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AXIOMS OF PHILOSOPHY IN ARISTOTLE'S *METAPHYSICS*

## Abstract

The goal of this article is to study Aristotle's concept of philosophical principles. *Metaphysics* required from a philosopher to reveal the axioms of his teaching. It declared *the law of contradiction* as the most certain of all principles and axioms. This article proves that the Aristotelian definition of truth makes it necessary to accept the ontological formulations of all the three main laws of thought as axioms of first philosophy. This article points out the absence of any reference in *Metaphysics* on *Categorias* and *vice versa*. This circumstance questions if could Aristotle be the author of both works? Authors of this article underline that the modern trend of meta-philosophical studies requires investigating the possibility of building the system of axiomatic philosophy.

*Keywords:* axiom, the axiom of philosophy, the choice of an axiom, the set of axioms, the priority of ontology.

## Introduction

Axioms – the most valuable acquisition in the treasury of scientific knowledge – have been highly appreciated from the time of Aristotle. They were rightly regarded as the unshakable foundation of the colossal temple of demonstrative scientific knowledge. The clearest concept of the function of axioms was presented in *Posterior analytics* (chapter 10 of the book I). Moreover, Jan Lukasiewicz proved that Aristotelian *sylogistics* was the first axiomatic theory in the history of sciences (Lukasiewicz, 1951).

Yet the axiomatic method of building scientific theories by introducing a set of axioms and deducing all other statements of the theory from axioms and definitions with the help of rules of valid inferences was not yet put into scientific practice by the days of Aristotle. Euclid's *Ele-*

*ments* and its rigorous proofs did not yet come to light. Developing the theory of syllogisms and revealing that his theory was based on the general syllogisms of the first figure, Aristotle called them *perfect syllogisms* and never qualified them as *axioms*. These two general syllogisms of the first figure in medieval logic were denoted as *Barbara* and *Celarent* and were called "*dictum de omni et de nullo*". And only much later, in the frame of traditional formal logic the principle "*dictum*" started to be called "*the axiom of syllogism*" though in the traditional formal logic this axiom was not used in the theory of syllogisms.

Axioms of fundamental natural sciences could be called the highest principles of the natural world. Albert Einstein devoted the last decades of his life to the study of the general theory of the field. If Einstein had succeeded in his great endeavour, then the physical science could claim

that it has revealed the ultimate essence of existence, *the first principles and the highest causes of the physical world*. Now substituting in this formulation the concept “*physical world*” by Aristotelian “*being as being*” we’ll get the task of the *first philosophy* – to reveal *the first principles and the highest causes of being as being*. Thus we come to an understanding that in essence the Aristotelian *first philosophy* could be viewed as the most basic level of physical science, a true *meta-physics*, the most valuable knowledge of natural science, and in the latter sense – the highest and ultimate knowledge of all the existence – the true *meta-physics*.

Commentaries on *Metaphysics* are traced back by historians to Alexander Aphrodisias, and their number is constantly growing in our days and times to come (Fraser, 2002; Wedin, 2002; 2009; Sharples, 2010; Yu, 2003; Bell, 2004; Gill, 2005; Gill, 2006; Anagnostopoulos, 2009; Peramatzis, 2011; Kotwick, 2016; van Inwagen, & Sullivan, 2018). Our study is an element in this huge domain of research in first philosophy dedicated to a quite narrow branch of axioms of *Metaphysics* that, as we hope, could become a significant trend in modern philosophy.

Preparing this article for publication, we have revealed that some current time philosophers even those who are involved in neo-Aristotelian research do not understand the significant difference between the concepts “axioms of a theory” and “axiomatic theory”. One of them even stated proudly: “I didn’t distinguish clearly enough between *setting out axioms* and *creating a complete axiomatization*”.

We hope that the following simple example will be helpful to understand clearly the huge difference between “*set of axioms of a theory*” and “*creating a complete axiomatic theory*”. Let us consider Newton’s *Philosophiae Naturalis*

*Principia Mathematica*. Its famous laws of mechanics can serve as illustrating analogues for the “set of axioms of a theory”. Each modern educated man is able to learn and remember these there laws. On the contrary, the task “creating a complete axiomatic theory” means proving the entire body of the statements of Newtonian mechanics, and this task is out of reach of any modern educated man if he is not helped by Newton’s famous work.

In short, the task of “*setting out of axioms of a theory*” means suggesting a number of statements that presumably could serve a basis for the theory. While “*creating a complete axiomatization*” means building the theory as a whole, presenting a proof of its every statement based on its axioms and definitions.

“The most certain axiom” of the first philosophy is clearly stated in the book IV of *Metaphysics*: “the same attribute cannot at the same time belong and not belong to the same subject and in the same respect” (*Metaphysics*, 1005b 20). In the following sentence, Aristotle underlines that this “is the most certain of all principles” and then suggests another formulation for the first axiom of his philosophical system: “it is impossible that contrary attributes should belong at the same time to the same subject” (naturally, this both formulations of the first axiom of the first philosophy are accompanied by traditional precautions against possible “dialectical objections” by pointing out that they are considered “in the same respect”, “at the same time”, and other “usual qualifications”).

#### The Law of Contradiction as the Axiom of the First Philosophy

It is quite evident that the law of contradiction is formulated in *Metaphysics* as a principle

of ontology since both formulations of the axiom speak about things and subjects, about “existing things *qua* existing” aimed to reveal the most certain principles of “all things”.

On the other hand, the law of contradiction is much wider recognized in the language of science as the main *law of human thought* rather than the first axiom of the first philosophy dealing with the most certain principles of “all things”. Unavoidably, this twofold nature of the law of contradiction raises the question of “priority”: which one of these two natures of the law of contradiction is the primary? In its turn, a convincing answer to this principle question could have a decisive impact in evaluating Aristotle's refutation of Plato's idealism. Indeed, if the ontological principle of “all things” were deducible from the law of thought it would significantly strengthen Plato's idealism, and on the contrary, if one demonstrates that the logical formulation the law of contradiction is deducible from its ontological formulation, it would essentially support Aristotle's postulate that existence is inherent in particular things (compare Makin, 2003).

The text of *Metaphysics* contains an attempt of proving the law of contradiction grounded on the concept of belief: “it is impossible for anyone to believe the same thing to be and not to be”. And just this belief is thought to be at the basis of all proofs: “all who are carrying out a demonstration reduce it to this [belief] as an ultimate belief; for this is naturally the starting-point even for all the other axioms” (*Metaphysics*, Book IV, chapter 3).

Let us the above-cited Aristotelian two ontological formulations of the law of contradiction (“the same attribute cannot at the same time belong and not belong to the same subject and in the same respect” and “it is impossible that contrary attributes should belong at the same time to

the same subject”) unite for further analysis of the axioms of philosophy in the following formulation: “It is impossible that the same attribute belong and not belong to the same subject at the same time and in the same respect” (1). This formulation we'll call *ontological* formulation of the law of contradiction (the first axiom of Aristotle's first philosophy). Respectively, we'll call *logical-cognitive* the law of contradiction of traditional logic: “It is forbidden to assert and simultaneously to negate the same property of the same subject” (2). The most laconic wording of the *logical-cognitive* formulation is given in the first book of *Posterior Analytics*: “it is impossible to affirm and deny simultaneously the same predicate of the same subject” (*Posterior Analytics*, 77a10).

The impression is that in *Metaphysics*, there was not made a strict distinction between ontological and logical formulations of the law of contradiction even when this law became the subject of analysis. As it was emphasized above, *Metaphysics* considers the law of contradiction as an ontological principle. Chapter 4 of the book IV is fully devoted to the substantiation of the law of contradiction. Summing up the discussion of this issue, *Metaphysics* concluded: “it has been shown that contradictories cannot be predicated at the same time” (*Metaphysics*, 1007b18). Some passages later this same chapter 4 suggests a clear formulation of the law of contradiction: “it will not be possible to assert and deny the same thing truly at the same time” (*Metaphysics*, 1008a35). But both the two latter formulations of the law of contradiction are evidently *logical* formulations.

Now let us investigate the above mentioned twofold nature of the law of contradiction. Namely, is it possible to deduce the logical-cognitive formulation of the law of contradiction

(2) from its ontological formulation (1)?

We would like to mention that we are not going to *prove* the law of contradiction. We are just investigating the claim of “priority”: should be the ontological formulation of the law of contradiction considered “prior” to the logical-cognitive formulation if one succeeds to demonstrate that the logical-cognitive formulation of the law of contradiction (2) is *deducible* from its ontological formulation (1)?

We fully agree with *Metaphysics* point of view that axioms as the most basic statements of science (in our time – of a scientific theory) could not be proved, but should be accepted. Considering a principal case of contradiction, *Metaphysics* emphasizes its position: “But we have now posited that it is impossible for anything at the same time to be and not to be, and by this means have shown that this is the most indisputable of all principles” (*Metaphysics*, 1006a 5). Those who demand that even this statement shall be demonstrated show “want of education”.

People in want of education could learn many important things concerning the most *basic*, *primary* statements and *axioms* of sciences from the book I of *Posterior Analytics*. Aristotle explained there: “The fact of their existence as regards the primary truths must be assumed; but it has to be proved of the remainder, the attributes” (*Posterior Analytics*, 76a33). Then Aristotle continues his explanation: “every demonstrative science has three elements: (1) that which it posits, the subject genus whose essential attributes it examines; (2) the so-called axioms, which are primary premises of its demonstration; (3) the attributes, the meaning of which it assumes” (*Posterior Analytics*, 76b10). In short, the essential elements of the demonstration are three: the subject, the attributes, and the basic premises

(*Posterior Analytics*, 76b22).

We would like to point out that, unlike *Metaphysics*, that presents axioms as *the most certain* principles, *Posterior Analytics* speaks in a quite modern language characterizing axioms as the *primary premises of demonstrations*. Nevertheless, due to the ontological formulation of the law of contradiction in *Metaphysics*, readers should realize that contradiction is not only *forbidden* in human cognition but also is *impossible* in the material world. Moreover, Aristotle’s concept of truth requires that thoughts should be adequate to reality, attributes combined with the things, in reality, should be presented combined in thought, and the separated in reality should be presented in thought as separated: “he who thinks the separated to be separated and the combined to be combined has the truth, while he whose thought is in a state contrary to that of the objects is in error” (*Metaphysics*, 1051b5). As it often happens in abstract sciences, Aristotle makes things ultimately clear using an example: “It is not because we think truly that you are pale, that you are pale, but because you are pale we who say this have the truth” (*Metaphysics*, 1051b9).

Aristotle’s definition of truth using “connection/separation” may be thought as a bit clumsy: “the true judgment affirms where the subject and predicate really are combined, and denies where they are separated” (*Metaphysics*, 1027b20). Medieval logicians suggested an aphoristic definition: “Truth is the adequacy of thought and reality”. But we would like to mention that this laconic definition requires an additional definition of the concept of *adequacy*. And this additional definition brings us back to *connectedness*: “A thought is adequate to reality if it “connects” what is connected in reality”.

## The Law of Contradiction and Aristotelian Definition of Truth

Now we are going to demonstrate that the logical-cognitive law of contradiction (2) could be deduced from the ontological formulation (1) using the Aristotelian definition of truth. This will be done by building a syllogism, the first premise of which is a slight reformulation of the ontological formulation of the law of contradiction (1): “All the things exist in the way that it is impossible for any attribute to belong and not belong to the same subject at the same time and in the same respect” (1a).

*Metaphysics* suggests the definition of the concept *truth* in the last chapter of the book YI: “the true judgment affirms where the subject and predicate really are combined, and denies where they are separated” (*Metaphysics*, 1027b20). We meet a similar definition of the truth in the last chapter of the book IX: “he who thinks the separated to be separated and the combined to be combined has the truth, while he whose thought is in a state contrary to that of the objects is in error” (*Metaphysics*, 1051b4). Later on, medieval logicians improved the wording of Aristotelian definition by using the concept *adequacy* instead of combined/separated: “*Veritas est adequatio of ratio et rei*” (3). As the second premise of our syllogism, we take the latter definition of truth in its following modification: “A truth should be adequate to things [under study]” (3a).

Using the premises (1a) and (3a) we compose *modus Barbara* of Aristotelian syllogistics: “All the things exist in the way that it is impossible for any attribute to belong and not belong to the same subject at the same time and in the same respect” (1a).

“A truth should be adequate to things [under study]” (3a).

Then, “A truth should state that it is impossible for any attribute to belong and not belong to the same subject at the same time and in the same respect” (4).

It is quite evident that the conclusion (4) is equivalent to the logical-cognitive law of contradiction (2) “It is forbidden to assert and simultaneously to negate the same property of the same subject”.

Thus, the syllogism we have built deduces the logical-cognitive formulation of the law of contradiction “It is forbidden to assert and simultaneously to negate the same property of the same subject” (2) from the ontological formulation “It is impossible that the same attribute belong and not belong to the same subject at the same time and in the same respect” (1).

This success in proving the leading role of the ontological formulation of the law of contradiction encourages us to examine the priority problem in regard of the other two main laws of human thinking – the law of *excluded middle* and the law of *identity*. The law of excluded middle is formulated in *Metaphysics* in the first sentence of Chapter 4 of Book VII: “there cannot be an intermediate between contradictories, but of one subject we must either affirm or deny any one predicate.”

The study of the law of excluded middle could be essentially helped by the approach of modern *propositional logic*. In the frame of propositional logic, the law of contradiction is presented by the following statement: “the conjunction of propositions *p* and *non-p* is false” (5). According to de Morgan’s rule and the law of double negation, the statement (5) is equivalent to the following disjunction: “*p* or *non-p*” (6) which is just *the law of excluded middle* in the language of the propositional logic.

*Metaphysics* deliberates in detail regarding



the problem of several meanings of the words in chapter 4 of the book IV. This consideration of the issue in *Metaphysics* is summed up in a short conclusion: “it is impossible to think of anything if we do not think of one thing”. Taking into account the context of the above analysis of this issue in *Metaphysics* we come to the following formulation of the *law of identity*: “During a concrete discourse, words should be used in one and the same meaning”.

At first sight, the impression could be that the law of identity is completely separate from the other two laws of thought – the *law of contradiction* and the *law of excluded middle*. At least, the law of identity, unlike the other two laws of thought, could be expressed in propositional logic only as a tautology “*p is equivalent to p*”. Actually, the Aristotelian *law of identity* deals with words and concepts that in the language of mathematical logic are expressed with the help of predicates, the latter being the instrument of the *logic of predicates* but not of propositional logic.

Modern meta-logic considers propositional logic as the basis of entire mathematical logic. It couldn't be another way since the simple subject-predicate judgments of natural language in mathematical logic are presented as formulas of the logic of predicates necessarily using logical conjunctions of propositional logic. For this reason, modern meta-logic considering the issue of priority of laws of thought has to award priority to the law of contradiction. Yet this order of priority could be radically changed if we apply the philosophical-cognitional approach.

Indeed, let us consider a material world where things were changing with such a speed that no object could be considered as having a qualitative identity. Obviously, these objects bereaved of qualitative identity couldn't satisfy the

demand of the *law of identity* to have a certain qualitative identity. But if the law of identity fails in this “high speed changing world” there wouldn't be the place for the law of *excluded middle* also, since these “fluid” objects couldn't be considered as having or not having a given property. This failure of the law of *excluded middle* would bring with it the abolishment of the law of contradiction since as we have shown above the law of the excluded middle can be deduced from the law of contradiction.

We would like to mention also that all the above-revealed relations of “priority” of the ontological in regard to the cognitive is in full accord with Aristotle's general view of human cognition. He emphasized in *Posterior Analytics* that cognition begins with the sensorial perception of external objects. In *Metaphysics* the priority of the things with material substrate also is stated clearly: “that the substrata which cause the sensation should not exist even apart from sensation is impossible. For sensation, it is surely not the sensation of itself, but there is something beyond the sensation, which must be prior to the sensation...” (*Metaphysics*, 1010b 33).

For the sake of proper understanding of Aristotle's philosophical heritage, we have to deliberate on some peculiar aspects of the cognitive function of *Metaphysics* and Aristotelian *Categories*. According to Aristotle's intention and the content of *Meta-physics* its goal was to reveal the most general predicates and principles of all material world, or in Aristotle's words, of “being as being”. And what could be said about *Categories* in this regard? *Categories*, included into the *Organon*, – the scope of Aristotelian logical works – have no chance to be considered as a metaphysical work about the most general characteristics of “being as being”. Yet, by its content, *Categories* deal only with the most general pred-

icates applicable to the realm of separate subjects, the things of the material world. In actuality, *Categories* and *Metaphysics* cover the same field of study, just with different intention (compare Stough, 1972; Matthews, 2009).

The modern view of the statue of *Categories* could be expressed by Christian Shields' accurate sentence: "Aristotle does not say explicitly, but his examples make reasonably clear that he means to categorize the basic kinds of beings there may be" (Shields, 2016). Nevertheless, the short statement "*Categories* were meant to categorize the basic kinds of beings there may be" (7) comprises an essentially problematic point. If the phrase "to categorize the basic kinds of beings there may be" were understood as a task "to reveal the most general predicates of being as being" then the statement (7) would interpret *Categories* as an Introduction to *Metaphysics*. Since 10 categories of *Categories*, in essence, are the most general predicates of the conceptual human language, these categories and their contents could be very helpful for *Metaphysics*. Yet, there is a principle point. *Categories* speak of *language as language* never descending to the level of the material world and never considering issues of *being as being*. This specific feature of *Categories* means that it should be evaluated as an independent branch of science – *meta-theory of natural language*.

The puzzling thing is that *Metaphysics* does not evaluate and appreciate ideas and conceptions of *Categories* in a proper extent. For instance, in Book V, *Metaphysics* presents about three dozen terms used in discussions of its issues. These set of terms involves many categories of *Categories* like *substance*, *quantity*, *quality*, *relative*, *disposition*, *deprivation* etc. Yet *Metaphysics* didn't mention any interpretation of these categories in *Categories*, and *vice versa*,

*Categories* did not mention *Metaphysics*. This kind of mutual negligence in regard to basic components of the language of sciences is completely unexplainable. Especially if we take into account that both famous works were considered obligatory in understanding the essence of categories of science and philosophy. In light of the above said, this kind of mutual negligence of *Metaphysics* and *Categories* could have happened providing Aristotle hadn't been the author of one of them.

### The Problem of Categories

Another problem arises in regard of *Metaphysics* "lexicon" presented in the book V. The main thesis of the book V is expressed here by the assertion "The name has a meaning and has one meaning" (*Metaphysics*, 1006b11). But how we should deal with a word that has several meanings? The answer to this question is quite definite: "It makes no difference even if one were to say a word has several meanings if only they are limited in number; for to each definition there might be assigned a different word" (*Metaphysics*, 1006a34). Thus, the problem of *word ambiguity* is solved by introducing for each separate meaning of the word an appropriate definition and, if necessary, assigning a peculiar name for each definition.

But how should we deal with the words expressing categories of *Metaphysics*? And which words of the "lexicon" of the book V are categories of *Metaphysics*? None of these two questions is answered. The term "category" is not used at all in *Metaphysics*. Definitely, the book V didn't realize the principle role of definitions and categories in building an axiomatic theory.

Factually, the term "category" was not used in any of Aristotle's theoretical works. The term



“category” was not used even in the text of *Categorias*, forming only the title of this work. We know only of two cases of using the term “category” in Aristotle’s theoretical works. One of them happens in *Prior Analytics* (Book I, Chapter 37). This case is involved in a single sentence asserting that the expression “one thing is truly predicated of another” must be assumed in as many ways as *categories* are divided (*Prior Analytics*, 45a6).

The second case is presented in *Topics* (chapter 3 of the book I). This one-page chapter just repeats the famous chapter 4 of *Categorias* that introduced Aristotelian 10 categories, without any connection with previous or subsequent chapters of *Topics*.

#### The Problem of Axiomatic Philosophy Today

Returning to the main issue of this article, it should be stated that *Metaphysics* explicitly stated as the axiom of the first philosophy the law of contradiction in its ontological formulation. As it was shown above, Aristotle’s definition of truth presumes that the other two “main laws of human thought” – the law of the *excluded middle* and the law of *identity* – should be considered as the axioms of the first philosophy also (of course, in the ontological formulation of these laws).

Texts of *Metaphysics* do not suggest, even in an implicit form, any other axiom for the first philosophy. Moreover, even if statement *A* were suggested as an additional axiom of the first philosophy, this same statement *A*, according to the Aristotelian definition of truth, should also be considered as an additional “main law of thought”. But in the long history of philosophy and logic, there was no convincing attempt of extending the set of the three famous laws of thought.

This means that it is improbable that there would be revealed an additional axiom for the first philosophy in the foreseeable future.

On the other hand, the above-suggested interpretation of the first philosophy as of true *meta-physics* opens a new way for the study of the issue of axioms of *Metaphysics*. In modern understanding, *meta-physics* could be interpreted as the philosophy of natural sciences that is, in gross, identical to the modern concept of philosophical ontology. So, the modern philosophical ontology if presented as an axiomatic theory, may open new approaches to the study of *Metaphysics*.

Of course, the task of building philosophy axiomatically should interest modern researchers too, independent of the historical value of *Metaphysics*. Especially, taking into account the huge wave of meta-theoretical and meta-philosophical investigations during the last decades (Lazero-witz, 1970; Marsoobian, 2007; Hovhannisyan, 2007; Hovhannisyan, 2008; Overgaard, Gilbert, & Burwood, 2013; Hovhannisyan, 2014; Hovhannisyan, 2015).

But philosophers persistently circumvent the problem of the axiomatic representation of philosophical knowledge. Alfred Whitehead and his former student, Nobel laureate Bertrand Russell wrote the three-volume “*Principia Mathematica*” (1911-1913) were presented the formalized system of axiomatic mathematics. But did not write even a few lines on the axiomatization of philosophical theories. Rudolf Carnap did a serious job in the direction of the axiomatic representation of relativistic mechanics, but he did not show any sort of interest to the problem of the axiomatization of philosophy. Over the past few decades, when everything that is written is somehow published, no article has been written on the problem of the axiomatization of philo-

sophical teachings. The exception is the interesting book by Eberhard Rogge "Axiomatik alles moglichen Philosophierens" (1950). Note that E. Rogge's research did not have the task of axiomatizing philosophical knowledge but only revealed and explicitly formulated the principles (in this sense, axioms) of the main philosophical directions.

We published two joint articles on axiomatic philosophy in the journal of Moscow State Pedagogical University (Hovhannisyan & Djidjian, 2018; Djidjian & Hovhannisyan, 2019) that, possibly, would serve a starting point for new investigations in the axiomatic presentation of philosophical theories. Now we would like to present our system of axioms of philosophical ontology (Hovhannisyan & Djidjian, 2018) that could be considered as the basis of first philosophy and meta-ontology.

*Axiom 1.* The existence (essence) is inherent, first of all, to individual sensually perceived objects of the external world.

*Axiom 2.* All objects of the world are in constant change and motion.

*Axiom 3.* The source of all motion and change in the world is the interaction of material objects with each other.

*Axiom 4.* Objects of the external world have a 3D volume and are in a certain mutual disposition.

*Axiom 5.* The phenomena of the external world have a duration and succession.

*Axiom 6.* The world as a whole cannot be conceived by human limited empirical experience.

*Axiom 7.* Atheistic faith: the material world is eternal in the sense that the chain of interactions and transformations of material objects is infinite in time and had no beginning.

These 7 axioms supported by 17 definitions

allow proving the following important statements of philosophical ontology rigorously:

*Theorem 1.* Form and matter possess existence only insofar as they are two main sides of objects of reality.

*Theorem 2.* The source of all motion and change in the world is the internal quality (attribute) of the matter presented by physical charges.

*Theorem 3.* Matter is the cause of itself (*Materia est causa sui*).

*Theorem 4.* Each phenomenon has its cause.

*Theorem 5.* Nothing arises from "nothing" (*Ex nihilo nihil fit*).

*Theorem 6.* The question of the origin of the material world as a whole, in principle, cannot have a proof in the framework of natural science.

*Theorem 7.* The origin of the material world can only be postulated.

*Theorem 8.* Evolution as development is accidental and can occur in nature only in favourable conditions.

## Conclusions

Aristotle highly appreciated axioms as the unshakable foundation of the demonstrative scientific knowledge. Yet the axiomatic method of building scientific theories by introducing a set of axioms and deducing all other statements of the theory from axioms and definitions with the help of rules of valid inferences was not yet put into scientific practice by the days of Aristotle. Euclid's *Elements*, with its impressive demonstrations, came to light decades later. Developing his theory of syllogistics, Aristotle called the basic principles of his theory *perfect syllogisms* and never qualified them as *axioms*.

*Metaphysics* declared the law of contradiction as "the most certain of all principles" of the first philosophy, of being *qua* being. "The

most certain axiom” of the first philosophy had clear *ontological formulation*: “the same attribute cannot at the same time belong and not belong to the same subject and in the same respect”. In actuality, the practice to consider the law of contradiction as the main principle of human thought got its beginning much later in the frame of traditional formal logic.

In *Metaphysics*, there was not made a strict distinction between ontological and logical formulations of the law of contradiction even when this law became the subject of analysis in its book IV. Nevertheless, in general, epistemological approach *Metaphysics* clearly proved the priority of ontology: “It is not because we think truly that you are pale, that you are pale, but because you are pale we who say this have the truth”. As we have shown in this paper, the Aristotelian definition of truth allows deducing each one of the three “main laws of thought” of traditional logic from its ontological formulation. This demonstrative solution of the problem of priority awards to ontological formulations of the traditional laws of thought the high statue of axioms of first philosophy.

Guided by Aristotle’s call for building axiomatic philosophy, we have suggested the axiomatic bases of the two main branches of philosophy – of the philosophical *ontology* and of *epistemology*. The philosophical ontology if presented as an axiomatic theory, may open new approaches to the study of *Metaphysics*.

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