMEN

ARISTOTLE AND SOME GALEN'S FALLACIES

In this paper, I try to demonstrate how critical empiricism and philosophical reasoning intertwine with each other and affected the development of medicine. It is a case study considering the problems of generation and semen in the writings of Aristotle and Galen via relationship between such concepts as matter, form, movement, change, causes and some others. The main question addressed in the paper is the reason of Galen's return to Hippocratic paradigm of two-semina (male and female). I argue that the reason is two-fold: 1) Different philosophical reasoning and erroneous understanding of some aspects of Aristotle's embryological model by Galen. 2) Empirical discoveries, which proved to be

wrong. I demonstrate that Galen's understanding of form / matter relationship, and his view on matter as an underling principle conditioned his understanding of the notion of physical change, that allowed him to speak about conception only as quantitative mixture between equal substrata. Finally, I show that Galen's view on teleology and his limited understanding of formal / final vs efficient causes and their relationship forced him to claim the inadequacy of Aristotle's biology and necessitated Galen to introduce emendations in definitions of seminal faculties of genders and reproductive fluids.

Keywords: Aristotle, Galen, semen, cause, teleology, biology, medicine, foetus.

John DUDLEY

ARISTOTLE'S THREE TELEOLOGIES

In this article I aim to show that Aristotle's first teleology in his physical works extends not merely to the heavenly bodies and animals, but also to plants, inanimate beings and matter. Thus all of nature strives for the ultimate Good which is God. In the section on Aristotle's second teleology I argue that his ethical and political writings are teleological in a way that is parallel to his physics. However, human teleology is subordinate to the teleology found in nature, since art imitates nature. I examine the rejection of Aristotle's first teleology in modern times and question its replacement by his second teleology. Finally, I examine Aristotle's third teleology, namely a teleology by which nature seeks secondary goals, which is an unusual aspect of Aristotle's thought.

Keywords: teleology, nature, good, God, metaphysics, physics, ethics.

Ilya Erokhov

ARISTOTLE'S POLITICAL SINCE

THE THEORY OF CIVIL PRUDENCE

This article is about Aristotle's political theory. The article consists of four parts, each part has a conclusion. Analytics is based on modern political texts. Author do his best to show that the Aristotle's ideas are relevant to modern political theory. In the first part of article author writes about Aristotle's concept of political knowledge. Author defines the theoretical field of political sciences. He based it on Aristotle's concept of four problems of political theory. In the first part author formulates the subject of political knowledge and its method. In the second part of this article author writes about the main characteristics of relations between a scientist and society; he shows the role of a scientist in a life of society

according to Aristotle's ideas. Author compares the Aristotle's concept with the Plato concept of politics. In the third part author talks about possibility of qualifying the Aristotle's theory as an antic version of Communitarianism. In the forth part author talks about disputable part of Aristotle's theory. In particularly, about correspondence of Aristotle's theory to the transition to the new period of Ancient Greek world. This world become Hellenistic because of Macedon empire. Author thinks, that Aristotle's political theory quite different from his philosophy. The differences are in the logic of Aristotle's philosophy; in the methods of cognition; and in the strategy. In this article author tries to prove the inductive character of a politics as a phenomena in the context, knowledge of which is going throw the experiment. Author tries to line trajectory of Aristotle's political strategy. For this purpose author constructs ideology parallel with modern political knowledge. In this article you can see an example of synthetic use of Aristotle's theory to the problems, which he didn't concern directly.

Keywords: Aristotle, history of political thought, antiquity, politics, science, knowledge, justice, polis, phronesis, prudence, ideology.

Dilbar FAYZIXODJAEVA

TRANSFORMATION OF THE ARISTOTLE'S SYLLOGISMS THEORY IN THE CLASSIFICATION OF CONCLUSIONS OF M.I. KARINSKY

Logical doctrine of Aristotle, especially deductive theory, for many centuries has been the source of numerous disputes, promoted the nomination of different theories on this issue. With the formation of the Bacon — Mill inductive theory contradistinction of induction and deduction is began. One reason for this opposition, according to famous Russian logic M.I. Karinsky, is that logic does not give a complete classification of conclusion which used by people in science and in life. According to thinker, these systems are based on the comparison and identification of the subjects of judgment; therefore, to divide them into syllogistic and inductive systems is unconvincing. M.I. Karinsky also notes that some forms of reasoning are not considered in both systems. This conclusion is based on the present and the compatibility of the two phenomena and a conclusion based on the equality of the two phenomena. M.I. Karinsky offers his own classification of conclusions based on a variety of relationships between the elements of the judgment. In his classification of conclusions the 1st and the 3rd figures of syllogism and total induction included in group A, i.e. a group of conclusions based on the collation of the subjects of two judgments of positive conclusions.

The 2nd figure of syllogism is included in group B — conclusions based on collation of predicates or negative and hypothetical conclusions. Thus, M.I. Karinsky transforms the Aristotle syllogisms theory combining it with the induction and analogy in the single system.

Keywords: Aristotle, M.I. Karinsky, conclusion, induction, syllogism, subject, judgment, predicate, figures of syllogism.

Anton FOMIN

Τὰ μαθηματικά IN ARISTOTLE'S PHILOSOPHY

In the present article is made an attempt to show how Aristotle distinguishes his own views of number from that of his predecessors — especially of Pythagoras and Plato. Are discussed arguments against theses that numbers exist in things as their elements, and that numbers exist independently from things having a special ontological status. Is cleared the own view of Aristotle regarding the mode of existence of numbers: on the one hand, they are some abstractions, but, on the other hand, cannot exist independently. Is demonstrated why for Aristotle is extremely important materiality of numbers, which plays an important role in the development of the doctrine of the time.

Keywords: Aristotle, mathematic, number.

Inna GERASIMENKO

SHAPE-MORPHE IN ARISTOTLE'S "METAPHYSICS"

IN SEARCH OF THE LOST CONCEPT

The article is devoted to clarifying the concept of form by Aristotle based on the "Metaphysics" text analysis. Speaking of the concept of form by Aristotle, it is unavoidable to get rid of stereotypes established. Adopted in the Russian-speaking philosophical translator tradition interpretation of the word "eidos" as "form" brings uncertainty in two ways. In the first place, it breaks the organic link between Plato and Aristotle, operating with the same eidos term. In the second place, the difference between the two own Aristotelian terms is lost: eidos and morphe (both are translated as "form", which leads to their synonymous use). Meanwhile, these concepts are invested with a number of differences, which can be found by referring to the original text of "Metaphysics". The word "morphe" meets here much rarer than the "eidos" (total 25 times), and hereby, in most cases, not as a singular

term, but in indispensable connection with something else. To determine the specificity of morphe and its difference from the other meaning of "shapes" (also often translated as "form"), the form appearance contexts are analyzed: in conjunction with substance (hyle), eidos and energy (energeia).

Keywords: Aristotle, "Metaphysics", form-morphe, eidos, substance, energy, scheme.

Tatyana GORYUNOVA

LANGUAGE AND BEING ACCORDING TO ARISTOTLE

Aristotle proves the properties of entity, relying upon the properties of the language. The notion of special consideration of both entity and language which allows to appeal to the language in order to describe entity as that. The understanding of the entity as a real aggregate of single things-essences by Aristotle is in the connection with his understanding of the language as the system of statementssentences. The peculiarity of understanding entity by the antique thinker consists in an identification of being with really existing — aggregate of things, phenomena which act as the independent entities which are in various relations among themselves and possessing various properties or predicates. Therefore, the language has also to express the existence or the absence of certain properties or predicates of these things-essences. This means that in Aristotle's description of the language the center of gravity is shifted from the names to the sentences, which prove or deny the existence or absence of certain properties of things. Aristotle recognizes the names only as the symbols of things, but the language itself is represented as a universal system of signs, which has a content of logical subject. Subsequently, it leads to the new European tendency towards objectification of the entity, where a discontinuity of the ontological connection between the word and the thing occurs. Keywords: Being; essence; the laws of logic; properties of things; categories; names and verbs; statements; system of signs; ontology; word meaning.

Rodrigo GUERIZOLI

THE QUESTION OF THE PLURALITY OF DEFINITIONS IN TWO MEDIEVAL COMMENTARIES ON ARISTOTLE'S TOPICS

My paper addresses one issue related to the reception of the Aristotelian theory of definition among Latin authors from the 13th and 14th centuries. Spe-

cifically, it focuses on the answers enunciated in the commentaries on Aristotle's *Topics* written by Boethius of Dacia and by John Buridan to the question whether there can be more than one definition of the same thing. The relevance of this question lies on the fact that Aristotle seems to answer it differently in the *Topics* and in other works, as well as on the fact that it gives opportunity to relevant clarifications concerning the kinds of link that, within an Aristotelian framework, subsist between knowledge and definition.

Keywords: Boethius of Dacia, John Buridan, Medieval Reception of Aristotle, Aristotle's *Topics*, definition, knowledge.

Pavel GUREVICH

THE ANTHROPOLOGICAL DOCTRINE OF ARISTOTLE

The article makes an attempt to give a comprehensive idea of Aristotelian anthropology. The diversity of anthropological themes highlighted by Aristotle is pointed out. At the same time, the question of the integrity of his anthropological conception is raised. The need to compare classical and non-classical anthropology becomes relevant. That would give an opportunity to reveal the sense of critical judgements of Aristotle's anthropology in existential literature and nonclassical anthropology. Critics of Aristotle point to the absence of the existential dimension in his conception of man. Aristotle's ideas about human nature and essence make him, as a matter of fact, the most authoritative representative of the classical version of man. Adherents of non-classical reflection on man call Aristotle's ideas a source of rationalist understanding of man and it is with him that they are involved in debate. They see a thesis about man's predetermined essence in Aristotle's legacy. In this tradition, man's essence is conditioned by some external substance. Analyzing Aristotle's anthropology, the author of the article holds that resources of classical anthropology are far from being exhausted. Special attention is paid to Aristotle's unfinished treatise «On the soul». Therefore, Aristotle's conception is placed in the historical-philosophical context, which permits to show the topical character of many Aristotle's ideas nowadays. Aristotle's views of the nature of the soul have played a significant role in the formation and development of psychology. The article also shows that his conception has ousted from academic practice other interpretations of the soul that undoubtedly had heuristic power.

Keywords: man, nature, anthropology, animal, genus, species, psyche, essence, soul.

Vladimir IAKOVLEV

ENTELECHIAL CAUSALITY IN ARISTOTLE'S METAPHYSICS AND TELEOLOGICAL RATIONALISM IN MODERN SCIENCE

Of Aristotle's four reasons entelecheia is understood as the internal force (energy) comprising the purpose and assuming result through a disposition. Through entelecheia the being's possibilities and — what is most important — its ability to life («the matter is a potentiality, and the form — entelecheia») are actualized in reality. In a modern science there is a return to holistic concept of life of the universe and the target (information-linked) causality, from which the natural sciences (since Fr. Bacon) tried to get rid. This study reconstructs important rational principles of Aristotle from the perspective of their importance to modern philosophy and science. Methodological, ontological and epistemological principles are pointed put, which played important role in the development of philosophy and science. The value of the entelechial causation and its interpretation in science is emphasized. More and more astronomers and physicists argue about teleological character and harmony of the physical laws, about the initial informational matrix or a genetic code, as also about the anthropic cosmological principle of the universe (B. Carter, J. Wiler, I.L. Rosental, St. Hawking, etc.), about «freedom in choosing» at level of elementary particles (N. Bor, F. Dajson, etc.). But if teleological (informational) causality exists, then, it is possible to tell that it has defined M. Planck's fundamental constants and the physical laws based on them, which, obviously, had not existed before there was no Universe yet.

Keywords: metaphysics, creatives, programs, analysis, hermeneutics, causes, method, rationalism, entelecheia, science.

Marina KISELEVA

"RHETORICAL HAND" BY STEFAN YAVORSKII

EUROPEAN TRADITION AND RUSSIAN RECEPTION

The paper traces the reception of European rhetorical traditions of the Russian culture in the second half of the XVII century. It is beginning with the reign of Alexei Mikhailovich, who invited Kiev's intellectuals, priests to Moscow and is ending with an analysis of "Rhetorical hand" by Stefan Yavorskii (1705). The main task is argumentation of the thesis that the Old Russian book culture, focused on the Byzantine tradition and not knowing the system of education, could not adapt the rules of rhetoric and apply them to practical problems of Russian theol-

ogy. In Ancient Russia the book itself fulfils educational goals. The author relies on R. Lahmann's analyzes of the translation of "Rhetoric" Macarius the late tenth of the XVII century, which did not become a source of proliferation of the rhetorical scholarship at that time. The development of the Baroque culture — panegyrics, homiletics, syllabic, based on the poetic and rhetorical rules in the works of Simeon Polotskii, a visiting teacher for the children of the tsar Alexei Mikhailovich in 1664 and then an opening of the Slavic-Greek-Latin Collegium in 1687, identified two sources of rhetorical education: Latin and Greek traditions. Analysis of Initiation and the Preface to the text of "Rhetorical hand" by Stefan Yavorskii demonstrates a reception of the Latin baroque rhetorical tradition and its direct transfer from the Kyiv-Mohyla Collegium to the Moscow ground. The conclusion of the author — Peter's time created a socio-cultural and ideological context of learning and the use of rhetoric, oriented also on the Latin type of education, at the behest of Peter I. The author concludes the article with the reference to the Aristotelian definition of rhetoric, and emphasizes its interdisciplinary aspect.

Keywords: reception, Latin and Greek tradition, the education system, the Kiev-Mohyla Collegium (Academy), the Slavic-Greek-Latin Academy.

Victoria Kravchenko

ARISTOTLE'S IDEAS IN MARIA BEZOBRAZOVA'S WORKS

The first Russian woman — the professional philosopher Maria Bezobrazova (1857–1914) in her books on history of philosophy emphasized a special role of "the first philosophy" and the Stagirite's metaphysics. She considered him a "predecessor of the theory of evolution" who managed to avoid extremes of abstract empiricism and absolute idealism. As recognized pioneer of investigations in the original Russian philosophical thought, Bezobrazova traced in the medieval Russian manuscripts acquaintance of the Russian thinkers to Aristotle's ideas. She devoted her article to the deep study of the pseudo-Aristotelian composition "Aristotelian Gates, or Secret of Secrets". In this popular apocrypha there was the main idea of Aristotle about dependence of psychological and spiritual qualities of the person on physiological features of his organism. In her own philosophical-ethical doctrine about "the pure morality", Bezobrazova interpreted in a distinctive way a number of Aristotelian ideas. Considering ethics as an organic part of philosophy and psychology, unlike Aristotle emphasizing political and economic aspects of ethics, Bezobrazova originally interpreted the Stagirite's concept of justice. In essence, the Russian thinker sought to connect antique views on justice and Christian practical morality. Within the "pure morality" doctrine she defined justice, first of all, as the "firm and inviolable idea" connected with a personal philosophical idea (and not socially and state maintained legality = justness, as at Aristotle). Nevertheless, Bezobrazova accepted the Stagirite's idea about the rendering and distributive justice in sense of immutable requital or distribution of the spiritual benefits for improvement of both the certain person, and all society. Following her own doctrine, Bezobrazova had devoted her life of active public work in the ethical and educational societies created by her.

Keywords: Aristotle, Maria Bezobrazova, history of ancient philosophy, "Aristotelian Gates", "the pure morality" doctrine.

Nikola LEČIĆ

ARISTOTLE ON SURFACE AND COLOUR IN PYTHAGOREANS

In his reasoning concerning the relationship between surface or visible superficies (understood as the boundary or the limit of a body) and color (*De sensu* 439a19–b17), Aristotle asserts that the Pythagoreans called the surface (ἐπιφάνεια) color (χροιά), i.e. that they made no terminological difference between the former and the latter. In the scholarship on early Pythagoreans, this passage has been usually used as an indirect proof for the inaccuracy of attribution to the early Pythagoreans (1) of the abstract notion of surface (as found in Plato and Euclid), and thereby (2) of various forms of "derivation theory". We argue that the color-surface-limit doctrine has great significance for the understanding of the early Pythagorean concept of a number, since they articulated it, in various ways, precisely through the notion of a limit.

Keywords: Aristotle, Early Pythagoreans, surface, limit, color, derivation theory.

Elena MAMCHUR

ARISTOTLE "TOPOS" AND MODERN PHYSICS

The paper deals with Aristotle's conception of "place" which is of crucial importance for his theory of motion. In the physics of Aristotle there is no concept of space. Instead of it there is the notion of "place" of a body (topos). Aristotle considered "place" as a first boundary of a body embracing the body in question. The main goal of Aristotle was disproving the conception of atomists, according to which the motion (of bodies) needs void. The author shows incommensurability of space ideas of the Stagirite with the similar ideas of Newtonian physics. The paper states that in order to give an adequate reconstruction

of Aristotle's concept of "place" we need to take into account two different levels of consideration: local and global. Locally separable "places" and bodies cannot be separated on the global level. In Newtonian physics bodies are separable from places on both levels. Author shows that for development of modern physics non-separability "places" from bodies is the more essential trait of Aristotleian space. It has been proved by the fact of existence of parallelism between Aristotle conception of "place" and the ideas of space of the GTR and the Loop approach to Quantum Gravity.

Keywords: "place" (topos), embracing body, boundary of body, incommensurability of concepts, local and global levels of consideration, separability and non-separability of bodies from places, parallelism of ideas.

Emanuele MARIANI

ZURÜCK ZU ARISTOTELES

TRENDELENBURG AND THE ARISTOTELES-RENAISSANCE IN 19^{TH} CENTURY GERMANY

One of the conditions of the 19th century German Aristoteles-Rainessance is to be found in the complete edition of the Corpus aristotelicum, usually known as Bekker edition, given by the Berlin Academy of Sciences. Undisputed protagonist of such a *Rainessance* is surely Adolf Trendelenburg, philologer and philosopher, engaged in the well-known debate about the Aristotelian doctrine of categories. As opposed to Kant and Hegel, Trendelenburg essentially aimed at demonstrating that the Aristotelian categories were anything but a rhapsody. The strategy developed in his 1846 Aristoteles Kategorienlehre was to attest the systematic nature of Aristotle's thought, by deducing the categories order on the basis of the relationship that organise the constituent parts of the grammatical proposition. It was thus to be shown the ontological nature of the categories, with a view to restoring a strong connexion between logic and metaphysics. Here lie the main lines of Trendelenburg's philosophical project that we would try to reconstitute in order to counter a too often repeated, and basically negative, interpretation: the grammatical guideline would be used to the detriment of the ontological nature of the categories. We would say that the converse is true: for Trendelenburg it is rather a question of understanding that it is only through language that the categories can be properly appreciated as regards their ontological aspect. And that includes reconsidering grammar in the light of a quite new philosophical scope.

Keywords: Aristoteles-Renaissance, Trendelenburg, categories, metaphysics, logic, ontology.

António Pedro MESQUITA

RALATIONS IN ARISTOTLE

Predicative propositions are the basic structure of a specific kind of term logic that can be traced back to Aristotle. The difficulties it encompasses are evident. In this paper, I will address the following one: subject/predicate logic is incapable of accounting for relations, in the strong and proper sense of 'relation'. How can this incapacity be justified? I will attempt to show that, within Aristotle's system, the justification lies in the system's insensitivity to propositions whose subjects are singular terms. In fact, the very doctrine of proposition was developed to service a logic that acknowledges only quantified sentences and where, therefore, there are no singular subjects. Hence that logic's neglect of relations (as functions which arguments are singular terms) and why it sees no need to overcome, break away from, or reformulate the framework set by the model of predicative propositions for purposes of accommodating atomic structures with more than two terms (i.e., with a structure other than subject / predicate). In short: the Aristotelian system does not include a logic of relations because it does not include singular term logic to begin with. Aristotle's logic is a logic of connections between universals; and this is why the predicative proposition structure provides it with the necessary and sufficient conditions for it to operate.

Keywords: Aristotle; relations; term logic; predicative proposition; singular terms.

Svetlana MESYATS

ARISTOTLE'S THREE DEFINITIONS OF COLOR

The paper intends to propose a consistent exposition of Aristotle's theory of color and vision. In the center of attention there are three definitions of color cited by Aristotle in his treatises "De anima" and "De sensu et sensibilibus", that is color as a primary object of vision, color as a power to move what is actually transparent and color as a limit of transparent in a defined body. While examining these definitions one after another we try to answer a number of questions traditionally discussed in connection with Aristotle's theory of sense perception. In particular we try to clarify, is there any color without vision, and if so, does it exist potentially or actually? Particular attention is paid to the role of transparent medium in the process of vision and to the transmission of color by the transparent medium (light) from the colored object to the organ of vision. The proposed solution, based upon Alexander of Aphrodisias' distinction between "affective" and "relational" coloration of bodies, enables us to interpret color as a sort of light modification, in the course of which transparent medium preserves its transparency and doesn't undergo real coloration.

Keywords: Ancient psychology, Aristotle's theory of sense-perception, perceptible qualities, light and color.

Ilshat NASYROV

AL-KINDĪ'S AND HIS TREATISE "ON THE SOUL ABRIDGED FROM THE BOOKS ARISTOTLE AND PLATO AND THE OTHER PHILOSOPHERS"

The present article is devoted to the study of famous Muslim Arab peripatetic philosopher al-Kindī's views on the soul exposed in his work "On the Soul Abridged from the Books Aristotle and Plato and the Other Philosophers". To achieve the goal the author uses a method of historical-philosophical reconstruction. The author demonstrates that al-Kindī's theory of soul can be traced back to the writings of Aristotle and Plato. The author supplies new evidence showing that in his above-mentioned treatise al-Kindī attempted to reconcile the two great Creek philosophers on the subject of the soul in a neo-Platonic manner. It has been established from research that al-Kindī's provided also proof of the reconciliation Plato and Aristotle on the subject of the soul in his other two small works — "That there are Incorporeal Substances" (Fi anna-hu tūjadu Jawāhir la Ajsām) and "Short Statement on the Soul" (Kalām li-l-Kindī fī 'l-nafs, mukhtaṣar wajīz). In his treatise, "That there are Incorporeal Substances", al-Kindī interpreted Aristotle's "Categories" in a neo-Platonic manner.

Keywords: Philosophy, soul, Aristotle, Plato, al-Kindī.

Olga OKUNEVA

ARISTOTLE AND THE PERCEPTION OF THE NEW WORLD INDIGENOUS POPULATIONS IN THE EUROPEAN WRITINGS OF THE 16TH CENTURY

The article deals with some examples of the use of Aristotelian doctrine by the European authors of the 16th century seeking for answers at the questions about the human nature of the American Indians. It was the Aristotle's point of view on the soul, on the political organization, on the capacity of the self-governance, on the aptitude to live in the city, and — last not least — on the categories and classes of the barbarians that guided (obviously or unconsciously) Spanish and Portuguese authors in their descriptions and discussions about the

New World autochthon populations. One of the examples of such an interrogation can be seen in an intensive philosophical and juridical work during the Conquista in order to define what (and whom) did the conquistadors meet in the Americas and what would be an adequate Spanish monarchs' reaction. The most notorious case of the discussion based on the Aristotle's "Politics" interpreted in two quite opposite ways is the Disputation in Valladolid between Bartolomé de Las Casas and Juan Ginés de Sepúlveda in 1550–1551: what kind of barbarians are American Indians, are they natural slaves and can the "just war" be afflict to them. Another example studied in the article refers to the Portuguese America. An Aristotelian root will be shown on the base of the Portuguese authors' frequent formula "no faith, no law, no king" in the descriptions of the Brazilian Indians, that became quite a *topos* in the late 16th – first quarter of the 17th centuries.

Keywords: Aristotle, Politics, New World, Indians, Las Casas, Sepúlveda, Portuguese America, aldeamento.

Valery PETROFF

ARISTOTLE'S TEACHING ON GROWTH AND GROWING AND THE PROBLEM OF IDENTITY OF A HUMAN BODY

Aristotle has formulated his views on growth and growth in the On Generation and Perishing. This essay explores the fate of his doctrine in the posterior tradition. As our study shows, Aristotle's theory of growth and growing holds a significant place in the history of philosophical polemics regarding the identity of the human living body, being adopted and transformed both by pagan commentators and by Christian theologians. In doing this, they developed his concept of the enmattered είδος or corporeal form of the growing body. Each of the following authors — Alexander of Aphrodisias, John Philoponus, Simplicius — had its own set of sources and contexts. Each theory had its own logic, its complexities and its inconsistencies. As we demonstrate, Philoponus introduced into Aristotelian tradition Neoplatonic influences, Simplicius referred to the Stoic concept of ἰδίως ποιόν. Of particular interest is the transfer of the questions under consideration to the field of theology. Origen was the first to apply Alexander's arguments concerning the preservation of the identity of a living body to the question of the identity between the earthly body and the body of resurrection. As the analysis of Origen's reasoning shows, he combines the Aristotelian discourse about growth and growing with the Stoic concept of seminal logos, assuming at the same time, as Platonists do, that the bodily eloc can exist separately from the disintegrated material substratum (the subtle body of the soul serves as the carrier of the εἶδος in this

case). Origen's critic Methodius of Olympus who mostly thinks in Aristotelian terms, identified the bodily $\tilde{\epsilon}l\delta o \varsigma$ with the qualitative form, similar to the shape of a statue. As we point out, Gregory of Nyssa too used disparate elements of the theories in question, mechanically combining them. He also reveals Alexander's or Galen's influence, suggesting the dependence of the $\tilde{\epsilon}l\delta o \varsigma$'s characteristics on the qualities of the somatic mixture. Our review, if necessary brief, nevertheless demonstrates the existence of a powerful and heretofore untraced tradition that applied the Aristotelian doctrine on growth and growing to the problem of identity of an individual human being.

Keywords: Aristotle, Alexander of Aphrodisias, John Philoponus, Simplicius, Origen, Gregory of Nyssa, growth, identity, risen body, corporeal form.

Maya PETROVA

THE RECEPTION OF ARISTOTLE'S TEXTS IN LATIN PLATONISM OF LATE ANTIQUITY

The article discusses the reception of Aristotle's texts in Latin Platonism of Late Antiquity by means of the analysis of Macrobius' Commentary on the 'Dream of Scipio' (II, 14-16) and Saturnalia. It is shown, how Macrobius used Aristotle's texts while describing the views of the Platonists concerning the immortality of the soul, which he borrowed from Aristotle when he deals with the various theories of natural science. The article analyzes the textual and doctrinal content and parallels between Aristotle and Macrobius; it shows how Macrobius transforms Greek knowledge and discusses if he transmits and exposes it accurately. The conclusion is drawn that Macrobius' knowledge of Aristotle's texts is not a direct one.

Keywords: Greek knowledge, Aristotle, perception, the Latin tradition, influence, text.

Alexander PIGALEV

THE ARISTOTELIAN BACKGROUND OF THE "NOMINALIST REVOLUTION" AND THE PHILOSOPHICAL FOUNDATIONS OF EUROPEAN RATIONALITY

The purpose of the paper is to expose and to analyze both the Aristotelian context of the rise of nominalism in the later Middle Ages and the peculiarities of its influence on designing the philosophical foundations of European rational-

ity as well. The mediating patterns in Plato's and Aristotle's metaphysics and the appropriate concepts of the coercive identification of non-identical entities are analyzed in order to show the peculiarities of the approaches to the problem of one and many, whole and parts as the basis of the concept of rationality. It is stated that Aristotle as contrasted to Plato eliminated the possibility the immediate interaction of the opposites and introduced the principle of the golden mean. It is emphasized that Ockham's denial of the existence of universals meant that God was considered to be omnipotent because he was understood as absolutely free. Hereupon both God and his creation were at length interpreted as contingent and therefore incomprehensible, irrational. The parallelism between the destruction of Aristotelianism by nominalism and the destruction of traditional societies in the course of modernization is retraced so as to make clear the inevitability of the retrieval of the new mechanisms of universality. The subsequent development opposed the ensued irrationalism by means of the principle of selfassertion of individual as a substitution for the absent external rational foundations. Just the mind of self-asserting man as the subject that is mediately connected with a transcendental subject became henceforth the reason incarnate.

Keywords: Aristotelianism, Platonism, metaphysics, identity, nonidentity, mediation, rationality, nominalism, modernity, subject.

Marina SAVEL'EVA

THE PARADOX OF TIME IN THE PHILISOPHY OF ARISTOTLE

This is given the definition of paradox as a form of philosophical and scientific form of thought, argued it's metaphysical (formal-logical) entity. This is analyzed the circumstances of its origin, it is shown the historical and philosophical logic of it's formation and drawn conclusions that the basis of the paradox is time as the inner feelings of the person. It is well-proven, that a paradox is not an error or the mistake of thinking, because it expresses the most adequate method of the reflection of the infinity of cognitive process by limited language means. Time is the basis of formation and translation of a paradox. It is established that the paradox of time can appear in ambivalent way. 1) As the formal — like a consistent match of subject's thinking and object which is thinking of another entity (the experience of Plato). 2) As substantial — like a consistent coincidence of theoretic methodology and empirical history problematic in the thinking of subject (Aristotle experience). It is analyzes the basis of coincidence of theoretical and historical aspects in the philosophical thinking of Aristotle and illustrates the difference between the paradoxical nature and the dialectical principle of unity of the historical and logical. It is shown the relationship of the paradoxical nature of thinking and philosophizing original purpose of Aristotle which has a comprehension of being as exists in time.

Keywords: paradox, foundation, thinking, cognition, method, time, subject.

Andrei SEREGIN

HAPPINESS AND NON-MORAL VALUES IN ARISTOTLE'S ETHICS

This paper examines the question of what is the significance of non-moral goods and evils for happiness and unhappiness within Aristotle's ethics. There are two basic approaches to this problem, which I will refer to as "inclusivism" and "instrumentalism". From the inclusivist point of view, non-moral goods are parts of happiness (along with moral goods, i.e. virtues) and therefore, it seems, influence it as such and by themselves. On the other hand, instrumentalism implies that happiness consists in virtuous activity of human soul, while non-moral goods only contribute to it as instruments or resources for this activity and therefore have but instrumental value. In Aristotle's works one can find evidence, that supports both these standpoints, but I will try to show that on the whole the instrumentalist interpretation of Aristotle's ethics is preferable.

Keywords: Aristotle, Aristotelianism, ethics, happiness, non-moral good and evil, Stoicism, virtue.

Anna Seregina

ARITSTOTELIAN TRADITION AND THE CONCEPT OF MELANCHOLY IN THE 17TH-CENTURY ENGLISH CATHOLIC THOUGHT

The influence of Aristotelianism on Early Modern scholars in Europe, both Catholics and Protestants, was, according to recent studies, much more important that it has been thought, with texts by Aristotelian scholars crossing confessional borders with ease. At the same time, the Aristotelian tradition of the $16^{th}-17^{th}$ centuries implied not uniformity but a wide range of approaches and interpretations. Their study will make it possible to evaluate the true role of Aristotelian philosophy in European cultural tradition. An important aspect of such a study requires looking into the correlations between various parts of the tradition: the texts by Aristotle, the works by later Peripatetics, and their Early Modern interpretations. Texts ascribed to Aristotle constituted an important section of this

corpus. The article looks into one of these: the Problemata, which offers an interpretation of the concept of melancholy, influential in the $16^{th}-17^{th}$ centuries. It has been shown that the Problemata influenced English authors who wrote about melancholy, and also that Catholic texts were important sources of inspiration for later Protestant works. The links between the concept of melancholy (in its Aristotelian version) and the idea of religious conversion have been analysed, and possible confessional connotations revealed.

Keywords: Aristotelianism, pseudo-Aristotle, Problemata, melancholy, conversion, cognition, Timothy Brait, Robetr Persons, Edmund Bunny.

Fabien SCHANG

FROM ARISTOTLE'S OPPOSITIONS TO ARISTOTELIAN OPPOSITIONS

Aristotle's philosophy is considered with respect to one central concept of his philosophy, viz. opposition. Far from being a mere side-effect of syllogistics, my claim is that opposition helps to articulate ontology and logic through what can be or cannot be in a systematic and structural way. The paper is divided into three interrelated parts. In Section 1, the notions of Being and non-Being are scrutinized through Aristotle's theory of categories. In Section 2, the notion of existence is reviewed in its ontological and logical ambiguities. In Section 3, the notion of essence is revisited in order to bring about a holist theory of meaning by individuation through opposite properties. In conclusion, the legacy of Aristotle is depicted as balanced between a powerful reflection around Being and a restrictive ontology of substance.

Keywords: bitstrings, categories, being vs non-being, opposition, predication, quality vs quantity, square of opposition, substance.

Vladimir SHALACK

DECEPTIVE SIMPLICITY OF ARISTOTLE'S LOGIC

Aristotelian logic is underestimated both from the standpoint of cognitive possibilities and with regard to its understanding. The conventional wisdom is that paradoxes of Zeno fixed inadequacy of our concepts of space, time and movement to describe the phenomena of the world. Physicists use Zeno's "Arrow" paradox for interpreting the results of quantum mechanical experiments. It is shown in the article, that to solve this aporia it suffices to use elementary means of Aristotelian logic. The whole point is that the aporia premises violate one of the basic laws of

logic — the law of contradiction. As a result of ignorance of elementary chapters of logic that leads us to the inadequate interpretations of quantum mechanics. At the same time the Aristotelian logic and derived from it the traditional logic are not well understood. This can be demonstrated by simple examples. The standard extensional semantics of categorical attributive propositions is not adequate for analytical propositions. This problem is solved by means of intensional semantics. But both of these semantics are not enough in agree with each other, as they assign to some statements the opposite truth values.

Keywords: Aristotle, Zeno's paradoxes, syllogistic, categorical attributive propositions, extensional semantics, intensional semantics.

Taras Shiyan

DESIGNATION WITH LETTERS IN ARISTOTLE AND ORIGINATION OF FORMAL LOGIC

The main goal of the article is to give a specification of Aristotle's contribution to the creation of logic. The achievement of the goal depends of a number of problems solution. The first of the considered problems is the problem of the institutional forming of logic (in antique time). One of the conclusions is that the forming of logic as a discipline took place at the end of antiquity, that is, at the time long after Aristotle's life. The second question is about Aristotle's contribution to the creation of logic in the plane of content. The author's opinion is that a major Aristotle's contribution to the creation of logic was to apply a new methodology for the analysis, the constitutive moment of which was the use of a special type of lettering. After a review of ancient and modern authors, who had mentioned about Aristotle's lettering, the author discusses upon two issues: the interpretation of the type of Aristotle's lettering and its source. Among contemporary lettering author distinguishes several types, including: "variables", "parameters" and "conditional names". According to the author, letter symbols, used by Aristotle in the "Analytica Priora", the closest to the modern "parameters". The author argues in this aspect with Lukasiewicz asserted that Aristotle's letter symbols are variables. On the question about the source of Aristotle's lettering the author challenges the hypothesis by Nicolas Bourbaki that Aristotle possibly took his of lettering from "mathematics" of his time. The only type of lettering used (as we know) in ancient mathematics of Aristotle's nearest time is a "conditional names". Aristotle's letter symbols (even if we accept its interpretation by Lukasiewicz) are not "conditional names" and therefore could not be taken from "mathematics".

Keywords: Aristotle, Analytica Priora, lettering, veriable, parameter, logical form, logic, formal logic, dialectic, institutional approach.

Susumu Tanabé

ON ARISTOTELIAN GENUS NOTION AND CARTESIAN METHOD OF SCIENTIFIC INVESTIGATION

According to Descartes there must be a universal science (mathesis universalis) that explains all the points that can be raised concerning order and measure irrespective of the matter. On the other hand, Aristotle argued that geometrical proof shall be neatly distinguished from arithmetical one. For him a geometrical continuous quantity must be treated separately from discrete arithmetic numbers because they are related to different genera (τα ἕτερα γένη). Aristotle denied the supreme role of Being, as a Platonic idea located at the summit of hierarchy of all genera, and thus partitioned the world into a multiple of irreducible categories of genera that are not communicable one another. Since scientific revolution initiated by Galileo-Newton the Aristotelian view on physical world is at stake. In this article we make a trial to reassess Aristotle's scientific method. After having analyzed the role of genus as the delimitating notion for an episteme, we recall "mathesis universalis" proposed in the Cartesian approach contrasting with Aristotelian method. A critical analysis is performed for the cases where one science is applied to the proof in another science. We make a trial to extrapolate the genus notion to an extent necessary in order to surmount epistemological difficulties under the condition that all fundamental Aristotelian conceptual constructions be preserved.

Keywords: genus, Analytica Posteriora, Descartes, mathesis universalis, mathematics, extrapolation.

José Veríssimo TEIXEIRA DA MATA

ARISTOTLE AND FREGE ON FOUNDATIONS OF LOGIC

The purpose of this essay is to compare Aristotle's legacy in the founding of modern logic to Frege's foundations of logic. I will compare the tools of Frege's thought, such as object and concept, with those of Aristotle: first substance and second substance, for example, or small genus and larger genus. I shall attempt to demonstrate that notwithstanding Frege's own opinion to the contrary, Aristotle's logical tools are very close to those of Frege. From this perspective, we may understand in what sense Aristotle is, for us, not only a *classical* author, but also *classic* author.

Keywords: foundations of logic, concept, object, substance, first substance, second substance, identity, difference, function.

Andrey TIKHONOV

THE EXTENT OF THE PLATONISM OF ARISTOTLE

THE QUESTION OF VIRTUE AND GODLIKENESS

The subject of analysis in this article are the components of the practical parts of Aristotle's philosophy: questions of virtue and godlikeness. The aim of this article is to address to the question of the relationship of the doctrines of Plato and Aristotle, which raises the problem of identifying platonic nature of Aristotle's philosophy. To identify the alleged Platonism of Aristotelian teachings, we must first stress out the main propositions of his ethics (which are concerned with virtue and good) and pay attention to the Aristotle's criticism of Plato. The views of Plato and Aristotle on the good, that can be achieved by means of philosophy, are united with common ethical and ontological prescriptions, and this circumstance is described by commentators which are belong to the different philosophical traditions. The Platonism of the Aristotle's doctrine is expressed in his critical attitude towards achieving godlikeness in non-philosophical way. The opportunity to talk about the Platonism of Aristotle comes from the found correspondence between the proclamations of the ideal theoretical contemplation as the main virtue and the good («Nicomachean ethics») and of the ideal of philosophical comprehension of being («Ion»). Plato teaches that before talking about some object whether it is good or not, is it related to the good or not, you should carefully examine all the individual details of the subject and all the possible relationships that relate to this subject. That is the work for philosopher. For Aristotle, philosophical action is contained in theoretical thinking.

Keywords: Aristotle, Plato, virtue, good, ethics, idea, essence, nature of philosophy, mind, Platonism.

Larisa TONOYAN

PRESUPPOSITIONS OF ARISTOTLE'S TEACHING ON HYPOTHETICAL SYLLOGISMS AND THE DEVELOPMENT OF HIS DOCTRINE IN ANTIQUITY

Invention of syllogism theory is one of the main achievements of Aristotle. Having constructed a theory of simple categorical syllogism, Aristotle laid the foundation for the doctrine of the complex, hypothetical syllogisms (see *Analytica Priora* 40a 20-41b 5; 45b 11-20; 50a 11 – 50b 2; *Topica* 112a 16-30; 113b 15 –114a). However, Aristotle never built the doctrine of the complex syllogisms. Theophrastus and Eudemus made attempts to develop the ideas of Aris-

totle. Simultaneously, the Stoics have created their own "hypothetical syllogistic". But we heard just fragments of the Peripatetics' and the Stoics' work. According to historians of logic, they are based on the relationship between the proposals, while the syllogistic of Aristotle is built upon the relationship between terms. Alexandre of Aphrodisias, John Philoponus, the Neoplatonic followers of Ammonias, Galen, Sextus Empiricus and the others composed commentaries on Aristotle's teaching on the hypothetical syllogisms. A survived treatise "On the hypothetical syllogism" by Boethius is particularly valuable as one of the few Latin commentaries on Aristotle's logic. Our study demonstrates that neither in Greek nor in Latin commentaries the Stoic syllogistic is opposed to the syllogistic of Aristotle and the Peripatetics. We conclude that that ancient commentaries show not the union but complementary of the Peripatetic and Stoic systems. The ancient logic schools apparently tried to fulfill Aristotle's idea of building a unified theory of the syllogism.

Keywords: Aristotle, hypotethical syllogism teaching, general theory of syllogism, ancient commentators of Aristotle.

Anna USACHEVA

THE BODY OF NOUS

GREGORY NAZIANZEN'S CONCEPT OF THE HUMAN MIND IN THE CONTEXT OF PERIPATETIC PHILOSOPHY

The article revises methodological approach to the appraisal of Aristotelian legacy in Gregory Nazianzen's works. A point of departure is the reception paradigm of the philosophical schools of late antiquity featured by a creative and liberal approach to the authoritative text. Primed by a contemporary reception paradigm Gregory creatively adopted and transformed Peripatetic anthropology and cognitive theory. Although he broadly applied Platonic allusions and commonplaces, on the substantial level Gregory's vision of the human mind leans towards Aristotelian theory expounding the bodily conditions of the cognitive process such as sense-perception, memory and imagination.

Keywords: textual fluidity, reception paradigm, nous, sense-perception, alteration, soul, body, matter.

Marina VOLF

THE INQUIRY PROBLEM IN ARISTOTLE

This study examines various types of inquiry in Aristotle, including empirical, endoxical, practical, theoretical, poetical, dialectical, epistemic, ethical,

and philosophical inquiry. The attempt to unify Aristotle's approach to inquiry leads to the formulation of two research problems: correlation and coordination of the inquiries. The former describes the correlation of practical and theoretical reason with practical and theoretical inquiry, as well as the scopes of the two. The latter sets up a correspondence between endoxical, dialectical, ethical, and philosophical inquiries, and the correspondence of each of these types of inquiry with theoretical or practical inquiry. The methods of inquiry in Aristotle inherited the concepts of inquiry of the preceding philosophical doctrines, which emerged in the context of "Meno's paradox" or the paradox of inquiry: whether one should seek that which is already known (Z1) or that which cannot be known at all (Z2). The Aristotelian "solution to the paradox" is similar to the way Plato avoided the problem. There have been suggestions that Aristotle solved the paradox by using the idea of pre-existing knowledge. However, this approach is not very fruitful, since the notion of pre-existing knowledge was concerned with *phainomena*, and one still has to prove their truthfulness. In his response to the paradox, Aristotle admitted the principle of inquiry into the whole by its parts despite the difficulties which that principle implied. Aristotle's doctrine contains an important clarification with relation to the understanding of inquiry: any inquiry is possible unless there is no episteme, and the episteme is the final result of all inquiries. In his understanding of episteme, Aristotle in fact rethought Meno's paradox, offering a shift from Z2 to Z1 as a necessary step — from a lack of knowledge to absolute knowledge. By completely discarding the first premise of the paradox — the unknown cannot be found, and postulating the need for such an inquiry, Aristotle fundamentally rethought the second premise as compared to the previous tradition, and used it in the following way: absolute knowledge is attainable, and inquiry will cease if we achieve absolute knowledge.

Keywords: Aristotle, inquiry, Meno's paradox, scientific method, episteme, theoretical inquiry, practical inquiry, *Analytics*.

Nadezhda VOLKOVA

THE TEACHING OF THE IDENTITY OF INTELLECT AND THE INTELLIGIBLE IN THE PSYCHOLOGICAL DOCTRINES OF ARISTOTLE AND PLOTINUS

In this article an author examines two psychological concepts — Aristotle's concept of active intellect and Plotinus' doctrine of undescended soul. This doctrines are considered "divine" element in the rational part of our soul as a necessary condition of knowledge and salvation. The author comes to the conclusion that the main reason for postulating this kind of "divine" element in our

soul is a logical argument of identity of knowledge with its object or the intellect and the intelligible.

Keywords: Aristotle, Alexander of Aphrodisias, Plotinus, "De anima", intellect, intelligible, undescended soul.

Olga ZUBETS

ARISTOTLE'S μεγαλόψυχος AND THE CONCEPT OF MORAL SUBJECT

The article is devoted to the Aristotle's teaching as giving an ethical answer to the ancient search for the governing origin and yourself. That is that human being exists as oneself in being the origin of the act: the virtuous man has "the superiority in the act", leading of the origin of the act up to oneself. Stating the aim of the ethical inquiry as becoming good, Aristotle emphasizes not only the content of the virtue, that is how to act, but also how to act: in this context it is more important for him to do the good than to receive it or not to do evil. In his metaphysics Aristotle describes ἐνέργεια, the actual being, as the immanent nature of the end and the being of the acting one in the action, but in his ethics he defines an act in the same way. Distinguishing between an act $(\pi\rho\tilde{\alpha}\xi\iota\varsigma)$ and creation $(\pi\circi\eta\sigma\iota\varsigma)$, Aristotle defines the moral space exactly through the moral act as performed by the virtuous man: being the origin of an act, he is also the origin of the friend and the polis as friendship. The idea of subjectness inherent to every virtue is embodied in the concept of great-mindedness, which is described by Aristotle in a special way in the image of an actor: the Great-minded (μεγαλόψυχος). His longing to superiority is a longing to the superiority in the act, that is to the Being as the origin of the act. As a despising one, he eliminates everything which prevents him from being such an origin. Being an origin, that is being a subject, is the greatest thing which Great-minded thinks himself worthy of and is worthy.

Keywords: Aristotle, ethics, moral subject, Great-minded (μεγαλόψυχος), origin (ἀρχή), superiority in the act, an act (πρᾶξις), creation (ποίησις), ἐνέργεια, despising.

Yulia ZVEZDINA

THE IMAGE OF ARISTOTLE IN RUSSIA IN THE MIDDLE OF THE XVI CENTURY AND THE SECOND HALF OF THE XVII CENTURY

In the Middle Ages Aristotle appears in the paintings of ancient temples in the role of a prophet. The appearance of the image of the famous philosopher is based on the widespread "the prophecies of the sages of Hellas". The most famous monument — detail of fresco in the gallery of the Annunciation Cathedral of the Moscow Kremlin, created during the reign of Ivan the Terrible (the middle of the 16th century). Here he, along with a number of other ancient philosophers and poets was included in the overall composition "Tree of Jesse". The scroll in the hands of Aristotle contains the glorification of the Holy Trinity. During the transition period of the second half of the XVII century the name of Aristotle occurs in the works of the leading preachers of Kiev — Ioanniky Galyatovsky and Antony Radivilovsky. Their books were quite quickly distributed throughout Russia, including Siberia. The distribution of science has led to the fact that the spiritual authors treating the theme of prophecy and wonderful predictions of sometimes used mythological images. In the case of recourse to ancient philosophy was quoting the works of ancient authors, including Aristotle.

Keywords: Aristotle, the philosopher, the mural painting, the Annunciation Cathedral, the scroll, the prophecy.

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