

ARISTOTLE'S DOCTRINE OF SIGNS AND SEMIOTIC READING OF HIS "PHYSICS"

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АРИСТОТЕЛЕВСКОЕ УЧЕНИЕ О ЗНАКАХ И СЕМИОТИЧЕСКОЕ ЧТЕНИЕ ЕГО «ФИЗИКИ» Анна МАКОЛКИН

Abstract. The purpose of this contribution is twofold– to introduce contemporary scholars to the forgotten Aristotle's Doctrine of Signs and demonstrate how it can be constructively applied to the new analysis of his famed "Physics" and provide its re-interpretation.

Subject to such semiotic analysis, Aristotle's "Physics" reveals additional, previously undisclosed aspects of his teaching and novel unexpected features of this particular work, making it more meaningful for modern science at large. The strikingly new and unexpected characteristics of this treatise appear thanks to the creative application of the *Nature/Culture paradigm*, neglected by the modern scholars but encoded in Aristotle's semiotic theories. The world is seen by Aristotle as an "Empire of Signs", both natural and cultural, and man is presented as a *sign-producing animal*, seeking new knowledge. His overall philosophy is thus expanded in different ways thanks to the new semiotic method, offering more comprehensive analysis of Cosmos and more innovative analytical vision.

Read semiotically, Aristotle's "Physics" opens new previously undisclosed vistas of the world, as well as new aspects of human cognition. Aristotle's challenges what future scholars would study in isolation, and solely as parts of philosophy, by proposing to treat Cosmos and man in it as an organic *Whole*. In contrast, Aristotle suggests to see Cosmos as an "abundance of signs" which signify phenomena, the relationship between them and their impact upon each other and human life. Relying on Aristotle's own doctrine of signs as analytical instrument, the text is thus edited as far its interpretation is concerned. Previously limited to natural philosophy, our semiotic reading of "Physics" breaks the old epistemic frontiers, opening the window of natural philosophy onto the comprehensive philosophy at large and making bridges between the branches of knowledge.

Keywords: signs (natural, cultural, true, false), Nature/Culture, natural philosophy, semiosphere, valence, polyvalence (lent), movement, change, choice, cause, temporal(ity), cognitive transformation, continuity, Being, Becoming, purposeful signification, Whole(ness), semiosis

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Резюме. Эта статья преследует двоякую цель – познакомить современных ученых с забытой доктриной знаков Аристотеля и продемонстрировать, как ее можно конструктивно применить к новому анализу его знаменитой «Физики», и дать ее переосмысление.

На основании предпринимаемого семиотического анализа, «Физика» Аристотеля раскрывает дополнительные, ранее нераскрытые аспекты его учения и новые неожиданные особенности этой исключительной работы, что делает ее более значимой для современной науки в целом. Поразительно новые и неожиданные характеристики этого трактата проявляются благодаря творческому применению парадигмы естественных взаимоотношений *Природы-с-Культурой*, чем пренебрегают современные ученые; но что закодировано в семиотических теориях Аристотеля. Мир рассматривается Аристотелем как «Империя знаков», как природных, так и культурных, а человек представлен здесь как *существо, производящее знаки*, и которое постоянно ищет новых знаний. Его общая философия, таким образом, расширяется различными путями; и это происходит благодаря семиотическому методу, предлагающему более всестороннее постижение Космоса и его более инновационное аналитическое видение.

С семиотической точки зрения «Физика» Аристотеля открывает новые ранее нераскрытые перспективы мира, как и новые аспекты человеческого познания. Аристотель бросает вызов тому, что будущие ученые будут изучать изолированно и исключительно как часть философии, предлагая рассматривать Космос и человека в Космосе как органическое *Целое*. В отличие от современных подходов, Аристотель предлагает рассматривать Космос как «множество знаков», которые обозначают явления, отношения между ними и их влияние друг на друга и человеческую жизнь. Опираясь на собственное учение Аристотеля о знаках как аналитическом инструменте, текст, таким образом, редактируется в том, что касается его интерпретации. Ранее ограниченное натурфилософией, наше семиотическое прочтение «Физики» ломает старые эпистемологические границы, открывая окно естественнонаучной философии во всеобъемлющее познание и наводя мосты между существующими отраслями знания.

Ключевые слова: знаки (естественные, культурные, истинные, ложные), Природа/Культура, естественнонаучная философия, семиосфера, валентность, поливалентность и поливалентный, движение, изменение, выбор, причина, темпоральность, когнитивная трансформация, непрерывность, Бытие, Становление, целеустремленности значение, Цело(е)стность, семиозис.

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Выводы

*You need terseness to let the thought run freely on
without becoming entangled in a mass of hanging words
heavy on the ear*
Horace (65-8 BC), “Satire,” BI-10

Introduction

This contribution was inspired by the numerous fruitful discussions with Dr./ Prof. Konstantin Khroutski, the founder of the *Biocosmology – New-Aristotelism Journal* and the new Int’l Society for the 21th-century study of Aristotle. Marking his efforts as the founder, this essay is dedicated to him personally and celebrates the 10th anniversary of the collective activity of the newly formed Society and the Journal.

The 21th-century global renaissance of the Aristotle studies and growing return to his work has been perceptively and timely captured by the Anglo-Russian bilingual Journal, founded in 2010. Since then this new scholarly forum has unified numerous scholars from around the world, energetically promoting the ongoing new phase in the study and re-interpretation of Aristotle’s unique teaching, uncovering the new aspects,

despite the millennia of interpretations and misinterpretations. This new post- modern scholarly forum reflects the changing climate of the global scholarship, the collective paradigm shift in the history of science in general and the study of Aristotle in particular.

Over two millennia, the legacy of Aristotle, translated into numerous languages, has endured multiple misinterpretations and adjustments of his thought – be it to theology in the post-Christian times, or various branches of science during the scientific evolution. Regrettably, Aristotle was frequently tied to the numerous misconceptions about Cosmos and scientific mythologies. To glorify Copernic, Kepler or Newton, or many other later scientists, regrettably, it became customary to look disparagingly at Aristotle, his teaching, his logical arguments and dismiss his wisdom as naive or archaic. The will to aggrandize the late comers to science came at the expense of the undeserved “forgetting” of Aristotle and relegating him a separate space in the museum of scientists. The alleged naivete of Aristotle’s thought appeared as a banal erroneous assumption about the presumably futile past endeavors and the intention of promoting the later research. John Herman Randall pointed out in the 20th century that actually the presumably antiquated Aristotle turned out in fact to be “strikingly modern,” while Newton, “despite his epoch- making contributions,” appeared of “mere historical interest” (1958:21).

In the spirit of the current revival of the Aristotle studies, this essay chooses to focus at the absolutely neglected area of his teaching, such as semiotics, simultaneously widening the overall horizons of the Aristotelian thought, contributing both to cognition in general, to the understanding of Cosmos, and the value of his original natural and comprehensive philosophy. We wish to argue that Aristotle’s “Physics” is much more than an interesting view of the physical world, but rather a unique panorama of human ascent, human transformation into a civilized man, the producer of culture. It also about the construction and evaluation of the Nature/Culture paradigm, processed by, the much valued by Aristotle, human brain and turning man into a *sign-producing animal*. The “Physics” also happens to be the most under and misinterpreted of Aristotle’s works. Our semiotic analysis exposes how over two millennia, it was, due to the title alone, simplistically relegated to the natural philosophy, while all other themes were left untouched. The expected topics, related to the physical world, actually do not appear in his unexpected “Physics” which strikes and puzzles with its analytical horizons.

1. What is the “Physics” Actually about?

As we mentioned previously, Aristotle’s “Physics” has been simplistically classified as a part of natural philosophy (although this is the Organicist Physics itself). As a result, the name “physics” confused scholars for millennia, and even the most well-disposed to Aristotle scholars accepted the traditional classification. For instance, John Herman Randall, one of the most outstanding 20th-century commentators, admirers and re-interpreters of Aristotle, also treats his “Physics” as a “really philosophical introduction to the concepts of natural science” (1958:23). According to J. H. Randall, this Aristotle’s work is an attempt to “reconstruct the ancient Ionian

conception of nature/*physis* and natural processes” while arguing that Aristotle’s work on nature represents only a 1/3d of the entire Corpus. This proves the point that Aristotle neither limited his studies to the natural universe, nor overemphasized the natural world. His idea of the **Whole** and **wholeness** underlies all his studies, including “*Physics*,” and challenges all future scholars.

Russian/Soviet commentator of Aristotle I.D. Rozhansky views Aristotle’s “*Physics*” as a part of the cycle of his works on nature which include “*On Generation and Corruption*”, “*On Heavens*” and “*Meteorology*” and represent the lecture series for the students at the Lyceum (1981:6;25;27). Relying on the commentaries by Paul Moraux (1965) and I. Düring (1943), I.D. Rozhansky regards Aristotle’s “*Physics*” as a later lecture series for the well-informed students, who had been familiar already with his essays “*On Heavens*” and “*Meteorology*”. The scholar basically embraces the predominant classification of the “*Physics*” as a sample of a very intriguing ancient perception of Cosmos, summarizing the universal historic fascination with Aristotle’s depth and profound insights that are still regarded limited and not applicable to modernity.

Both exemplary commentators, very respectful of Aristotle, like many others prior, still fail to see the actual themes and the scope of Aristotle’s “*Physics*”, going far beyond the territory of the natural processes and “the sterile system of natural science” (D. Allen, 1952:206-7). In this regard, both J.H. Randall and I.D. Rozhansky simply adopted the antiquated scholarly point of view about the division of Aristotle’s legacy into the relegated spaces of the artificial frontiers between natural sciences and humanities. Re-reading Aristotle’s “*Physics*” closely, one sees the origins of the artificial division between the natural and other processes, and the erroneous unhelpful compartmentalization of various observations, which, in Aristotle’s text, are unified, rather than segregated. Aristotle stressed in his “*Physics*” that the phenomena discussed were not “within the province of the natural scientist,” focusing on the *Wholeness* of Cosmos and the need to study it as such.

The essential message of his “*Physics*” had been lost because of the general scholarly failure to identify his concept of the Whole. Aristotle strikes confused commentators with a challenging proposition to see the world as a unity between Cosmos and man in it. He has built a permanent bridge between Nature and Culture while numerous scholars were willing to focus strictly on biology and biological, physics and physical processes which deprived them from proper reading and understanding of the “*Physics*.” His “*Physics*” actually incorporates the animate and the inanimate, cosmos and cosmic processes within it, the unique human presence and maps the general adopted pathway of cognition from the Universal to the Particular. Human presence, in Aristotle’s view, involves interpretation of the *natural signs* and creation of the new *cultural signs*. Aristotle does not allow his readers to forget for a moment that nature exists and entails human active participation, his man is not simply a passive living creature, an observer, present in Cosmos, but an active interpreter of the Natural and a creator of Culture.

Aristotle suggests that his “*Physics*” is not solely about *physis/phusis*, but about the interconnection between Man and Cosmos, the cognitive processes which evolve

this interaction and continue to evolve during the encounter with nature. None of the admirers or disclaimers of his thought could see the man as a *sign-producing animal*. His “*Physics*” penetrates into the structural scheme of the processes which occur in the world and are interpreted by man, the producer of the new *Cultural signs*. Being himself a natural sign, while observing and analyzing the world around, Aristotle’s man becomes a producer of the new universe, the *cultural semiosphere* or Culture. Aristotle’s “*Physics*” is a unique organic model of Cosmos that includes Man as a *sign-producing animal* and outlines the map of cognition. It is about the universal processes which co-exist in Nature and are transplanted onto Culture. His “*Physics*” nearly physically “moves” human thought away from *phusis* to the man-made world of Culture, charting the materialistic, truly modern scientific pathway of events and phenomena that is visible through the semiotic lenses of his own doctrine of signs.

2. The Neglected Aristotle’s Semiotic Doctrine and Its Advantages

Despite the current accepted position of semiotics as a bridge between science and humanities, this discipline is still perceived as a rather exotic pursuit which partly explains how its ancient origins had been forgotten, as well as the fact that it goes back to Aristotle and his doctrine. If some scholars would acknowledge Aristotle in the proto-semiotics, they would never go as far as providing actual analysis (G. Marinetti, 1993:71;77). Despite the universality of Aristotle’s system of thought, he would become a gap in the universal cultural scientific memory as far as signs and semiotics were concerned. American scholar J. Deely even erroneously contributed the role of the founder of semiotics to St. Augustine (354–430AD), having erased several centuries of cultural achievements. Aristotle’s legacy, relevant to all fields of knowledge, paradoxically has escaped the attention of the universal science of semiotics. Even if some mentioned Aristotle, they never admitted his role and any relationship between semiotics and Aristotle’s legacy. To admit the fact that Aristotle had been the founder of semiotics, meant to somehow diminish the modern search for knowledge and efforts of modern scholars (A. Makolkin, 2018:9).

American semiotician Thomas Sebeok actually provided the “genealogical map” of semiotics, alluding to its ancient origins thanks to his own interests in biology, zoology and natural sciences. In his 2001 – *Introduction to Semiotics*, T. Sebeok pointed out that semiotics owes its origins to medicine and Hippocrates (460?BC–377 BC), who had raised symptomatology to the level of a cognitive process. Yet T. Sebeok is one of the few modern scholars who was actually aware of Aristotle and his role, and included his theory of signs into his work, restoring the correct chronology of the development of the “Imperial discipline.” Majority of the historians of science completely forgot about Aristotle and his connection to signs and semiotics. However, even T. Sebeok still grudges Aristotle the status of the founder of semiotics, despite the fact that, in the history of science and humanities, Aristotle is the sole thinker who had formulated and founded the Doctrine of Signs, applicable both to Nature and Culture, having thus expanded the frontiers of philosophy.

Unlike his contemporaries, and numerous scholars of over the two millennia, Aristotle did not limit his analysis to the boundaries of the physical world, i.e. to the

natural signs. He connects the numerous signs from the observable semiosphere with those produced by men *cultural signs* or *cultural semiosphere*. For Aristotle, sign is not only a thing but also a phenomenon, not natural and cultural. Aristotle, a physician, is interested both in *pathosemiosis*, a harmful expression of the signs, but also in their normal functioning, be it in human body or society. Aristotle moved from the ailment or “symptom” to the ordinary sign that is universal, recognizable, and omnipresent.

The most complete direct definition of the sign one finds already in his *Rhetoric to Alexander*, which is a testimony to Aristotle’s career as a tutor to Alexander the Great, clearly a later stage in his life and career. Aristotle’s voice is clear and independent, not showing any traces of his connection to Plato and his twenty-year apprenticeship at the Lyceum. One reads there:

One thing is a sign of another thing; the sign of the thing which actually occurs before
(1984, vol.II:2287[1430,15]).

This definition would be later echoed in the works of American semiotician Charles Peirce in the 19th century, and in the theories of the 20th-century Italian semiotician Umberto Eco, but none ever acknowledged their borrowing from Aristotle. In the same work, Aristotle clarifies that sign could signify different things or phenomena:

One thing is a sign of another thing, but one thing taken at random is not a sign of anything else
(ibid., 2287[1430,30).

The Greek word “thing” could mean object, event or phenomenon. Thus, Aristotle’s definition not only denotes the *polyvalence* of meaning, but also implies classification of signs or signs as instruments of cognition. His signs “taken at random” caution against wrong interpretation or *false signs*. Aristotle already incorporates temporality and continuity into his definition of a sign:

The sign of a thing that which actually occurs before, or simultaneously, with or after it
(ibid., ibid.)

The universal recognizable triad of Present, Past and Future is embedded already in Aristotle’s definition of the sign. His sign incorporates the universal semiotic reality—the *three-dimensional signification* and multiplicity of meanings. The idea of a complicated semiosis, construction and interpretation of signs in both natural and cultural semiospheres, underlies the definition of his sign. Aristotle’s signs are versatile, abundant and may inspire further thoughts, interpretations or actions:

We shall obtain the abundance of signs from anything, which has been done or said, taking each separately and also from the greatness or smallness of the resultant

disadvantages or advantages
(ibid. ibid: [1431,a])

An avid admirer of and believer in human Reason, Aristotle is convinced in the richness of human imagination and human endless capacity to produce new signs and interpret them. He sees boundless opportunity in the semiotic ability of humans. Aristotle made a sign a new tool in the analysis of the world, so “abundant” with signs, which inspire man to produce his own new signs. Aristotle was a single thinker who had introduced the analogy principle into the vision of the unified Whole, the natural and cultural world, turning a man into a *sign- interpreting* and *sign-producing animal*. His signs arranged Cosmos in the human mind and around man in the unique, solely human way. Signs enabled Aristotle to see the world, and man in it, unified in the universe of the existing and newly-invented signs. Every of his works brings the reader to the variety of signs and their multiple application. Unlike the future semioticians, who would concentrate on the Word and the relationship between semiotics and linguistics, Aristotle did not fixate on the *verbal signs*, having widened the semiotic universe in the unique manner, and having offered a boundless territory of *polyvalent semiotic activity*. Being in awe of human Reason, Aristotle proves the endless bounds of human intellect with his semiotic doctrine.

3. Man as a Natural Sign and Producer of Cultural Signs

In the second book of his “*Physics*,” Aristotle proclaims that “Man is begotten by man and by the sun as well,” this statement would be taken literally by most scholars for over two millennia after and merely viewed as another contribution to natural philosophy. The reason for this erroneous interpretation stems from the misreading of his “*Physics*” (1984, vol.I: 332[14]). Yes, Man is a natural sign in the grand biosphere. The sun, the *cosmic sign*, is also of the same kind, a part of the same biosphere, but here the relationship ends. Man is also a unique possessor of memory and the capacity to remember and select the important memories. Only Man is the single unique representative of the universe, who is simultaneously a natural and cultural sign, a producer of the new cultural signs and the interpreter of both which makes one a *sign- interpreting* and *sign-producing animal*. His unique endowment, his intellect places man above other creatures and animal species, enabling to separate him from all other species due to the ability to create new signs. Not a passive dweller in the universe, man actively re-creates his habitat, adding new meanings and producing new signs which express themselves in the form of new traditions, mythology and scientific knowledge, music, literature, art. What makes man a producer of the new cultural signs is the unique human ability to remember, select the most important facts, ideas and discard the non-essential ones.

Only “man shares the faculty of recollection,” Aristotle writes in his essay “*On Memory*” and delivers the basis of the novel interpretation of man as a producer of cultural signs, which is “outside the province of natural philosophy” (1984, vol. I:720 [459.9-10]). The *cultural signs* and their meanings affect the conception about Cosmos and man in it. Given the paramount impact of the cultural signs, Aristotle first intends

to classify them into true and false. Myth, being a *false sign*, is rejected by Aristotle, as contrary to science that arrives at the essence of things or its true meaning. Because Aristotle rejects myth he cannot agree with the fellow physician Empedocles (490–430BC), who tried to furnish rather naive explanations, using poetic categories and seeing the world metaphorically via the interconnections between Love, Strife, Hatred, or Envy. They could have been useful at the dawn of the early scientific attempts to comprehend the universe, but it eventually kept humans locked in the fantasizing process, barred from true scientific discoveries. Aristotle separates myth, a lower signification category, or a sign of primitive semiotic power, from science, a more advanced form of cognition, or a more meaningful and useful cultural sign.

4. Movement, the Most Polyvalent Universal Sign and Its Meanings

According to Aristotle's Doctrine of Signs, the entire "abundance of signs" in the bio and cultural man-made sphere, could be and should be examined with the help of signs and the analysis of the semiosis, taking place and signifying objects, phenomena, "things seen or said," and interpreted in the past, present and future. Aristotle begins his "*Physics*" with the recommendation on the route of the analysis, suggesting to begin with "the things which are more knowable and dear to us" (1984, vol. I: 315[16]). And movement is more knowable, most frequently seen, heard, felt and habitual to man. The most obvious clearest evidence of movement is in the natural sphere and human search for knowledge, according to Aristotle, may start there. But the universality, manifested in the natural semiosphere, does not end, it is abundantly found in the cultural semiosphere as well, which makes movement a *universal*, most *semiotically potent* and *highly polyvalent sign*, revealing itself both in Nature and in Culture. Unlike most of the scientists before and after Aristotle, who viewed movement and the surrounding Cosmos separately, Aristotle demonstrated the process of a comprehensive analysis that enabled to see the *unified Whole* and the role of the movement simultaneously in both semiospheres. His Sign Doctrine enabled him to chart the course of analysis, with movement as the most active *omnipresent* and *dominant sign* that organized human bi-focused cognition, aiming at Nature and at Culture. Movement, in Aristotle's view, secures not only motion, actual physical relocation of the object from one spot to another, or physical change from one phase to another, but it also signifies qualitative change, from one cultural level to another in any society.

In Book VIII of "Physics," Aristotle furnishes a striking example of qualitative movement that has nothing to do with physics as we understand it – the difference between a man who possesses knowledge and the one who does not. His learned man is the outcome of the process of learning, i.e. movement from a man who does not know to the stage when one acquires knowledge. The transition from the uneducated to the learned man, according to Aristotle, is a type of motion or movement that is not foreseen by most natural philosophers. In fact, what is unusual, if not strange for many, is quite logical for Aristotle who views the acquisition of knowledge as another expression of the *polyvalent universal movement-sign*. Thinking analogically, Aristotle invites his readers to look at the transmission of knowledge, a cultural

process, in the same manner as the relocation of objects or movement of the stars, i.e. to view Culture in the same way as Nature. This is the most unique analysis that only Aristotle was able to offer thanks to his own semiotic Doctrine.

In his “*Physics*,” Aristotle connected both semiospheres, having made a leap from Nature to Culture and having redefined the meaning of philosophy. His natural philosophy, a branch of knowledge, was expanded and included into the overall comprehensive philosophy. This is the most significant point in his “*Physics*” which most philosophers were unable to notice, i.e. how a man, a natural sign himself, became an intelligent interpreter of other signs and, eventually, the producer of the new signs, called Culture. The Aristotelian leap into the universe of cultural signs became possible due to his fundamental belief in the uniqueness and superiority of the human brain, human intellect, and capacity to reason. Aristotle stands millennia ahead of the post-modern scientists for whom man would become just another species in the animal kingdom. Aristotle alludes to the multiple processes “outside the province of the natural science,” the universe beyond the biological environment, beyond the physical and physics. This seemingly paradoxical meaning is within the purview of the combined semiospheres under scrutiny due to Aristotle’s doctrine.

The transmission of knowledge, a movement from one qualitative state to another, leads to change. *Change*, which could be biological, social, cultural, political, is a *sign-witness*, a semiotic product, consequence of the *movement-sign* or the result of the secondary semiosis while movement is the stage of the primary signification, causing Difference. Change is a sign, subordinate to movement, resulting from its force, impact, degree and speed. Change is the fulfilment of potentiality, signified by the movement. Change reveals the actualized experience or is the proof of the semiotic processes, programmed by the natural or cultural semiosphere, or induced by the semiotic actions of the signifier, representing the semiotic target of the movement in either of the semiospheres. In Book I of the “*Physics*”, Aristotle already outlined the process when he stated that, “Man generates man with all things that cause [generate] movement” (1984, vol.I:338[25-6]). He came to this conclusion by analogy, suggesting to consider how a plant changes from a seed into a species, a child into an adult, and a primitive man into a civilized man due to a movement that includes the transmission of knowledge or the transformation of a natural sign into a cultural one. His movement signifies change that is encoded in it. He argues that no movement is without change, and no change is without the movement, both signs signify and act in concordance with each other.

5. Time, Temporality and Semiosis

In the same Book I, Aristotle introduces additional aspects of the semiotic processes such as time and temporality that are also universal, and accompany any changes and any movement. He writes to this effect the following:

*Movement involves a Before, evidently every change
and every movement is in time*
(1984, vol.I : 377:[223.15]).

Aristotle defines a sign as a “thing, phenomenon, utterance or opinion,” all of which possess universal characteristics. The “Before” and “Now” aspects are, in his view, omnipresent, occurring in all the semiotic processes. Time becomes another *defining sign*. All the semiotic processes need and take time which could be counted or measured. He returns to time in Book IV by writing:

*Time is number of movement in respect to the
Before and After, and is continuous since it is
an attribute of what is continuous*
(ibid, ibid.: 373[220,25]).

Aristotle stresses that movement, change, like all the production, analysis and interpretation of signs, are all dependent upon time. Actualization of the semiotic processes and their observation happen in time. Aristotle emphasizes that

*not only do we measure the movement by the time,
but also the time by the movement, because they
define each other*
(ibid.,ibid.: 373[220,15]).

To point out the interconnectedness of the semiosis in general and the Wholeness of the semiospheres, he argues that “Time by itself is “neither movement, nor independent of movement” (Ibid.,:ibid.370[218,107]). Time is another *universal sign-witness* of the Semiosis at large.

Although Aristotle defends the triadic model of all the processes, locked into the beginning, middle and end, but time could be not necessarily enclosed in a specific stage. The “Now”, as he argues in the Book VI, “is an extremity of the Past, a sign in its own right that denotes continuity of all processes and of the underlying semiosis (ibid. B. VI ibid.:395[234]).

Now, the present, is the echo of the Past, a part of the Whole that is continuous and could not exist without the past, which is its temporal antecedent. The movement “from something to something” actualizes in time but from a certain chosen starting point that is, nonetheless, relative, the Now, which is relative. The “Now,” a starting point of semiosis comes actually after the unknown “Before.” The relativity of the Now signifies the moment of Being and Becoming. “Now” is the agreed, but a relative moment. Time itself “neither a movement, nor independent movement,” in Aristotle’s words, is *a necessary sign*, indispensable for the continuity of the ongoing processes be it in Nature, or in Culture, for Being and Becoming. Time and movement co-signify and co-exist. Already in his Book I Aristotle argues that “we perceive movement and time together” (ibid., ibid.: [219.5]). The “Now”, “Before” and “After” identify the temporality of any phenomenon. Movement and time are inseparable.

6. Cause – Semiosis – triggering Sign

Aristotle begins his “*Physics*” with the definition of causes as “the primary principles” or *foundational signs* that initiate the process of observation, analysis and cognition. The archetypal Aristotelian “why,” the purpose and goal of inquiry begins and ends with the causes.

“Nature belongs to the class of causes which are for the sake of something,” he writes in Book II (1984, vol. I: 339[198.19]). But not only Nature leads to something, Culture does it as well. Nature is simply a model of the actualization and functioning of all processes, all is caused by “something for the sake of something” else. Something similar happens in Culture, the “first principle” or the cause exists also within the secondary cultural semiosphere. By analogy, Aristotle introduces the man as the cause of the bronze statue, writer of a story, a builder of a house, and all within the text of “*Physics*”, demonstrating how the *cause* is revealed not only in the biological, physiological, but also in the cultural processes. Cause is the commencement of any semiotic process, signifying the beginning of something new, be it a plant, a statue, a musical instrument or a structure. Cause is the originator of the new signs, new processes, new objects of art and new theories in science. When Aristotle says that “the father is the cause of the child” he means the source, the producer and initiator of the biological process, but when he states that the man is the cause of the bronze statue he implies a cultural activity that only a man is capable of. In case of the statue (example often used by Aristotle), the cause brings about a change in form, shape and material, and Aristotle defines it as a *material cause*.

The cause could indicate the effect of a chemical, its impact on a human body, the change in health, fitness and could be either beneficial or detrimental cause. The *sign-cause* is thus the originator of movement, “whence a motion comes” or change in condition, shape, form, leading to the new product, stage, event, phenomenon, conception, depending upon the type of the semiosphere. Throughout his entire Corpus, Aristotle oscillates between his impulse to number, limit, classify or prioritize the causes, but in his “*Physics*” he arrives at the final and most significant conclusion that “modes of causation are many” (1984, vol. I, Book II: 333 [195.30]). Some modes of causation or sign-production, states Aristotle, are accidental, i.e. where the interaction of signs happens by the unknown force or by *chance* or random combination of other signs and their actions.

Earlier, prior to analyzing the statue or a house, Aristotle defines *the cause-sign*

*that out which a thing comes to be and
which persists, is called a cause*
(1984, vol. I: 332[194.25]).

The most vivid example of a cause is a child, the natural outcome of the natural biological process of reproduction, the *natural cause*. By *accidental cause*, Aristotle means the mode of production that is indeterminable while the outcome of which is still “for the sake of something,” since “nature produces nothing in vain”, as he repeatedly taught throughout his works. In contrast, human actions may lead to things

that are not needed, causing something which is “in vain.” Cause-sign is the initiator, the mover, the originating force, or semiosis-triggering factor for the production of new objects, movements, shapes, changes, new conditions, new moments in the state or development either within the Natural or Cultural semiosphere. In addition to the purposeful alteration of the objects and creation of the improved environment, humans managed to introduce the aesthetic element, to make being more pleasurable due to the perfect signs.

7. Being and Becoming – the Results of Continuous Semiosis

Our being in Cosmos, our presence in the universe and our becoming truly human, civilized, creative and most advanced of all known species – all depend upon the *continuous infinite signification* in both semiospheres. We are what we are as a result of the well-programmed Natural “Before”. “Nature is a principle of motion and change,” we read in Book III of his “Physics”, and this process is infinite as established by Aristotle who argues that

*the infinite itself is in the continuous for
what is indefinitely divisible is continuous*
(ibid. ibid342[15-16]).

The continuity and infinite “Before” has eventually brought on our *Being* and *Becoming*, the versatile continuous and infinite alterations and motions had predicated our arrival into the universe as the consequence the universal, permanent, most powerful signification in the Natural semiosphere. The human “Now” is the outcome of the unknown intense Before, the most dramatic biological shift that would eventually, by trial and error, produce man-sign and man a sign-producing animal. Our becoming as a civilized unique and most advanced species has been dependent upon the numerous movements and transformations in the biological natural universe.

Eventually, human brain has evolved to a degree of being able not only to interpret the natural signs, but also design one’s own. Our presence in the natural world has been transformed by the production of the new cultural signs– language, art, music, literature, science, technology.

Yet the process of *Becoming* has been following the identical universal pathway via movement, change and realization of the encoded potential in Culture as in Nature. Aristotle marveled in the *Progression of Animals* at the multitude of natural signs and how “nature makes nothing without purpose” (1984, Vol.I: 1102[708.10]). The *purposeful natural signification* via movement, change, is also the cause of our Being in the world, the orderly, beautiful and functioning according to its own rules. The natural semiosphere gave Aristotle the perfect model of our Becoming. By stating “man begets man”, Aristotle anticipated the human evolution and the pathway from barbarism to civilization. Darwin’s *Origin of Species* in the 19th century comes on the heels of Aristotle’s conclusions, made in a more sophisticated manner over two millennia prior. Aristotle’s *Movement of Animals* and *Generation of Animals* anticipates the future evolutionary theory and genetics. He admitted in his “Physics”

that “clearly mistakes are possible in the operation of nature”, and this was the most perceptive and insightful guess into the future genetics. The so-called *defective signs* in nature were also the analogues into mistakes in human judgement, be it philosophy, science, politics, economics or daily life. Aristotle leads his students and readers into the universe of culture when the man-made signs could be mistaken, harmful and even dangerous. The *erroneous chance* could lead to the monstrosity in nature, the defective signs, and similarly cause disasters in culture.

In Book II, Aristotle juxtaposes *Chance* and *Choice*. *Choice*, in his view, is a cognitive act which only adults are capable of making. It implies a deliberate act of creating something useful, beautiful and improving the habitat. Choice is a contrast between the spontaneous, untutored selection or action and the decision, motivated by a lengthy conscious deliberation for the sake of something new, comfortable, happy and improved. Choice is for the sake of new Being, securing Becoming better, existence happier, and more intelligent. Aristotle suggests that only adults, trained, educated and creative can make such an intelligent choice. “To be a man is not the same as being musical,” teaches Aristotle in the first Book of “*Physics*” (ibid. ibid: [324.20]). Why does he introduce musical man into the treatise about the physical world? The musical talent and training are needed to produce a different man- a man who stands above nature and physical world. This man-musician or painter, or bronze-statue maker – all signify the cultural universe that is necessary as much or even more than nature, and are a part of his existential philosophy that is included into this polyvalent treatise. It is done for the sake of elevating man, the producer of culture, the most significant Being in the universe. To be, for him, means to become skilled, learned and constantly interested in the production of the new cultural signs and gaining new knowledge, or transforming man-a natural sign into a cultural one.

Aristotle suggests that the entire enterprise of obtaining knowledge should be guided by the primary WHY-step, by asking the question “why” and establishing the necessity of action, “Why did they go to war? Because there has been a raid? Because they may rule? (1984, Book II: 338[198.20]). “Why is the object broken, hot, destroyed or why the disarray has been inflicted?” Aristotle invites into his semiotic lab where all kinds of signification simultaneously occur and the entire “abundance of signs” should be examined in accordance to the same principle – first asking the WHY-question. Any stage of Being should undergo the same process – identify the most universal, events, opinions, phenomena, transformations, changes etc. He argued that we live in the united universe of “abundant signs” that we constantly interpret for the sake of understanding or changing, for the ultimate contentment and harmony, and improving our existence. To improve Being, we must understand the signification of the semiotic multitude. Our Becoming civilized or Becoming a Man has been historically altered by the interpretation of signs, the abundance of the new cultural signs and returning to the re-interpretation of the natural signs.

Aristotle refers to “to Be” as to the subject of the first philosophy and the first question to be asked. J.H. Randall interprets it as “anything that comes into being and passes away” (1958:13). He obviously refers to the organic or natural aspect of Being, something that appears in the world has a cycle of living, eventually undergoing natural

destruction, the passing away from something into nothingness. This Aristotelian idea would be later picked up by Jean Paul Sartre in the 20th century, but without mentioning Aristotle and his concept.

Aristotle's "to Be" means to produce signs and be the moving force behind the pre-programmed semiotic processes. His "to Be" means both to signify the organic presence, the biological signs, and exercise the cultural functioning of man. Aristotle always keeps in perspective both semiospheres (natural and cultural), constantly emphasizing the Wholeness of Cosmos, and the complicated realm of human existence simultaneously in both universes— Nature and Culture, characterized by the universal ongoing signification. His *Being* is a *polyvalent sign* that unavoidably includes Culture, never leaving it outside the scientific purview. His idea of a cosmic semiotic Whole includes man and his semiotic activity which is inseparable from the basic foundational principle of semiosis. His *Becoming*, as much as *Being*, is a semiotic process, characterized by movement, change, purposeful signification, continuity, and temporality. Aristotle creatively combines the areas outside the natural philosophy with those inside it. His neologism *entelechia* alludes to the inner semiosis in both spheres.

Aristotle's *Being* and *Becoming* would inspire modern existentialists who would obtain the epistemological point of departure from the ancient thinker. Heidegger's classical *Being and Time*, classified as "the most celebrated work which Germany produced in this century," is just a modern footnote to Aristotle's theory of *Being*. Heidegger's *Da-Sein*-concept has nothing original to offer, but is simply a lengthy paraphrase of Aristotle's theory. Heidegger demonstrates some familiarity with Aristotle, but referring to the alleged his "essay on time", he fails to provide the actual source. Heidegger has obviously borrowed the idea of temporality from Aristotle, but from the tertiary sources. This did not prevent him from stating that "Every subsequent account of time, including Bergson's has been essentially determined by Aristotle's idea" (1962:48). Moreover, Heidegger not only borrows his idea of time, but he also appropriates Aristotle's definition of a sign when he writes that "a sign is nothing which stands for another thing" and fails to provide the source (*ibid.*:*ibid.*). His *Being and Time* dedicated to his mentor Edward Husserl is a tertiary borrowing, without acknowledging the Aristotelian system of thought. His *Da-Sein* was constructed on the Aristotelian epistemological foundation, while his sign definition is clear plagiarism of Aristotle's Doctrine of sign.

Jean Paul Sartre's *Being and Nothingness/ L'Etre et le Neant*, inspired by Heidegger, is another modern tribute to Aristotle and also without naming the ancient thinker. Sartre's idea of nothingness echoes Aristotle's *On Generation and Corruption*, without acknowledging him as the source of inspiration. Aristotle, the most versatile thinker, the rare polymath still lives in the modern impotent ontology of modernity. Unable to create anything original, modern existentialists evolved above the forgotten foundation, i.e. Aristotle's system of thought. Exploiting the modern lack of knowledge of antiquity, the 20th-century existentialists place Aristotle into the subtext of their own works. Aristotle has to be excavated and re-discovered from the layers of the modern pomposity and self-aggrandizement. Not only is Aristotle the founder of the modern comprehensive philosophy, logic, semiotics, art and literary criticism, political science,

his treatise “*Physics*” reveals him also as foundational existentialist whose concepts would be inspire generations of scholars over two millennia.

Conclusions

Our unorthodox semiotic reading of Aristotle’s “*Physics*” demonstrated the essence of his idea of the Whole and Wholeness that revealed numerous unexpected themes. Natural philosophers would be surprised to find how much from the outside the realm of the Natural and nature one could find in this resisting traditional interpretation and somewhat puzzling work. With the help of Aristotle’s own semiotic doctrine, his “*Physics*” expands the paradigm of Nature and Culture, demonstrating the general pathway of cognition and widening the analytical space and observational territory. It provided the route to conducting new analysis and search for new knowledge.

Aristotle’s natural and cultural signs enabled the reader to see the *Whole* and the single semiotic mechanism behind the production of signs in both semiospheres. Guided by Aristotle’s Doctrine of signs, we demonstrated how universal and dominant signs, such as movement, change, time, choice, and cause regulate all the processes in the natural and cultural universe, paving the road to their understanding. Unexpectedly for the natural philosophers, Aristotle dedicated substantial time in this work to the *cultural signs*, produced by man and the unique existence of man as a *sign-producing animal* and creator of *Culture*, be it an architecture, music, vocal art, construction, science or literature.

Aristotle’s Doctrine enabled him and us to treat *Being* and *Becoming* as complicated cultural processes and lay the foundation of the future existentialism, something that many could not expect in a treatise on physics. His “*Physics*” is dissected as a multilayered text with the implications for both natural sciences and humanities, equally valuable for biology, medicine, cognitive psychology, semiotics, political science, history and existentialism. His Doctrine of signs is used as a valuable instrument of cognition in the world, seen as a Whole. The essay guides in the exploration and conduct of all human pursuits “for the sake of something” positive and valuable to the civilized man. Civilized man – the key concept in the entire Aristotelian Corpus, is a prominent motif in his “*Physics*” as well. The “Why” or What for” are the suggested steps in the universal human cognition and the pursuit of knowledge. “To be,” in Aristotle’s view, means to realize not only one’s biological potential, but to be actively using one’s intellect in the pursuit of and become civilized.

His “*Physics*” is not so much about the physical, but about the non-physical part of Being in the world, about the creation of culture and civilized habitat, and about the wholeness of Being, and this is something that bewildered many scholars over centuries.

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