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Implicitness of Λόγοσ and Explicitness of Logics in Ancient Philosophy

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Abstract

We consider semantic and syntactic transformations of the concept of "the logical" in the ancient philosophy in the form of crypto-logos, para-logismos, dia-logos, and syl-logismos. We interpret Heraclitus' concept of *Logos* as a cryptologos through which intuitive insight (ἐπίστασθαι γνώμην) reveals hidden or implicit harmony (αρμονίη ἀφανήσ) in nature (φύσισ) as a conceptual unity of ontic opposites (τὰ ἐναντία). In Pramenides' paraconsistent concept of the identity of Being and thought, we point to para-logical hypotheses about the One that are carried out through antithetical deductions of thought and which maintain the dynamics of the ontic determinations of being (ὄν) in the statics of the conceptual determinations of Being (τὸ ειναι). As the beginning of the explicative granulation of "the logical" we consider Plato's concept of the dialectical skill (διαλεκτικὴ τέχνη) of dividing concepts of genus into species and sub-species that logically represent ontic opposites in problem-formulated questions. Finally Aristotle's concept of λόγοσ as a statement-making sentence / proposition (λόγοσ ἀποφαντικόσ) made explicit the Being (τὸ ειναι), or the Being as Being (τὸ ὄν η ὄν), in semantic and syntactic figures and modes of syllogistic inferences in which ontological (ειναι), ontic (ὄν), conceptual (λογικῶσ) and linguistic (λέγομενον) correspondence is shown. We conclude that with these changes in the concept of λόγοσ, the path has been taken from the hidden or implicit Truth of the phenomena of nature and the world (πᾶν) to explicit truthfulness of propositions as the unhiddeness (ἀλήθεια) of Being *trough* the semantical and syntactical visibility of the logical structures of being, thought and language in scientific knowledge based on demonstration (ἀπόδειξισ).

Key words: logos, dialectics, syllogistics, Herakleitos, Parmenides, Plato, Aristotle

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Introduction

The meaning and use of the term λόγοσ in ancient philosophy changes drastically starting from the intuitive construction of *an unique concept of the world* (Physis, Cosmos, παν) and ending to its re-construction in *the world of concepts* (Discourse, Argument, Demonstration, Conclusion). The ontologically based Gnostic construction of Heraclitus' heno-logic as an intuitive discovery of hidden harmony (ἁρμονίη ἀφανήσ), hidden Logos and hidden Truth of Nature (φύσισ), was transformed by conceptual and linguistic granulation into a logical and methodical construction of evidence-based knowledge or science (ἐπιστήμη).

Analytical and demonstrative science (ἐπιστήμη ἀποδεικτικῆ)[2] based on Plato's dialectic and Aristotle's syllogistics gave a new form of conceptual granulation (*premises*) and conceptual unification (*conclusion*) in the network of demonstrative propositions / assertions (λόγοσ ἀποφαντικόσ)[3] and the truth as unhiddenness of the Being (ἀ-λήθεια). In the form of demonstration (ἀπόδειξισ)[4], in the form of demonstrative science, and in the form of syllogism (συλλογισμόσ)[5], the *Logos* (λόγοσ), from the form of a hidden Mind that pervades the world and governs it, transformed in a network of propositions (λόγοι, πρότασισ)[6] taking form of affirmation and negation (λόγοσ καταφατικὸσ ἢ ἀποφατικόσ)[7] in saying something about something (τί κατὰ τινόσ).[8] This realized Aristotle's idea about the logical and linguistic visibility (unhiddenness) of the Being as Being (τὸ ὂν η ὄν)[9], that is, the essence (οὐσία) of beings.

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[2] See in Aristotle, ΑΝΑΛΥΤΙΚΩΝ ΠΡΟΤΕΡΩΝ Α. 24a11.In: Cooke,H. P., Tredennick, H. (1938). Aristotle. *Categories. On Interpretation. Prior Analytics*. Loeb Classical Library.Harvard University Press, p.198.

[3] See in Aristotle, ΠΕΡΙ ΕΡΜΗΝΕΙΑΣ, (De Interpretatione), 17a1-17a7. In:Ibid., p.120

[4] See in Aristotle, ΑΝΑΛΥΤΙΚΩΝ ΠΡΟΤΕΡΩΝ Α. 24a11.In: Ibid., p.198.

[5] See in Aristotle, ΑΝΑΛΥΤΙΚΩΝ ΠΡΟΤΕΡΩΝ Α. 24b20.In: Ibid., p.198.

[6] See in Aristotle, ΑΝΑΛΥΤΙΚΩΝ ΠΡΟΤΕΡΩΝ Α. 24a17.In: Ibid., p.200.

[7] See in Aristotle, ΑΝΑΛΥΤΙΚΩΝ ΠΡΟΤΕΡΩΝ Α. 24-a15, in W.D. Ross (Editor) (1957) . *Aristotle's Prior and Posterior Analytics*. A Revised Text with Introduction and Commentary (Oxford University Press academic monograph reprints) . Oxford at the Clarend Press,

[8] See in Ernst Tugendhat, (2003): ΤΙ ΚΑΤΑ ΤΙΝΟΣ. Eine Untersuchung zu Struktur und Ursprung aristotelischer Grundbegriffe.Munchen, Freiburg: Verlag Karl Alber

[9] For Aristotle, the *First Philosophy* (later known as metaphysics) was a science (ἐπιστήμη) that deals with Being as Being (τὸ ὂν η ὄν), and with the properties that belong to it as Being (καὶ τὰ τούτω ὑπάρχοντα κατθ' αὐτό), and not as an individual being. Μ.Γ.2.1003a21. (See in: Seidl, H. *Aristoteles' Metaphysik*. Erster Halbband: Bücher Ι (Α) – VI (Ε). In der Übersetzung von Hermann Bonitz. Neu bearbeitet, mit Einleitung und Kommentar herausgegeben von Horst Seidl. Hamburg: Felix Meiner Verlag,1978,p.122.).The properties (παθή) of the Being are analogous only to the properties of the One.

This granulation and unification, or distribution and integration of the logical structure of the propositions / assertions through its layers (lettuces) of different levels of generality became the basis of the construction of knowledge and science that *can speak truthfully* about the world. With this, the idea of the Truth of the World as the hidden / Crypto *Logos* of nature (φύσισ κρύπτεσθαι φυλει)[10] was transformed, and the analytical and calculative (computational) direction of thought turned towards the language (terms, propositions, quantifiers, logical operators) in which the logical and the onological appears as something unconcealed / uncovered / unhidden and accessible (ἀ-λήθεια)[11]. Because language reveals thought and itself in the logicality (λογικωσ) or illogicality of its constructions about the world.

In his work *On Nature* (Περί φύσεωσ)[12], Parmenides asserted that thought and the Being are identical (...τὸ γὰρ αὐτὸ νοεῖν ἐστίν τε καὶ ειναι)[13], but he was unable to find a place for not-Being (μη ὁν) in the system of thought and language as negation. Only Plato did this by asserting that *Logos* (language) is one of the genera of beings (ἑν τί γένον τῶν ὁντῶν)[14] in which negation ("not-being") has its role. However, Aristotle also changed the understanding about it: the term not-being is only the denial / negation of the presence of a property in an actual being or it is just the deprivation (στέρησισ)[15] of the inherent form of being from the actuality or from the substance in which it already exists as a potential / possible being (δύναμιν ὁν)[16] which only acquires "form" or "shape" or "idea" comes to its purposefulness (ἐντελεχεια)[17] or to an embodied being (ἐνεργεῖαν ὁν)[18].

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[10] Herakleitos, B. Fragmente, 123 in Diels, Erster band, 1951, p.178: Die Natur (das Wesen) liebt es sich zu verbergen / The natur (essence)love to hidde self.

[11] On meaning of the term ἀλήθεια in Aristotle's philosophy see *Index Aristotelicus*. Edidit Hermannus Bonitz. Berolini, A.1870, p.31. For interpretation of this term in in Greek philosophy see in Heidegger, M. (2003). Plato's Sophist.Indiana University Press, p.11: " ἀλήθεια means: to be hidden no longer, to be uncovered."

[12] Cf. Diels-Kranz, Parmenides: B. Fragmente, p.227

[13] Cf. Diels-Kranz, Parmenides: B. Fragmente, 3, p.231

[14] Cf. Plato, ΣΟΦΥΣΤΗΣ [ἡ περὶ τοῦ ὄντοσ, λογικόσ], 260 a 5-6. In: *Piatonis Dialogi. Secundum Thrasylli Tetralogias*. Recognovit Martinus Wohlrab. Vol. I. Lipsiae in aedibus B. G. Teubneri. MCMII, p.451. See translation in: *Plato Complete Works*, 1997, p.283

[15] In Aristotle, στέρησισ means in the ontological sense the absence of a form or property from being, and in the logical sense the deprivation or negation of the predicate belonging to a subject. Cf. Aristotle, Index Aristotelicus. Edited by Hermannus Bonitz. Berolini, A. 1870, pp. 699-700.

[16] See more about term δύναμιν ὁν in Aristotle, Index Aristotelicus. Edited by Hermannus Bonitz. Berolini, A. 1870, pp.206-208

[17] See more about term ἐντελεχεια in Aristotle, Index Aristotelicus. Edited by Hermannus Bonitz. Berolini, A. 1870, pp.253-254. Aristotle thinks that Being is said in many ways, but the main sense that the term Being has is enteleheia: το ειναι ἐπεὶ πλεοναχῶσ λέγεται, τὸ κυρίωσ ἡ εντελεχεῖα ἐστιν. (ψ. 1.412 b9)

Pre-Socratic physio-logics (as Aristotle named Pre-Socratic phylosophers of the nature) contributed to the understanding of relationship between the All and the One in a context of the constant change of opposites (τα ἐναντία) in nature (φύσισ) . *Logos* was Heraclitus's answer (his Principle of Unity) that enables one to know how it is possible to become "from All the One and from the One All": ἐκ πάντων ἐν καὶ ἐξ ἑνὸσ πάντα.[19] Plato's and Aristotle's conception of the knowledge (διάνοια) and science (ἐπιστήεμη) transformed Eleatic formula (ἐν πάντα ειναι)[20] and moved on to understanding *the movement of thought* through the method of deconstruction / division (διαίρεσισ)[21] of different levels of logical generality and the construction of the formal positions of concepts in propositions (πρότασισ) that make up inference (συλλογισμόσ) and scientific proof (ἀπόδειξισ, ἐπιστήεμη ἀποδεικτικῆ, ἀποδεικτικόσ συλλογισμόσ)[22].

While Heraclitus and Parmenides dealt with question "How All is the One and how the One is All", Plato developed the concept of knowledge about "How Idea can be thought of over many things and how many things can be determined or conceptually subordinate / participate in the Idea?" through the skill of of dialectic or dia-logic recollection and recognition. Plato used the concept of participation or inclusion (μετέξισ, μετέχειν) of things (ὁν, πράγμα) in ideas as paradigms (παραδείγμα) by which things in space and time acquire their form and function (purpose, τέλοσ). Ideas are separate from things, they exist in the universe of ideas. Things participate (μετέχειν) in ideas[23] when they need to be actualized, or realized in space and time by the action of the creator or demiurge (δεμιούργοσ).

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[18] See more about term ἐνεργεῖαν ὁν in Aristotle, Index Aristotelicus. Edited by Hermannus Bonitz. Berolini, A. 1870, pp.251

[19] Herakleitos, B. Fragmenta, 10 in Diels-Kranz, 1951, p.153: aus Allem Eine und aus Einem Alles.

[20] Plato, *Parmenides*. The "Eleatic formula" is technical term for Parmenides' thesis "Everything is One" (ἐν πάντα) also appears in Zeno, his student, in his thesis "There is no many bings" (οὐκ πολλα τὰ ὁντα). In: ΠΛΑΤΩΝΟΣ ΠΑΡΜΕΝΙΔΗΣ . *The Parmenides of Plato*. Edith Introtuction, Analysisi, and Notes by Thomas Maguire. Dublin: Hodgges, and London: Longmans.

[21] See in Plato, *Sophyst*, διαίρεσισ (division), 253 c 5. In: *Plato Complete Works*, 1997, p.275

[22] See in Aristotle, ΑΝΑΛΥΤΙΚΩΝ ΠΡΟΤΕΡΩΝ A. 24a1. In: Aristotle, W.D. Ross (Editor) (1957) . *Aristotle's Prior and Posterior Analytics*. A Revised Text with Introduction and Commentary (Oxford University Press academic monograph reprints) . Oxford at the Clarend Press, p.87

[23] The concept of participation (μετέχειν) of beings in ideas was presented by Plato in the dialogue Parmenides. See Plato, Thomas Maguire (1882). ΠΛΑΤΩΝΟΣ ΠΑΡΜΕΝΙΔΗΣ . *The Parmenides of Plato*. Edith Introtuction, Analysisi, and Notes by Thomas Maguire. Dublin: Hodgges, and London: Longmans.

Aristotle already introduced language (λόγοσ, λόγοσ ἀποφαντικόσ)[24] into Plato's scheme of knowledge by investigation in *how many ways can the being be thought and expressed* , and concluding that the being *is said* on multiple ways (τό δε ὸν λέγεται πολλαχῶσ)[25], i.e. tenfold (in dozens of categories or predicates) when they are used in three types of predication (homonymous, synonymous, paronymous). The analogy Aristotle applies to the One: the One *is said* on multiple ways (τό ἑν λέγεται πολλαχῶσ)[26] in the same way as being. To say the One means to say something what is individual thing or "some this" (τοδε τί)[27]. In the form of apophantic logos, Aristotle transformed the "implicit logos" of the pre-Socratics into an explicit semantic and syntactic platform of ontological, logical and linguistic structures. Thus, the concept of truth as the unhiddeness (ἀλήθεια) of these structures led to the unhiddeness of the Being as such (το ειναι, τὸ τὶ ην ειναι), that is, the essence (οὐσία) of being.

With this analogy, Aristotle closed the question How the One is many (now "in which way the one thing is said in many meanings") and how the many are the One. The essence (οὐσία) or the Being (τὸ ειναι) and the essence of an individual being (τοδέ τί) is identical: the essence of beings is in the beings and not outside of them in some special universe of essences. The Being (το ειναι, τὸ ὄν η ὄν) showed himself always in two ways, as a presence (παρουσία) or as a absence (ἀπουσία) in every beings as a potential or as an actual being (ὦσ ἐνεργεῖαν ὄν - ὦσ δύναμιν ὄν), in every thought as truth or as falsehood of being (ὦσ ἀληθε΄σ ὄν - ὦσ ψεῦδεσ ὄν) and in every proposition as a necessary or as an accidental predicate of being (ὦσ ἴδιον ὄν - ὦσ συμβεβεκὸσ ὄν). Each of these ways of appearing of the Being must have the same structures that must correspond to each other. This correspondence inside the world-thought-language triangulation ensures the truth as the unhiddency (ἡ ἀλήθεια) of the essence.

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[24] Aristotle, ΠΕΡΙ ΕΡΜΗΝΕΙΑΣ / *On Interpretation*, 17a1-17a7. On the different uses of the term λόγοσ by Aristotle, see *Index Aristotelicus*. Edidit Hermannus Bonitz. Berolini, A.1870, pp.433-437.

[25] Aristotle, M 1003 b 5. In: *Aristotle Metaphysics* (1997). A Revised Text with Introduction and Commentary by W.D.Ross. Volume I. Oxford: Clarendon Press.

[26] See M*i*.1052 a15-b1. Already in the book (V) M*D*.6.1015 b10 Aristotle states that the One is said in one case κατα συμβεβεκόσ (one by accident) and in the second case καϑ᾽ αὑτό (one by its own nature)

[27] Expression τοδὲ τί in Aristotle's works it means ὃ ἄν τοδὲ τι ὄν καὶ χωρίστον a certain being (or as translated by Hermann Bonitz : "ein bestimmtes Seiendes" (*Aristoteles' Metaphysik*, 1978. p.207)

Heraclitus' Heno-Logic as Conceptual Homologization

Some authors believe that it is necessary "the earlier, non-Aristotelian configuration of mind…designate as 'archaic' ". (Raymond, 1976, p.1) At the same time, this configuration of the mind is not considered undeveloped, embryonic or primitive, but its symbolic and graphic side is distinguished, which expresses opposites within a one-dimensional world, that is, which gives some unity to all changing states of nature. It is Raymond who believes that "…yet, beyond mere opposition there exists a third term that works between or behind given sets of oppositions. " (Ibid., p.1)

The world-thought-language triangulation in Heraclitus' writing *On Nature* (Περί φύσεωσ) is constructed in such a way that by understanding the constant changes that take place through the action of opposites (τὰ ἐναντία) in the physical or material world, a step would be taken towards an intuitive but objective knowledeg based on insight through listening (ἀκούειν) of the *Logos* by which this changeability is fixed in the unity which exists in the movement of variables. What is constant, what is hidden in the material processes that operate in nature is no longer anything material or physical, but cognitive and has an objective validity that needs to be heard / understood (ἀκούειν) as such and submitted to. The product of that unity and the product of that hidden principle is the realization that the One is the All (ἕν πάντα), that is, that the One should be identified (ὁμολογεῖν) with the All and vice versa.

Heraclitus' Fragment No. 50 (in: Diels-Kranz) directly introduces cognitive homologization as a principle of overcoming physical or material granulation: οὐκ εμοῦ, ἀλλὰ τοῦ λόγυ ἀκούσαντας, ὁμολογεῖν σοφόν ἐστιν ἕν πάντα εἶναι. "If you listen not to me but to this Logos, it is wise to identify the One and the All." [28] This wisdom or knowledge consists in listening (ἀκούειν) or intuitive understanding of the *Logos*, which is the interpersonal intellectual principle, the reason, which makes it possible to understand the One in the All, that this one moreover governs all changes and all processes, to hold the Chaos within the limits of the Cosmos, which is the world ordered by the action of that principle. According to Heraclitus, "Wisdom is only one, the knowledge that should be known, that everything governs

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[28] See in Diels-Kranz. *Herakleitos*, B. Fragmente No.50: Haben sie nicht mich, sondern den Sinn vernommen, so ist es weise, alles sei eins. (Diels, 1951, p.161).

everything. " : ειναι γὰρ ἕν τό σοφόν, ἐπίστασθαι γνώμεν, ὁτέη ἐκύβερνησε πάντα διὰ πάντων.[29]

Heraclitus' doctrine consists in the understanding that processes in the world take place through the struggle of opposites and that they should be understood from the synapses of opposites (διὰ τῶν ἐναντίων συνῆψεν). The processes of transitioning opposites into one another show that the world itself is in constant change and constant flux. Everything flows (πάντα ρει), everything changes... However, what makes it possible to understand the world as an ordered whole, as Cosmos and not as Chaos, what gives the world unity as a unity of opposites, is the *Logos*, which is actually the measure of all happenings, movements and opposite actions. Therefore, for Heraclitus, the world is an eternally living fire that is kindled and extinguished according to the measure which is given and determined by the *Logos*.

According to Heraclitus, there is only "one and common world" (Fr.89): ἕνα καί κοινὸν κόσμον ειναι, and this one and common world is governed (Fr.72) by only one and common logos (Fr.2). Listening (ἀκούειν) to some logos that would be personal (ἴδιον) is not enough to achieve objective understanding or collective agreement about anything. Sophistics, however, brought that transition from the common to the inter-personal foundation of knowledge, from *Logos* to dia-logos. Sophistics practically begins the breakdown of the concept of such a *Logos* by turning to its own internal logos, which is in a constant struggle of thoughts in the form of dia-logos. How something looks to me or how something looks to you was a new principle which Protagoras introduce in his work using the statement "man is the measure of all things" (πάντων χρήματων μέτρον ἐστίν ἄνθροποσ)[30]. If

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[29] See in Diels-Kranz. *Herakleitos*, B. Fragmente No.41: " Eins nur ist das Weise, sich auf den Gedanken zu verstehen, als welcher alles auf alle Weise zu steuern weiß." (Diels-Kranz, 1951, p.160). See another translation in *Heraclitus*. Charles H. Kahn (1981): The Art and Thought of Heraclitus. Cambridge University Press, p. 55 : "The wise is one thing, namely, to know [lit. master the insight] how all things are steered through all." Our translation is different: " "Wisdom is only one, the knowledge that should be known, that everything governs everything." Heidegger connected the understanding of this Heraclitus fragment (no.41) with the understanding of fragment no. 64 with which he and Fink started a philosophical seminar on the philosophy of Heraclitus. See in: Martin Heidegger (1980). Heraclitus Seminar, 1966-67. The University of Alabama Press, p.6.

[30] Protagoras, B. Fragnmente 1: πάντων χρήματων μέτρον ἐστίν ἄνθροπος, τῶν μὲν ὄντων ὡσ ἐστιν, τῶν δὲ οὐκ ὄντων ὡσ οὐκ ἐστιν (Aller Dinge Maß ist der Mensch, der seienden daß (wie) sie sind, der nicht seienden, daß (wie) sie nich sind) in Diels-Kranz, 1951, p.263, and in Plato's dialogue *Cratylus* (386 a1): "... as Protagoras tells us? He says that man is "the measure of all things," and that things are to me as they appear to me, and are to you as they appear to you." in: *Platonis Dialogi. Secundum Thrasylli Tetralogias*. Recognovit Martinus Wohlrab. Vol. I. Lipsiae in aedibus B. G. Teubneri. MCMII. See translation in *Plato Complete Works*, 1997, p.103. In Plato dialogue *Theaetetus* (152 a1) "…For he says, you know, that 'Man is the measure of all things: of the things

Heraclitus spoke about the Common Logos (ὁ κοινόσ) as a measure of truthfulness in the world (τὸ πᾶν), and if Protagoras, as a sophist, spoke about each individual man as a measure of how things appear to us, then we already have two opposed understandings of the concept of the criterion of truth.

Jonathan Barnes sees this as Heraclitus' Logos- doctrine and Heraclitus' heno-logic as the doctrine of Monism: in all the changes and dynamics of opposites in nature, there ultimately remains something static, the One that is conceptual in origin.

" These four fragments have suggested three abstract theses. First, there is the notorious Theory of Flux: all the furniture of the world is in constant, if imperceptible, change; the cosmos is a battleground, and its pacific façade hides the endless victories and defeats of an interminable internecine strife. Second, there is the Unity of Opposites: behind the coherent surface of things there is a tension of incompatibles; every object, however firm and enduring, is subject to contrary strains, and is constituted by opposing features. Third, there is a doctrine of Monism: in some fashion the diversity of appearances is underpinned or colligated by some single thing or stuff; at bottom, all is one." (Barnes, 1983, p.45)

Parmenides' Paraconsistent Logic

About Parmenides' writing *On nature* (Περι φύσεωσ) there are numerous testimonies and preserved fragments in the writings of numerous ancient philosophers, but mostly in Plato and Aristotle. His work is written in the form of a poem and contains numerous metaphors, but his ontological and epistemological position is clearly stated. According to this teaching, the All (πᾶν) is given to us in the metaphor of a perfect spherical whole of One and All (Σφαῖροσ) in which movements (dinamics) and rest (statics) are harmonized in such a way that there is no void, no not-Being, but paradoxically there is at the same time of movement and rest! There is only Being and only Being can be thought and expressed, not-Being neither exists nor can be thought of nor can be spoken about because Being occupies the entire space and time. Being and thinking are identical, one and the same.

The implementation of this thesis in Parmenides is given in a paradoxical logic which is the first form of paraconsistent logic. His logical and methodical position is more clearly visible in Plato's dialogue called Parmenides or on ideas

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which are, that they are, and of the things which are not, that they are not.' in *Platonis Dialogi. Secundum Thrasylli Tetralogias*. Recognovit Martinus Wohlrab. Vol. I. Lipsiae in aedibus B. G. Teubneri. MCMII. See translation in *Plato Complete Works*, 1997, p. 169.

ΠΑΡΜΕΝΙΔΗΣ [ἡ περὶ τῶν ἰδεῶν]. Hypothesis 1 (If the One is : εἰ ἕν ἐστίν)[31] is given through the antecedents of implications whose consequences directly lead to the proof of the opposite hypothesis from the one that was set. Parmenides' paraconsistent sophistry makes deliberate use of confusion in giving the determinations of the Being as such (Being in itself) and the One as such (the One in itself) through the determinations of space, time, motion and rest that refer to an individual being (many, τὰ πολλά) and not to the Being as such. These are determinations that belong to individual beings and not to a concept of Being!

The term ἐόν in Parmenides' vocabulary refers to Being and not to particular beings that also exist, but the Being is the primordial and only true Being as Being, that which is the only the One, that which can be thought and spoken, while the term not-Being is not an expression for something false, but a term that does not mean anything, does not exist, cannot be thought and cannot be spoken. Already Heraclitus, and then Parmenides, identified the concept of Being as the essence of beings and the concept of truths. Because the concept ἐόν means Being and not an individual being. Considering the different use and different inflections of the verb εἰμί in all inflections as the present indicative ἐστι (is), the infinitive ειναι (to be), the present participle ἐόν (Being), Martin J. Henn (2003, p.31) concluded that "What we find in the poem is more of a primordial monistic theory of Being, than a sophisticated ontological system of classification between various modes of Being ". It is even more important to know that with Parmenides, as well as with Heraclitus, the concept of Being is synonymous with the concept of Truth. The Being of beings is their hidden Truth. Henn cites the standard interpretation of Parmenides' vocabulary given by Charles Kahn:

" Charles Kahn points out in his valuable essay "The Greek Verb 'To Be' and the Concept of Being" that "the most fundamental value of *einai* when used alone (without predicates) is not 'to exist' but 'to be so,' 'to be the case,' or 'to be true.'"Kahn calls this sense of the verb "to be" its "veridical usage." Kahn's innovation challenges those standard interpretations of Parmenides based on a much later distinction between essence (i.e., *what* a things is) and existence (i.e., the *fact* that a thing is, abstracted from any of its worldly determinations). " (Henn, Ibid.,)

Thus, in the first deduction the consequences of Hypothesis 1 (the One is, but no participates in being) is lead to the proof of the opposite hypothesis that the One (as

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[31] Cf. Plato, Thomas Maguire (1882). ΠΛΑΤΩΝΟΣ ΠΑΡΜΕΝΙΔΗΣ . *The Parmenides of Plato*. Edith Introtuction, Analysisi, and Notes by Thomas Maguire . Dublin: Hodgges, and London: Longmans.p.19.

such) in no way is (ουδαμῶσ ἄρα Τὸ Ἕν οὐσίασ μετέχει)³²! And in the second deduction of Hypothesis 1 (the One is, and participates in being) the consequences by citing antecedents that belong to the One in itself and not to individual beings, leads to the proof of the opposite hypothesis: the One is all things and is not even one (Τὸ Ἕν οὔτε ἕν ἐστιν οὔτε ἔστιν)³³!! In this way, Parmenides, using dialectic against dialectic, that is, dialectic in which there is no negation and no place for not-being, based his proof and his logic on the dynamic static that holds together one and all, in one circle called perfect Sfairos which is both dynamic and static.

Parmenides apparently emerged from Heraclitus' scheme of opposites and their unity in heno-logic. But without taking into account negation, in the linguistic-logical sense, and not-being, in the ontological sense, his opposites with which he operated in understanding the World-Thought-Language Triangulation are in fact only paraconsistent claims that the One exists and that it does not exist at the same time, that the Many exists and that does not exist at the same time, because as soon as one tries to define it (the One or the Many) from its opposite, it becomes that opposite!!! In Plato's dialogue, Parmenides tells Socrates the essence of his dialectical method, which for each hypothesis has two deductions that lead to contradictory conclusions through opposite consequences:

"And you are quite right," he (Parmenides) said. "But you must do the following in addition to that: if you want to be trained more thoroughly, you must not only hypothesize, if each thing is, and examine the consequences of that hypothesis; you must also hypothesize, if that same thing is not."

"What do you mean?" he (Socrates) asked.

"If you like," said Parmenides, "take as an example this hypothesis that Zeno entertained: if many are, what must the consequences be both for the many themselves in relation to themselves and in relation to the one, and for the one in relation to itself and in relation to the many? And, in turn, on the hypothesis, if many are not, you must again examine what the consequences will be both for the one and for the many in relation to themselves and in relation to each other. And again, in turn, if you hypothesize, if likeness is or if it is not, you must examine what the consequences will be on each hypothesis, both for the things hypothesized themselves and for the others, both in relation to themselves and in relation to each other. And the same method applies to unlike, to motion, to rest, to generation and destruction, and to being itself and not-being. And, in a word, concerning whatever you might ever hypothesize as being or as not being or as having any other property, you must examine the consequences for the thing you hypothesize in relation to itself and in relation to each one of the others, whichever you select, and in relation to several of them and to all of them in the same way; and, in turn, you must examine the others, both in relation to

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³² Cf. Ibid., p.25
³³ Cf. Ibid., p.35

themselves and in relation to whatever other thing you select on each occasion, whether what you hypothesize you hypothesize as being or as not being. All this you must do if, after completing your training, you are to achieve a full view of the truth." (Plato, Parmenides, 136 a1-136 c8. In: Plato, 1997, pp. 370-371)

Plato, as a great opponent of sophistry and sophists, showed in his dialogue *Parmenides* that two dialectical deductions are possible for each hypothesis, from thesis and antithesis, and how it is possible to simultaneously observe a being as a being in itself, a being as such, a being that has different types of conceptual determinations than a being that is individual and which is determined by material atributes. Giving equal value to the opposites that are found in the differences as the qualities of being (part - whole, limited - unlimited, in itself - in another, movement - rest, same - different, similar - unlike, equal - unequal, older - younger) Parmenides turned into conceptual characteristics that lead to the paradox of deduction in which the individual is transformed into the general and the general into the individual. Then, when the proposition and its negation are true at the same time, paraconsistent logic is created. We will show the procedure on the example of the first hypothesis of Parmenides in Plato's dialogue Parmenides.

HYPOTHESIS # 1. (Plato, Parmenides, X-XX)
Antecedent of the Hypothesis #1
(IF) the One (as such) is, and <u>does not partakes of being</u>.

Definition of the term "exist": To exist means to participate in being (partakes of being). It means: to participate or be in space (in form, in parts of form) and time (parts of time).

First Deduction of the Hypothesis # 1:
(IF) One (as such) is, and <u>does not partakes of being</u>.

Consequences of Hypothesis # 1 in first deduction
(THEN)

CON 1: the One (as such) cannot be distributed or integrated (it is not a part, it is not a whole)
CON 2: the One (as such) does not participate in form
CON 3: the One (as such) does not participate in space
CON 4: the One (as such) does not participate in time
CON 5: the One (as such) does not participate in identity (does not participate in gender)
CON 6: the One (as such) does not participate in similarity (does not participate in type, quality)

CON 7: the One (as such) does not participate in equality (does not participate in quantity)
CON 8: the One (as such) does not participate in being
CON 9: the One (as such) does not participate in perception, opinion or in any way in knowledge
CON 10 for the One (as such) no determination of being applies

Conclusion of Hypothesis # 1 (first deduction)
(If)the One (as such) is and <u>does not participate in being</u>

Cc 1. Therefore, the One (as such) in no way partakes of being
    (οὐδαμῶσ ἄρα Τὸ ῞Εν οὐσίασ μετέχει)

Cc.1.1 Therefore, the One (as such) in no way is
    (Τὸ ῞Εν οὔτε ἕν ἐστιν οὔτε ἔστιν)

Second deduction of Hypothesis # 1.
(IF) the One (as such) exists and <u>partakes of being</u>

Definition of the term "exist": To exist means to participate (partakes of being) in being. It means: to participate or be in space (in form, in parts of form) and time (parts of time).

Antecedens of Hypothesis # 1 in the Second Deduction
 (IF) the One (as such) is (exists) and <u>partakes of being</u>

Consequens of Hypothesis #1 in the Second Deduction
(THEN)

Con1: the One (as such) can be distributed and integrated
Con 2: the One (as such) participates in form
Con 3: the One (as such) participates in space
Con 4: the One (as such) participates in time
Con 5: the One (as such) participates in identity (participates in gender)
Con 6: the One (as such) participates in similarity (participates in type, quality)
Con 7: the One (as such) participates in equality (participates in quantity)
Con 8: the One (as such) participates in being
Con 9: the One (as such) participates in perception, thinking and knowledge
Con 10: the One (as such) has properties of particual being

Conclusion Hypothesis #1 in the Second Deduction:
(If) the One (as such, by itself) is (exists) and <u>participates in being</u>
(THEN)

Cc 1. Thus if the One is, the One is all things and is not even one
(ἕν εἰ ἔστι, πάντα τε ἐστι Τὸ Ἕν)

What we call paraconsistent logic in Parmenides, which is given through hemi-dialectic due to not taking into account the possibility of thinking and expressing not-Being, Caonstance C. Mainwald marks as a gymnastic dialectic that ends with paradoxical conclusions.

" The situation regarding Parmenides' gymnastic dialectic is completely different. For although the incidence of grammatical contradictions is much higher and more systematic than in the Socratic dialogues, and many of the individual conclusions are as superficially paradoxical as they could be, there are no expressions of dissatisfaction at these results.21 The absence of such mention is at its most notable at the end of the dialogue, where Parmenides summarizes the results of the dialogue in a way (quoted previously) that clearly highlights their paradoxical character. Yet the interlocutor not only expresses no dissatisfaction at this formulation but goes to an extreme in accepting it by means of the superlative form *Alethestata* ("Most true")." (Meinwald, 1991. p.22-23)

But it is necessary to see that Parmenides' dialectic begins with paradoxical hypothesis: "if there is one, and it does not participate in being"!!!

Plato's Dia-logic as Conceptual Granulation

In the dialogue *Sophist*, Plato showed how, when defining terms, one descends or moves in thought down the columns of opposites formulated (τά ἐναντία) withou the use of negation. In his logical directory, Plato started from the highest genus (γενικοτάτων γένοσ), going down through the division of each form (concept) into two parts (δυο ειδη: opposite forms) until he cuts to the last provision of the concept being defined. Time je omogucena ortonimija, ispravno imenovanje bica, ali nije omogucena ortologija i ortografija kao dio jezicke i misaona ortopraksa koja priznaje postojanje termina nebice i upotrebu negacije u iskayzu.

For Plato, opinion and dialogue about the World-Thought-Language Triangulation is determined by the dialectic skill (διαλεκτικὴ τέχνη) as a majeutic method of dividing a concept into two forms (δυὸ εἰδέ): always when searching for the provisions of being or when defining one logical form is needed (one term, one logical provision of a certain degree of logical generality) to be divided into two forms (two subordinate terms), that is, into two opposites that the superordinate term contains. This division (διάρεσισ) of terms is a technique or skill of dialogue or action in discourse, which is a way of acquiring knowledge about the essence of a subject and a way of understanding any subject of thought.

Plato's method of "dividing one form into two" (Plato, Sophistes) within the art of discussion (διλεκτικὴ τέχνη) is to descend from the highest type of logical generality in one genus to the lowest species and further down to the individual concept. It was in the dialogue *Sophistes* that Plato showed by example how this skill is used. By asking the question "What is a sophist?" (τὶ ἐστιν σοφίστησ) and what is his activity (πράξισ), Plato showed on an easier and simpler example (παραδείγμα) how to arrive at the term "fisherman" (ἀσφαλεύτησ) and his activity starting from the activity of fishing as a kind of art / skill (τέχνη). Descending down the tree of attributes or dividing each logical form (logical granulation) takes place as follows:

" So now we're in agreement about the angler's expertise, not be just as to its name; in addition we've also sufficiently grasped a verbal explanation concerning the thing itself. Within expertise as a whole one half was acquisitive; half of the acquisitive was taking possession; half of possession-taking was hunting; half of hunting was animal-hunting; half of animal-hunting was aquatic hunting; all of the lower portion of aquatic hunting was fishing; half of fishing was hunting by striking; and half of striking was hooking. And the part of hooking that involves a blow drawing a thing upward from underneath is called by a name that's derived by its c similarity to the action itself, that is, it's called draw-fishing or angling— which is what we're searching for. " (Plato, *Sophyst*, 221 b 1. In: Plato, 1997, p.241)

Everything that can be said about the sophist and the sophistic skill can be said in an easier, more comprehensible and simpler way about the fisherman and the fishing skill. But from this example it is evident that Plato transferred the understanding of opposites to the understanding of conceptual opposites within a concept that contains them as their own species, as logical differences between species of the same genus.

Plato himself built the dialectical skill of division of concepts and knowledge based on dichotomy in the form of a problematic syllogism, i.e. a syllogism that does not set premises but asks the opponent in the debate to choose one of the opposing claims. So, the premises of his syllogism were a condition for the construction of proofs through the inclusion of antithetical propositions and not deduction from necessary and universal premises. Therefore, Aristotle labeled Plato's syllogism ("All men are necessarily mortal or immortal") in a dialectical proof with a weak or asthenic syllogism. Aristotle's apodictic syllogism was based on universally taken axiomatic premises ("All men are mortal") from which the conclusion necessarily followed because the truth of the premises is based on prior knowledge (ἐκ προυπαρχούσησ γίγνεται γνώσεωσ)[34] through experience: the knowledge that there

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[34] See in Aristotle, ΑΝΑΛΥΡΙΚΩΝ ΥΣΤΕΡΩΝ-Α, 17a1-71a15, In: Tredennick, H., Forster, E. S. (1960). Aristotle. *Posterior Analytics. Topica*. Loeb Classical Library. Harvard University Press,p.24.

is something about which a judgment is made (ὅτι ἔστι)[35] and knowledge of the meaning of the name of what exists as a fact (τί τό λέγομενόν ἐστι)[36].

It seems Hugh Tredennick was right[37] when he claimed that Plato achieved an advanced form of inferentialism associated with a new understanding of logos, but that he did not formalize this approach into a science of dialectical syllogism, while syllogism with figures and modes was authentically Aristotle's finding.

Aristotle's Syl-logistics as Conceptual Re-construction and Re-cogniton

The World-Thought-Language Triangulation was founded by Aristotle as an ontological, conceptual and linguistic network of matching structures that are mapped and thus bring factual existence, logical thinking and linguistic expression into the relationship of truth or falsity as their correspondence. The formal-logical structures of thought must match or be compatible with the semantic structures of the language, while the truth or falsity of the constructions that arise in these parent structures is ensured or conditioned by the factual construction of the substance and its properties. From the correspondence of structures within this triangulation, the cognitive content in ordinary life as well as in scientific proofs emerges. Cognition is the result of establishing the conformity of these structures through analytical constructions and reconstructions that use syllogistic forms of reasoning and proof.

Syllogism (συλλογισμόσ) and especially scientific syllogism (ἀποδεικτικόσ συλλογισμόσ) is constructed by Aristotle from propositions (premises, προτάσεωσ) that function as logical and linguistic linear aggregates within which terms or concepts of different levels of logical generality are arranged: a larger term / terminus maius (genus), a middle term / terminus medium (species) and a small term / terminus minor (singular term) , which can be converted by logical operations (quantification, negation, conversion) in different systems of synonymous and homonymous predication by changing the term or changing the quantification or even introducing modality (modal operators: possible, necessary, accidental).[38] But, as Jan Łukasiewicz showed in the work that Aristotle's syllogism is actually a form

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[35] Ibid., p.25

[36] Ibid., p.25

[37] See in Aristotle, ΑΝΑΛΥΡΙΚΩΝ ΠΡΟΤΕΡΩΝ-Α,In: Cooke,H. P., Tredennick, H. (1938). Aristotle. *Categories. On Interpretation. Prior Analytics*. Loeb Classical Library.Harvard University Press, p.26.

[38] See teory of modal propositions in Aristotle *Peri hermeneias / On interpretation* (22a25)

of implication, or that " no syllogism is formulated by Aristotle primarily as an inference, but they are all implications having the conjunction of the premisses as the antecedent and the conclusion as the consequent "(Łukasiewicz 1951, p.2). A conclusion in a conclusion is always a consequence of an implication.

Aristotle introduced the distinction of three types of identity: (1) to be identical because to be in the same genus (τὸ αὐτόν), (2) to be identical because to be in the same species (τὸ ὁμοῖον), (3) to be identical because to be in the same number of beings (τὸ ἴσον) and based on this difference he constructed different types of predication: synonymous predication (substantial identity), homonymous predication (qualitative identity) and paronymous predication (analogical identity). The structure of the world and the structure of knowledge is shown in an apophantic way in the structure of this network of implications or propositions which are semantic forms of logical relations and a network of categories which are structural or referential forms. Inferential work goes through the use of laws of thought and rules of deduction, with the help of affirmation and negation, universal and particular quantifiers, modal operators, etc.

It was Aristotle's theory of truth as correspondence that meant that knowledge and science are based on a formally satisfactory and materially adequate expression of the relationship that exists in the state of affairs, that is, that the truthfulness of opinions and propositions depends on factual truthfulness. Knowledge (τὸ εἰδέναι, τὸ ἐπιστάσθαι) refers to the first principles and first causes of the existence of beings and to the way in which their universal and singular properties belong to them, and understanding (διάνοια) to the logical-linguistic formulation of this relationship in a proving statement-making sentences / propositions (λόγοσ ἀποφαντικόσ), in definition (ὁρίσμοσ) and in the formation of scientific evidence (ἀποδεικτικὸσ συλλογισμόσ).

" The Aristotelian concept of true knowledge and science (τὸ εἰδέναι καὶ τὸ ἐπιστάσθχαι) is based on the insight that there is a composed (συνκεῖμενα) physical structure of an object (matter + form + properties of matter + properties of form) for which true knowledge should be found first causes and first principles (πρῶται ἄρχαι καὶ πρῶται αἰτίαι) which differ from physical causes and principles. Only then is it possible to know this physical structure and in one science realize this knowledge as a formal structure of objects about which a meaningful thought and linguistic construction-theory can be established (ἐπιστήμη, ζετοῦμενη ἐπιστήμη, θχεωρία). (Ibrulj, 2005, p. 158.)

Plato's skill of dialectical dialogue is based on creating logical dyads - species ( ) within one generic term, while Aristotle's syllogistic was an analytical reconstruction based on the positioning or arrangement of three terms, that is, on designing a composition of logical triads in a network made up of premises with

terms and conclusions, in the network of positioning and distribution of terms that get their quantitative and qualitative determination in affirmation or negation.

" This logical-linguistic construction is actually an imitation of the ontology of objects in an apophantic and not only in a semantic statement. Every statement is semantic because it means something, expresses some meaning, but not every statement is apophantic, not every one is constructed so that it shows, signifies with its form, discovers and asserts how properties and objects are related in the physical world (Aristotle, *Peri hermeneias*, 17a1). Thus, in a logical and linguistic-grammatical sense, the relationship between subject (ὑποκειμένον, οὐσία) and predicate (κατηγορουμένον, δεύτερα οὐσία) is constructed through the apophantic statement, while at its foundation is the structure of the physical object composed from the substrate (οὐσία, ὑποκειμένον) and properties (τὰ ὑπάρχοντα, τὰ ἴδια) which belong to him and which he suffers (ἴδια παθὴ, τὰ συμβεβηκότα). (Ibrulj, 2005, 170.)

In the scientific syllogism (ἀποδεικτικὸσ συλλογισμόσ), in which the propositions are placed in the relation of the terms that the premises possess, knowledge arises from the understanding of the logical relation between the terms participating in the premises, and this relation shows how the properties are integrated with the subject according to the principle of logical affiliation or the inclusion of smaller levels of logical generality by larger and superior ones. The syllogism generates knowledge about the belonging of all properties of an object to the same genus or species. A property that generically or substantially belongs to one object belongs to it regardless of the category in which it appears / is expressed. This establishes the substantial identity, which is precisely the generic unification of species properties, as a secure basis synonymous predication which necessarily shows that some properties belong to some object. It is a powerful means of predicate homologation, which ensures the necessary coexistence of generic predicates.

The introduction of the λογοσ ἀποφαντικόσ structure into the syllogism structure and the syllogism structure into the inferential structures of figures and modes was probably the greatest innovative work that Aristotle did. At the very center of these structures is the logical structure of the subject (ὑποκείμενον) and the predicate (κατηγορούμενον) and it is precisely that of logical and not grammatical origin. About this Jonathan Barnes says:

" The first and original home of subjects and predicates was logic. More particularly, it was Aristotelian logic; and the distinction between subject and predicate had nothing to do with grammar. " (Barnes, 2007, p.100)

Aristotle understood logos as a statement or as a proposition, distinguishing between logos semantikos / significant expression (λόγοσ σημαντικόσ) and statement-making sentence / proposition (λόγοσ ἀποφαντικόσ) (Peri hermeneias,

17a7). The statement-making sentence / proposition[39] is a predicative statement structure in which two terms of different levels of logical generality are connected so that the broader term encompasses the narrower term and thus form an apophantic implication in which the antecedent is always universally quantified while the consequent is specifically quantified in the structure of the second premise. Thus Aristotle created the syllogism as a quantitatively divided amplication that is already given in the universal premise.

Aristotle actually created with the syllogism the first logical directory that eliminated the asthenic syllogism used by Plato from the construction of evidence...Plato's weak syllogism stated the opposite in the universal premise as a negation that is not necessary for the conclusion ("All men are mortal or immortal ."). Aristotle's strong syllogism was going down the directory only on one side, on the side of synonymy that represented orthonymy, orthology and orthography of the conclusion ("All men are mortal").

Aristotle realized that in the logical division of forms in a syllogism, one should start from the division of the implication into antecedent and consequent, and not from listing opposite concepts. Categories only enable the formation of logos or statement-making sentences / propositions, while logical relations of subordination or subsumption arise only through the construction of statement-making sentences / propositions. With the establishment of these logical relationships in the proposition, the first closest genus is immediately determined from which the division of concepts starts, and not the highest genus in the possible construction.

Conclusion

We consider the semantic and structural transformation of the concept *Logos* (λόγοσ) in ancient philosophy in understanding the world-thought-language triangulation.

Heraclitus' **heno-logic** with *Logos* (λόγοσ) as hidden implicite principle of homologization of oposites (τὰ ἐναντία) in nature (φύσισ) differs from Parmenides'

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[39] The term "λόγοσ ἀποφαντικόσ" is translated by W.D.Ross as "proposition" (See in: Aristotle Metaphysics. A Revised Text with Introduction and Commentary by W.D.Ross. Volume I. Oxford: Clarendon Press, 1997, p.50), while J.L. Ackrill translates as "statement-making sentence" (See in: Complete Works of Aristotle. The Revised Oxford Translation. Edited by Jonathan Barnes. Volume One. Princeton / Bollingen Series LXXI.2. Princeton University Press. 1995)

paraconsistent logic developed in an hypothetical hemidyalectics given in the formula "All is One" (ἐν πάντα ειναι).

Plato's concept of **dia-logic** (διαλεκτική τέχνε) with a new concept of *Logos* as the one genus of beings (ἕν τι γενον τῶν ὀντῶν) in which the word not-Being (negation) got its place enabled production of *diadic* logical structure by the granulation of genera into opposite species and sub-species that it contains.

Aristotle's concept of **triadic-logic** as syl-logistics (συλλογισμόσ) and demonstrative science (ἐπιστήμη ἀποδεικτικῆ) give a new approach by new granulation of the concept of *Logos* into *triadic* logical structure: (1) the structure of being (substratum-attributes relation), (2) the structure of thought (substance-second substances relation), and (3) the structure of propositions (subject-predicate relation).

Plato's dialectic and Aristotle's syllogistic both deconstructed the *implicite* ontological unity of *the world* (πᾶν, κόσμοσ) given through te koncep of *Logos* in Pre-Socratic philosophy in order to make that unity in *explicit form* given by the logical and semantical structures of the propositions *about* the world, *about* the thought and *about* the language. The hidden implicit λόγοσ of the nature, which had to be known intuitively, was transformed into unhidden explicit inferential logical structures given in the semantics and pragmatics of scientific demonstration.

In pre-Socratic philosophy, an implicite concept of the *Logos* arose, which was affirmed through a metaphorical vocabulary that uses symbols to express the existence of opposites in nature and the possibility of understanding these opposites in their unity, which exists as an ordered world or as the cosmos. This implicite and hidden *Logos* in Heraclitus is the static principle of the unity of the Being in all changes which is permanent and is itself unchanging and as such governs everything. Its dynamization began in Parmenides' hypothetical dialectic, which reveals antithetical forms in attempts to conceptualize opposites as pradoxal realtion between the One and Many : every attempt to ontologize them leads thinking and Being into a paradoxical or paraconsistent logic. In this way, Parmenides used a hypothetical and antithetical dialectic of the isolation of Being and the One in order to achieve their primordial static position in the concept of nature as the conceptually guaranteed eternity and immutability of the existence of the One with a dynamic semantics.

Thus, the concept of *Logos* (λόγοσ), its meaning and use in ontological, logical and epistemological discourse (the world-thoougt-language triangulation), experienced

significant transformations in ancient philosophy. From an early thought obsessed with movement and changes within nature (φύσισ), which takes place through opposites (τά ἐναντία), it entered the structure of dialectical thinking and the movement of concepts and became its architecture of conceptual opposites, to flow with Aristotle from the nature and thought into language as a place of *apophantic evidence of truthfulness* as a formal laws and rules that works in correct thinking and that stands in correspondence with reality.

Plato freed Parmenides' semantic conception of logos, which was actually hemisemantic due to the elimination of the concepts of not-being and negation in thought and expression, by introducing the logical syntax of concepts into the dialectic of ideas: not-being has its place and use in thinking if the *Logos* is understood and determined as one of the genera of beings in which the genus concepts are divided into opposite species and subspecies. In this way, dialectic has become a logical syntax of being and thinking, which is shown in language as dia-logos. With this, Plato opened the way for Aristotle to base the ontological and logical aspects of "what is" (ἔστιν, ειναι) in the logical pragmatics of language, which unites both the semantic and syntactic aspects of being, but no longer in the form of dialectical conclusions (διαλεκτικόσ συλλογισμόσ) but in the form of demonstration (ἀπόδειξισ) and demonstrative science (ἐπιστήμη ἀποδεικτικῆ) which is explained in the epistemology of his *First Philosophy* (πρώτη φιλοσοφία).

Thus, in this movement of understanding the *Logos* (λόγοσ), its dialectical (Plato) and syllogistic (Aristotle) *transformation* was carried out from its ontological form in Heraclitus and Parmenides' heno-logics due to its logical and linguistic *reconstruction* in the form of inference and proof as fundamental forms of knowledge and science. This also changed the concept of knowledge: from direct intuitive and philosophical listening / insight (ἀκουεῖν) of the One-and the Common *Logos* as the unity principle of the ordered world / cosmos (κόσμοσ) of nature (φύσισ) to the rational construction of *the world of concepts* in thought and language that refer to the world. Everything that Heraclitus and Parmenides found in nature as opposites (τὰ ἐναντία) and their unity had to be deconstructed with the intervention of the dialectical and syllogistic mind in order to be conceptually constructed again in knowledge and science. In this way, the world–thought–language triangulation became cognitively and rationally known, and not just intuitively understood!

In doing so, not only the concept of *Logos* changed, but also the deeper ontological and logical structure of the understanding of the nature and what is *true nature* or what are the *para-aesthetic causes* of all other causes (first causes and first

principles of being): Pre-Socratic philosophy (physiology) was drastically changed by Aristotle became the *First philosophy* known later as *Metaphysics* that carried out a redescription of almost all the concepts of early philosophical thought that Aristotle labeled as physiology. In the λόγοσ ἀποφαντικόσ, as a statement-making sentence / proposition, all structures of "what is" (των ὀντῶν) and "what is said" (τῶν λεγόμενων)[40] are explicite. In Aristotle's *First Philosophy*, the world-thought-language triangulation was revealed in science as an axiomatic deduction that corresponds to the factual structure of being.

In the world-thought-language triangulation established by ancient philosophy, the concept of *Logos* (λόγοσ) plays the role of a "hidden common harmonizer" that connects all three structures and enables truth as a unity of the opposites, whether it is Heraclitean heno-logics, Platonic dia-logics or Aristotelian syl-logistics. *Logos* does not lose its role after Heraclitus, but expands through the granulation of logical structures that leave the domain of the physical substratum (φύσισ, ὕλη) and take place in the domain of the conceptual substance (πρώτη οὐσία), in dialectic and syllogistic granulation. In any case, *Logos* is what holds together the formal structure of thought and language and connects it to the structure of material substance / substratum and its properties. This connection is expressed as a *correspondence* by which Aristotle defined the concept of truth:

τὸ μὲν γαρ λέγειν τὸ ὂν μὴ ειναι ἢ τὸ μὴ ὂν ειναι ψεῦδοσ, τὸ δὲ το ὂν ειναι καὶ μὴ ὂν μὴ ειναι ἀληθέσ. (Aristotle, M. IV.7. 1011b26)

" *To say of what is that it is not, or of what is not that it is, is false, while to say of what is that it is and of what is not that it is not is true.* "—(Ross, 1963, p.2288 / Translated by W. D. Ross)

τῶ γὰρ τὸ πρᾶγμα ειναι ἢ μὴ ειναι, τούτω καὶ ὁ λόγοσ ἀληθὴσ ἢ ψευδὴσ ειναι λέγεται... (Aristotle, K. 4b8)

" *For it is because the actual thing exists or does not exist that the statement is said to be true or false,…*" – (Barnes, 1991, p.8 / translated by J.L.Ackrill)

In this way, the ontological structures of the "logos in physis" became a factual evidence of the truth of logical and linguistic structures from which knowledge and science were built. That was the first step from the Truth to truthfulness.

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[40] The complexity of what is included in "what is" (τῶν ὀντῶν) and the complexity of what is included in what is said (τῶν λεγόμενων) was presented by Aristotle in the work *Categories*, 1a16-1b9. See in: Cooke,H. P., Tredennick, H. Aristotle. *Categories. On Interpretation. Prior Analytics*. Loeb Classical Library.Harvard University Press, 1938, p.

Elimination of the factual evidence and ontological structures in the form of "one-logos in physis" will happen in symbolic and mathematical logic.

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