

INTERNATIONAL INTERDISCIPLINARY CONFERENCE

COGNITION

IN ANCIENT GREEK PHILOSOPHY AND ITS RECEPTION

INTERDISCIPLINARY APPROACHES

Patras, May 24-25, 2023

ORGANIZATION: MELINA G. MOUZALA

Cognition in Ancient Greek Philosophy and its Reception: Interdisciplinary Approaches

The Conference will focus on the mechanisms, cognitive, emotional, psychic, in general, or psycho-somatic, neurological and neurobiological through which cognition is achieved. We host papers that will focus on the interaction between soul and body, or intellect and emotions, during the process of cognition. The Conference will include important issues and participations that will approach the subject from the perspective of neurosciences. The papers are representative of different philosophers and periods, from pro-Platonic and Classical Antiquity to Late Antiquity.

Dates of the Conference: **May, 24-25, 2023**

Organization:

The Conference is organized by **Melina G. Mouzala**

under the auspices of the Department of Philosophy of the University of Patras
and the Research Committee of the University of Patras

Sponsor: Research Committee of the University of Patras

Glinos Foundation

ABSTRACTS

Stavros Baloyannis (Emeritus Professor of Neurology, Aristotelian

University of Thessaloniki)

“Anaxagoras on Mind: the birth of Neurophilosophy”

Among the emerging theories on the Mind of Pre-Socratic philosophers, the originality of Anaxagoras' concepts is particularly imposing. Anaxagoras' doctrine of the autonomous, infinite, powerful, and eternal Mind, which is the purest of all things, the master of itself and the ruler of everything, controlling all the elements and directing all the physical interactions in the universe, is the most innovatory amazing theory in ancient philosophy. In addition, his ahead of the times subtle theory of the relationship between matter and energy predicted prophetically the revolutionary data of modern science and philosophy. Anaxagoras' doctrine on the unique and eternal omnipotent Mind, in addition to Heraclitus' concept of the Word (Λόγος) and Parmenides' concept of Being (Εἶναι), exercised a crucial influence upon Platonic, Aristotelian, and New-Platonic philosophies, lasting for centuries, surviving also in the modern philosophical streams as substantial theoretical links between philosophy, medicine, and neuroscience. The concept of Mind (Νοῦς) possesses a dominant position in Anaxagoras' philosophical system. Everything is set and directed by Mind, which is the causative power of all creation. The Mind (Νοῦς) is unique, original, eternal, authentic, autonomous, unlimited, unmixed with anything else, remaining pure and alone by itself, self-powered, self-subsistent, self-sufficient, separated from all other elements. In addition, Mind (Νοῦς) is the finest and the purest of all things. It is free, infinite over time and space, stable, unchangeable, and unique. The Mind (Νοῦς) is also incorporated in the human being and acts as the leading power of the soul, which prevails over the body and configures its functionality fully, penetrating entirely the existence of all entities who are alive. The mind, controls and directs properly all the mental functions, all the brain processes concerning both knowing and perceiving, memory and imagination, emotions and social behavior, speech, and writing, symbolic meanings, and art, as well as judgment and creativity. In particular, Mind dominates the inner life of man, inducing peace, serenity, and wisdom. From the Neurosciences' point of view, we may hypothesize that the perichoresis (περιχώρησις), which is the mutual indwelling, described by Anaxagoras may be related to the continuous transport of neurotransmitters, proteins, and organelles by the perpetual

axoplasmic flow, within the neuronal networks and tracts of the brain. Concerning the matter, Anaxagoras claimed that the matter may be divided and diminished endlessly, resulting in invisible elements, which may continue dividing. All elements mixed, compose the perceptible world, each item of which contains all the building units of matter. Therefore, the elements of the matter become “homoimerous” despite their eventual morphological and functional differentiation. Anaxagoras’ doctrines on Mind exercised a profound influence upon the philosophical orientation of the thinkers, who endeavored to discover the depths of the human soul to find the inner unseen links between soul and body and to enforce the expectation of the life in eternity, planning nevertheless the proper routs for the harmonious interpersonal interactions in the society. Anaxagoras is among the greatest philosophers in the world. He introduced the Mind as the supreme, infinite, dominant, autonomous, authentic creative power, that constructed the universe by multidimensional synthesis of the matter by “homoimerous” elements, that may be divided immensely and infinitely, never-ending. He recognized velocity as the main factor of transition from matter to energy. Anaxagoras's theories and hypothesis carry the prophetic message of the contemporary conclusions of astrophysics, bonding also harmoniously philosophy with science.

Douglas Campbell (Assistant Professor, Ancient Philosophy, University of Toronto)

The Role of Biology in the *Timaeus*' Account of Cognition

In this talk, I shall argue that Plato in the *Timaeus* develops an account of cognition as requiring what we might call material or biological conditions. I pay special attention to what in our body has happened when cognition goes wrong, as well as why the gods who designed our body did not make a perfect body that would never disrupt our cognition.

Marta Jimenez (Associate Professor of Ancient Greek and Roman Philosophy, University of Emory, Complutense University of Madrid)

“Aristotle on the Role of Experience in Knowing about the Good Life”

Aristotle claims in his ethical treatises that experience (*empeiria*) is the main source of practical knowledge (*phronēsis*), and he takes experience to be a crucial test for our beliefs about what is good and bad in the practical sphere. In this paper I explore Aristotle’s views on the peculiarities of the experience relevant to ethics and I argue that, in his account, having a first-hand experience of what it is like to do or to suffer certain actions and passions (in particular first-hand experiences of the value of the noble and the shameful) is the key to having practical expertise or knowledge about the good life.

My argument develops in several steps. First, to support my claim about the centrality of experience in the acquisition of practical knowledge, I offer an analysis the passages where Aristotle explicitly refers to experience as the source of *phronesis*, on the one hand, and the passages where he attributes to experience an evidential role by emphasizing the relevance of making our moral theories agree with experience. Second, I identify the kind of experience that is relevant to ethics by looking at his views on how we get sensitized to the value of the noble (and the disvalue of the shameful) through “tasting” its characteristic pleasures. Finally, I offer an account of how experience makes us better judges in relation to the good life.

Vasilios Kafetzopoulos and Evangelos Kafetzopoulos (Glinos Foundation, Athens, Greece; Department of Psychiatry, Medical School, University of Ioannina, Ioannina, Greece)

“The innate and acquired in ancient Greek philosophy and modern science”

The interplay of our inherent nature and the world around us shape who we are and how we live. This concept is rather indisputable. However, the extent of the contribution of each factor and the nature of the interaction is an active field of

inquiry. This fundamental controversy is rooted in ancient philosophy as a debate between the nativism of Plato and the empiricism of Aristotle. Plato believes in the innateness of Ideas and puts forth the doctrine of *anamnesis*, which holds that all learning is recollection, that everything we will ever learn is already in us before we are taught. Aristotle, on the contrary, rejects the claim that we have innate ideas or principles of reasoning and believes that all our knowledge comes from perception. When modern science enters the historical field, the debate of the innateness dominated a large part of psychology, cognitive science, neuroscience and other related fields. A large part of the 20th century was dominated by the empiricist view of behaviorism which rejected innate knowledge or internal learning mechanisms. After the cognitive turn of the 1950's, first in linguistics and then in other sciences, it became evident that children are born with an inherent linguistic capacity, as well as with a set of innate cognitive mechanisms for perceiving and understanding the world. These innate cognitive mechanisms are related to the Aristotelian *hexis*, the inherent human cognitive ability. Children also come in the world with a set of intrinsic knowledge of biological, physical and numerical concepts and categories, which represent the hypotheses on which we build a model of the cosmos. This knowledge is a collection of adaptations through which our ancestors adapted and survived into a demanding and difficult physical and social environment. On the other hand, the adaptive character of this knowledge reminds the Platonic *anamnesis*, not as a recollection of Ideas of an immortal soul, but as a figurative collective memory and knowledge, acquired through the long evolution of the human species, an *anamnesis* of the human evolutionary history in every newborn child.

George Kazantzidis (Assistant Professor of Classics/Latin Literature,
University of Patras)

Melancholy, phrenitis and cognitive dysfunction across Sextus Empiricus and Galen: A comparative reading

Mental illness is a topic of interest for both physicians and philosophers throughout antiquity, each side posing their own specific questions on the matter,

which they consider as particularly relevant to their respective field. In this paper I will focus on the late second century AD and I will examine side by side what Sextus Empiricus and Galen have to say on the subject, paying special emphasis on the medical conditions identified as *melancholia* and *phrenitis*. Sextus is primarily known as a skeptic philosopher, but he was also extremely well-versed in medical matters (in fact his name derives from his affiliation to the Empiricist school of medicine). Galen, on the other hand, was an expert physician with a deep and profound knowledge of Greek philosophy.

My paper will deal first with Sextus' discussion of mental illness and the way in which the latter affects a person's perception of reality. Mental pathology and the ensuing cognitive dysfunctions provide for Sextus a fitting field of investigation about what counts as real; about deceptive appearances; and, ultimately, about the essence of reality itself. Particular attention will be paid in this context on Sextus' discrimination between hallucinations and illusions –one that is drawn from Stoic sources but becomes invested in Sextus' text with unprecedented clinical precision and poignancy.

Turning to Galen, I will shift from theory to practice, looking at a series of melancholic and phrenetic patients as they make their appearance in the physician's everyday practice. In this case, I will consider Galen's sophisticated medical vocabulary concerning the different manifestations as well as the varying degrees in which cognitive incapacitation makes its presence felt. And I will conclude with a few thoughts on the important question of the patients' *ethical* responsibility once they have entered the uncanny landscape of mental illness.

Andrei V. Lebedev (Emeritus Professor of Ancient Philosophy, University of Crete, RAS Institute of Philosophy)

“The theoretical conflict between naturalistic empiricism and metaphysical mentalism in the early Greek philosophy”

Ontological paradigms and epistemological models as a rule form organic and congruent pairs. Ontological (metaphysical) paradigms have a priority over epistemology: theories of reality (or kinds of reality) determine the way of knowing it. There are three main ontological paradigms in Greek philosophy: naturalistic monism, substance dualism and idealist (or mentalist) monism.

Before Plato the key term is νοῦς (Lat. mens, *mentis*), not ἰδέα/εἶδος). I avoid the term ‘materialism’ speaking of early Greek philosophers, since their authentic term was a self-evolving ‘nature’ (*physis*), and not Aristotelian ‘matter’ (*hyle*) with its creationist connotations of a passive material which implies a *demiourgos*. The Milesians and most of the Ionian *physikoi*, atomists and Ionian Sophists, like Protagoras and Prodicus (the Derveni author), were all naturalistic monists who held that all reality is physical. The Ionian concept of *physis* itself is a conceptual matrix of empirical ‘exploration’ (ἱστορία). This principle makes the laws of nature universal and their universality abolishes the privileged position of ‘heaven’ in traditional religion and mythopoetic thought. The position of Pythagoreans (Table of opposites, Philolaus) and of Plato in *Timaeus* and *Agrapha dogmata* is metaphysical substance dualism (body and the soul, *peras* and *apeiron*, form and matter, incorporeal and corporeal). Idealist monism (identity of νοεῖν καὶ εἶναι) was held by the Eleatic branch of Pythagorean school and Plotinus. Plato’s idea of *Agathon* in the *Republic* has no opposite and comes close to idealist monism.

Speculative metaphysics of idealist/dualist type, based on the substance dualism, always promotes rationalist epistemology based on the fundamental distinction between “appearance and reality”, episteme and doxa etc., like that of Pythagoreans, Eleatics and Plato, and rejects the *apate*, *doxa*, *dokounta* of the senses. Naturalistic monism of the Ionian ‘exploration of nature’ (Περὶ φύσεως ἱστορία) relies on empirical data and rejects speculative/aprioristic ‘principles’, concepts like the Pythagorean *peras* and *apeiron*, or Eleatic ‘what is’ (τὸ ἐόν). The Ionians ‘inquired’ (ἱστορέω) about the φύσις of the sensible cosmos, not about the intelligible and immutable ‘principles’ (ἀρχή or ἀρχαί) of all things, a term first attested in Philolaus B6 in late 5th century B.C. in the context of Pythagorean mathematical metaphysics, but absent from the authentic fragments of Ionian *physikoi*. The Ionian method of ἱστορία involves travel, observation and gathering information, i.e. requires empirical research and ‘enquiry’. You cannot do ἱστορία at home. The Ionian central concept of *physis* is intrinsically linked with sense-perception and sensible properties of a thing. To understand the specific ‘nature’ of a thing one must enquire into its origin and constitution relying on hers/his senses. But you can grasp the Attic οὐσία (or Pythagorean ἐστῶ) of a thing and produce its definition with closed eyes reclined on a κλίνη.

The extant fragments and testimonia of the Milesians and early Ionian *physikoi* do not address theoretical problems of knowledge, but this may be due to omissions in our fragmentary sources. The first extant ‘incipits’ of pre-Platonic works in prose circa 500 B.C., those of Heraclitus and Alcmaeon, start with epistemological proems about truth and knowledge, while in the poem of

Parmenides this problem is declared fundamental from the start. However, the Milesians and subsequent *physikoi* regularly employ analogies from manufacturing crafts (τέχναι) which come close to ‘experiments’ with behavior of matter in strained conditions similar to those they assumed in their cosmogonies. Both Anaximander and Anaxagoras, according to Theophrastus, compared the ‘separation’ of similar particles of the original panspermia (due to the vortex, δίνη, produced by ‘eternal motion’) with the separation of ‘gold from earth’ in gold-washing workshops due to circular motion (δίνησις) of a washing pan. Anaximander explained the origin of winds by two metallurgical analogies: winds are produced by ‘melting’ of air caused by the “smith’s bellows” of the sun, thus assimilating the operation of the cosmos to a melting furnace. Anaximenes modelled the condensation of air in cosmogony on ‘felting’ (πίλησις) of wool. Heraclitus’ fragments and Ps.Hippocrates *De diaeta* I (based on Heraclitus) contain dozens of ‘evidential proofs’ (τεκμήρια) supporting the general principle ‘craft imitates nature’ (ἡ τέχνη μιμείται τὴν φύσιν). The Ionian *physikoi* also employed natural analogies, modelling the ‘unseen’ cosmogonic processes (e.g., original vortex) on similar observable phenomena of smaller scale like whirlwinds in which the heavy objects tend towards the center, while the light ones are ‘pushed’ to the periphery. The empirical method of inferential conclusion ‘from visible to invisible’ was summarized in the motto ὄψις ἀδήλων τὰ φαινόμενα ‘the phenomena are vision of the invisible’ (Anaxagoras B21a, ‘praised’ by Democritus, A111/ fr.81 L.). Early *physikoi* employed both types of analogies (technological and natural) as ‘inferential empirical proofs’ (τεκμήρια). This points to a strictly empiricist epistemic paradigm and method, *toto caelo* distant from Pythagorean speculative method of ἀρχαί and Eleatic radical distrust of the senses. Alcmaeon of Croton in the incipit of the first biological treatise leaves aside speculations about ‘invisible and divine’ things (like astronomy and cosmogony) and declares that his study of living organisms will be based on ‘things of human experience’ (reading ἀνθρωπίνοις τεκμαίρεσθαι), i.e., things that can be perceived by human senses, like hot and cold, sweet and bitter etc. When Alcmaeon discovered that optical nerves lead to the brain, and not to the heart, he concluded on the basis of this fact (τεκμαιρόμενος) that human brain is the seat of consciousness, thus making one of the greatest scientific discoveries of all times.

Modern naturalistic and trivializing interpretations of Pythagorean first principles *peras* and *apeiron*, like those of Burkert and Huffman, are mistaken and vague, imposed by the physicalist bias of the term ‘Presocratic’ Aristotle’s explanation of them as hypostasized mathematical essences that are self-predicative and not attributes of “another nature”, like Anaximenes’ ἄπειρος ἀήρ,

is correct. Numerical nature of being imposes mathematics as epistemic paradigm and method of knowledge.

The theoretical conflict between rationalism and empiricism lies at the core of the division of Parmenides' poem into *Aletheia* and *Doxa*. The 'two ways of enquiry' (B2) are not only logical/theoretical, but also represented by historical schools: this is indicated by the 'third way' (B6) represented by the 'two-headed' philosophers, an unmistakable reference to Heraclitus with his harmony of opposites with unparalleled else use of *παλίντροπος* (B51/29Leb). The 'way of non-being' is a polemical Pythagorean label for Ionian naturalism and empiricism, 'the way of being' is the divine philosophy of Pythagoras based on the *noesis/theoria* of incorporeal reality accessible only to pure intellect (*νόος*) detached from the deceptive senses of the mortal body.

Heraclitus' metaphysics and theory of knowledge are also based on the sharp juxtaposition of one and many, appearance and reality, the doxastic world of imagination of the poets and *hoi polloi* (*τὰ δοκέοντα, τὰ φανερά*), on the one hand, and the divine reality that 'likes to hide itself' and can be grasped only by the mind of *sophos*. But there are two essential differences. In Parmenides the appearances are always deceptive. Heraclitus seemingly conforms with Ionian empiricist principle (*ὄσων ὄψις ἀκοῇ μάθησις, ταῦτα ἐγὼ προτιμέω* B55/18 Leb), but his 'vision' of 'things invisible' behind the veil of appearances is dramatically different: instead of mechanical 'vortices' of blind matter he discerns there the divine Mind (*Γνώμη*) and the 'Wise Being' (*Τὸ Σοφόν*) that 'alone steers the whole Universe' (B41/140 Leb). The appearances, according to Heraclitus, should not be explained mechanically, they should be 'read' or 'listened to' (*ἀκούειν, ἐπαῖειν*) like a 'speech' or 'book of nature', 'this logos' (*λόγου τοῦδε*), i.e., the one that is in front of us, visible, like 'this cosmos' (*κόσμον τόνδε*). The reading or 'listening to' this logos requires the knowledge of the cosmic grammar, the correct 'division' (*διαίρεων*) into 'syllables' (*συλλάψεις*) and letters (separate opposites). Those who possess 'barbaric souls', i.e., do not understand the language of the senses (*ἀξύνετοι ἀκούσαντες*), will fail to understand 'this logos', but the 'most reputable' (*δικιμώτατος* B28) reader like Heraclitus will clearly read in it the Apollonian wisdom of the *palintropos harmonia*. The second essential difference concerns the nature of the One: in Parmenides it is motionless and immutable, in Heraclitus it is dynamic, full of creative energy and vital heat, always going (*χωρεῖν*) or progressing in regular cycles of day and night, summer and winter, world conflagration (*κόρος*) and new *diakosmesis* (*χρησιμοσύνη*). Plato' contrast of the flux theorists and 'immobilists' is *grosso modo* correct, although the image of 'river' in Heraclitus was applied to human souls, constantly 'flowing as exhalation from the blood', whereas the regular cyclical change in the

cosmos was assimilated to a stadium, battlefield and exchange of gold and property in agonistic, military and economic models of the cosmos respectively.

Plato's mythical paradigm of 'Gigantomachia over being' in the *Sophist* (246a4 – 246c3) concerns equally ontology and epistemology: the celestial 'gods' assert that 'true being' (ἀληθινὴ οὐσία) consists of incorporeal and intelligible forms only (ἀσώματα καὶ νοητὰ εἶδη), whereas their opponents, the earth-born 'giants' hold that real is only what is solid and can be 'touched' (ἐπαφὴν παρέχει), in other words idealists are radical rationalists, materialists are radical sensualists. This theoretical conflict is described as a grandiose battle of epic scale (ἄπλετος μάχη) that has always existed (ἀεὶ συνέστηκεν) and is still going on. I have argued elsewhere with more detail the whole history of pre-Platonic philosophy with its two main traditions, the Ionian and the Italian, is meant. Plato puts it into mouth of the Eleatic guest not by accident: Parmenides in his poem tells the story of the same battle himself. The 'two-headed' of the 'third' way in Parmenides correspond to the 'Ionian Muses' in Plato's *Sophist* 242de, i.e., to Heraclitus who opted for the paradoxical identity of one and many.

Once we stop viewing the early Greek philosophy through the distorting lens of the modern stereotype of 'Presocratics' and of pseudo-historical developmentalism, and start looking at it through the eyes and insights of Plato in his 'Gigantomachia' paradigm, and of Aristotle in his lost 'On philosophy' (the division of all early philosophers into Ionian *physikoi* and Western *aphysikoi*), the theoretical conflict between rationalists and empiricists in the first two centuries of ancient philosophy becomes very similar to the general course of events in Modern philosophy in 17th – 18th centuries. This parallelism can be explained, firstly, by the fact that both epistemological debates were triggered by a preceding Scientific Revolution that brought new forms and paradigms of knowledge. And secondly, by the direct impact of ancient philosophy, the revival of interest in both ancient traditions: that of rationalist 'gods' (Plato, Aristotle) and that of empiricist 'giants': the recovery of ancient atomism by Bacon and Gassendi etc.

Francesca Masi (Associate Professor of the University Ca' Foscari of Venice, Storia della Filosofia Antica)

“Epicurean Theory of Representation between physics and epistemology”

This paper investigates the nature and origin of representation (*phantasia*) within the framework of Epicurus' atomistic psychology. The philosopher outlines his theory of representation in paragraphs 49-51 of the *Letter to Herodotus* within the context of a more general explanation of perception and thought, distinguishing visual representation from mental representation. However, it is not entirely clear how Epicurus explains their formation from a physiological point of view, and this also prevents us from fully clarifying what their epistemic properties are. The purpose of this paper will therefore be to explain how, for the philosopher, partially different physiological mechanisms underlie the formation of the two types of representation. In particular, it will be argued how distinguishing their different mode of generation is crucial to fully understanding, on the one hand, their specific iconic nature, that is, their peculiar ability to reproduce the characteristics of the external objects to which they refer, and, on the other hand, their respective cognitive function.

Chiara Militello (Associate Professor of History of Ancient Philosophy, University of Catania)

“The nine steps of knowledge attributed to Olympiodorus and their relationship to the body”

In some of the manuscript copies of David's *Introduction to Philosophy*, the following sentence is added after the discussion of the different kinds of knowledge:

‘We should know that Olympiodorus says the following about the ascent to knowledge of philosophy: first comes perception, second imagination, third opinion, fourth trial-and-error (*peira*), fifth experience, sixth knowledge, seventh science, eighth memory, and ninth wisdom, the desire for which is philosophy.’ (David *Prolegomena* p. 47, transl. Gertz)

This list of the different steps of knowledge is interesting, particularly because it seems to combine two different classifications, both of which were often cited at the neoplatonic school of Alexandria and already had a rich history back then. One classification had five main forms of knowledge: (1) perception, (2) imagination, (3) opinion, (4) discursive reason and (5) intellect. The other classification included trial-and-error, experience and craft, to which were added (depending on the case) perception, memory and science. In the first part of my paper, I will try to explain how these two taxonomies were combined in the nine-step model attributed to Olympiodorus. I will also check whether this model is compatible with the statements in Olympiodorus' extant writings.

In the second part of the paper, I will examine the relationship of the nine steps of knowledge to the body. I will focus specifically on imagination and its relationship with the luminous body.

Melina G. Mouzala (Assistant Professor of Ancient Philosophy, University of Patras)

“*Amathia* and the Role of *Dianoia* and *Thumos* in the cathartic *Elenchus*.

Plato's *Sophist* 226b-230e: A Case Study”

The aim of this paper is to try to decipher the mechanism in which the cathartic *elenchus*, Socratic or Sophistic, operates regarding the recovery from *amathia* by scrutinizing the relation between *amathia* and the tripartite soul, and more specifically the relation of *amathia* to *dianoia* and *thumos*. The passage on which we focus our investigation is Plato's *Sophist* 226b-230e, where the Visitor develops an argumentation which culminates when he describes the sophistry of noble lineage. Within this framework our further aim is to identify the character of the Socratic and Sophistic *elenchus*, given that the body-soul analogy and the description of the *elenchus* illustrated in the *Sph.* 230 b-e leaves open the perspective/possibility of a more complex interpretation than conceiving of the *elenchus* merely as education. Firstly, we will search for the meaning of the notion of *amathia* in some crucial Platonic passages. Secondly, we will study the relation of *amathia* to *kakia* as it is presented in the *Republic*, the *Sophist* and the *Laws*. Thirdly, we will examine the relation between *dianoia* and *thumos* and their role in the *elenchus* as depicted in the *Sophist* 230 b-e and some relevant Platonic passages, which are crucial for our understanding of their involvement

in dialectic and for the identification of the character of the *elenchus* as it is illustrated in the *Sophist*.

Georgios Papageorgiou (MSc), **Constantin Potagas** (Associate Professor of Neurology and Neuropsychology), **Nikolaos Laskaris** (Assistant Professor in Electronics with emphasis on the use of techniques with applications in Art and the Environment), **Georgia Angelopoulou** (Postdoctoral researcher), **Dimitrios Tsolakopoulos** (MSc), **Dimitrios Kasselimis** (Assistant Professor of Neuropsychology)

“Greek mythology and cognition: Questions that transcend time and space”

The complexity and mysteries of human cognition has been an amaranthine topic in the history of our species. Since ancient times, various attempts to interpret different aspects of the human behavior have been made. Such efforts are evident in ancient Greek literature and myths, for example the soldier who suddenly lost his speech after being informed of Patroclus’ death in Homers *Iliad*. Those descriptions include detailed information of possible cognitive and psychiatric deficits but namely reflect the perennial questions that concern different modalities of cognition. Based on that notion, our presentation will focus on mental constructs, such as memory and speech, derived from Greek myths, as well as demonstrate ancient philosophical concepts that continue to challenge neuroscientists in the modern era.

Constantin Potagas (Associate Professor of Neurology and Neuropsychology, Faculty of Medicine, National and Kapodistrian University of Athens)

“ΕΙ ΠΑΝΤΑ ΤΑ ΟΝΤΑ ΚΑΙΝΟΣ ΓΙΓΝΟΙΤΟ ΠΙΝΕΣ ΑΝ ΔΙΑΓΝΟΙΕΝ or The Dream of a Complete Knowledge of the World through Senses: The Case of Olfaction”

Attempting to reduce the ancient knowledge to some vague presage of contemporary knowledge is anachronistic. Olfaction is a rare example of minimal

self-confidence in the all-mighty contemporary science: nobody in this field dare to pretend that we have yet entered a complete stage of knowledge, that we are in possession of a complete explanatory theory of the mechanisms or that we have, at least, any certainty on the exact function of the olfaction itself – hence, that we can fully understand its uses. When in turn we read Plato, Aristotle, and Theophrastus, in search of the “ancient” knowledge on olfaction, we discover some very interesting assumptions and we realize that the initial questions and hypotheses remain valid to the present day.

Kiki Sidiropoulou (Associate Professor of Neurobiology, University of Crete)

“The Importance of Memory and its Contribution to Life in Ancient Greek Philosophy, especially in Aristotle”

Kyriaki Sidiropoulou, as neuroscientist, will present the ideas mentioned by ancient Greek philosophers with regards to memory and learning and discuss them in contrast to the modern theories about memory and the biological basis of memory as we now understand it.

Memory is a significant and necessary attribute of our personality, well-being and survival competency which links our past to our present. Memory refers to the process by which we retain information over time and use it to guide our behavior, thoughts, and emotions. Memory involves the integration of information from various sensory inputs and cognitive processes to form a representation of past events or knowledge.

In ancient Greek philosophy, Heraclitus was the first philosopher to suggest that memory is the attribute which we use to make sense of a continuously changing world. Plato, in his work "Phaedo" suggests that the soul is immortal because of our ability to remember things, an ability that is maintained after our death and exists before our birth. Aristotle, as evident from his work "On Memory and Reminiscence", then expanded the discussion on memory. Aristotle suggested that memory involves three processes: encoding, storage, and retrieval. Furthermore, Aristotle believed that sensory information and experience play a crucial role in memory, that is, we remember things more vividly when they are associated with sensory experiences. Aristotle also mentioned the idea that memory can be strengthened with repetition and practice,

like a muscle. Finally, Aristotle proposed that our ability to remember new information depends on how well we can associate the new piece of information with existing knowledge and experiences.

Modern neuroscience has significantly advanced our understanding of how the brain represents memory. Several ideas discussed from ancient Greek philosophers, as mentioned above, have found empirical, biological evidence in several scientific studies conducted with different species of animals, and not just humans. Points of convergence and divergence will be discussed while also presenting a framework by which modern neuroscience, based on ancient Greek philosophy, have expanded the field of memory, including different types of memories, different functions for memory, and different stages in how the brain processes memory.

Irini Skaliora [Professor of Cognitive Science, Director of MSc Program in Cognitive Science, Department of the History and Philosophy of Science University of Athens, Affiliated Investigator, Neurophysiology Laboratory, Center for Basic Research, Biomedical Research Foundation of the Academy of Athens (BRFAA)]

**“Perception and cognition
in ancient philosophy and contemporary neuroscience”**

How did the ancient philosophers view perception and cognition? Are they distinct processes or does one influence the other? And what is the current thinking in contemporary neuroscience? In this paper, I shall attempt to sketch the evolution of ideas on this issue since Parmenides, and present a neuroscientist’s perspective on the so called “cognitive penetrability” of perception.

Corentin Tresnie (Research Fellow at FNRS [Université libre de Bruxelles and KU Leuven])

"Cognition and Recognition in Proclus' Account of Perception and Learning"

Ancient philosophy frequently deals with various cognitive faculties: sense perception, imagination, opinion, discursive thought, intellection, and so on. Each school faces its own problems concerning how these faculties are related to each other, as well as to the parts of the body. According to Neoplatonic metaphysics, bodies are the "unfolding" of an incorporeal psychic reasoning, which is itself the "unfolding" of the self-thinking activity of intellect. Yet we seem to form opinions, concepts and reasonings on the basis of sense perception, which relies on corporeal organs. How is this possible? This paper will focus on the model that can be drawn from the highly systematic philosophy of the fifth century Neoplatonist Proclus. It will attempt to provide a satisfactory explanation of Proclus' claim that sense perception is actually a derivative of opinion, which is a rational, incorporeal activity. In order to do so, it will track the passages where Proclus models sensation and characterizes it relatively to other cognitive processes. Every sensation is a perception of change, which may or may not be channeled through the body. This perception can be analyzed in three to four layers of unequal passivity. With higher levels of sense perception, the soul grasps the unity and distinctness of the perceived change with greater precision. This is made possible by the underlying opinions that structure every sensation and provide it a *logos*. In turn, sense perception may foster the generation and improvement of opinions and even of reasoning, thereby improving the precision of further sense perceptions.

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Creative Thinking: a Plotinian Approach

When we talk today about creative thinking, we typically relate it to the creation of new ideas, connections, or solutions to problems. Much of contemporary neuroscience has turned to the elucidation of the creative process, especially with a view to identifying the conditions which can enhance creativity. Early approaches tended to associate creativity with a specific part of the brain, the right hemisphere. This led to the popular understanding that those with a dominant right hemisphere (which is responsible for emotions and imagination) are more

creative thinkers than those with a dominant left hemisphere (which is responsible for reasoning, language, and numerical skills), who tend to be more critical and logical. In recent years, however, we have seen the debunking of this ‘myth’, and researchers claim that whether thinking creatively or critically, we receive input from both parts of the brain, which, although primarily responsible for different functions, work together in almost everything that we do in our life. Be this as it may, the distinction between creative and critical thinking obviously impacts on our understanding of thinking more generally, and of philosophical thinking more specifically.

Philosophical thinking, predominantly conceived as critical and analytical, is distinguished from creative thinking. As it were, the former is the proper job of philosophers; the latter, that of ‘creatives’, i.e., of inventors, artists, ‘makers’ or ‘poets’. The quarrel between philosophy and poetry goes a long way back in the history of philosophy, but for ancient philosophers, philosophy is not merely an intellectual pursuit but rather a way, the best way, of existing-in-the-world, aiming at transforming the individual’s self and life. Even within this context though, the philosophical life, which is devoted to thinking, reflecting, or contemplating is still typically contrasted to an active life, which is directed at acting, making, or creating. For Plotinus however, the superiority of the philosophical way of life lies precisely in bridging the gap between theory and practice, between thinking and making, broadly conceived. If philosophical thinking can indeed be transformative, then thinking itself would be a form of making, even in some highly qualified sense.

By reconstructing the relationship between philosophical thinking and creative activity in Plotinus’ metaphysics and epistemology, this paper will outline his account of thinking and self-thinking as a form of making and self-making, where distinctions between critical and creative thinking, understanding and imagination, subject and object of thought are put into question. Plotinus’ approach, I shall be arguing, may be a promising starting point for a new understanding of creative thinking by foregrounding what for Plotinus appears to be a condition of creativity: to create something new, one must become something new.

