

THE DAWN OF COSMOLOGY: SUMERIAN, EGYPTIAN AND PHOENICIAN CONCEPTS OF THE UNIVERSE

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***Abstract.** This paper explores the distant roots of Greek and pre-Aristotelian cosmology, having a profound impact on the formation of Western science and philosophy and stretching as far back as ancient Sumer, Egypt, Phoenicia, Babylonia and Etruria. Following the sign Cosmos in ancient poetry, myth and primitive scientific discourse, the study offers a diachronical analysis of the evolution of knowledge about natural signs and their interrelationships, and its impact on human culture. It points out the shared primitive scientific observations, surprising ancient discoveries of the dynamics in the natural semiosphere, the innate cyclicity and interactions within the universe, the patterns of natural signification, forgotten and rediscovered again in later antiquity, as well as in modernity. It lays out the corpus of the earliest perceptions about cosmos and cosmological presentment with their impact on homo sapiens, as well as the valuable analytical basis, inherited later by ancient Greece and Rome, and the West which would be at the core of the modern science, philosophy and medicine. It also offers an analytical prelude to the Aristotelian cosmology.*

1. Sumerian Image of Cosmos and Natural Semiosphere

According to Aetius, Pythagoras was allegedly the first to call the sum of the whole by the name ‘cosmos’ due to the order it displayed (M.Wright, 1995: 4). Despite this accepted and well-known traditional perception, the ideas of the Universe and the Whole do not originate with the Greeks, nor with their mentors, the forgotten Phoenicians. In fact, one may trace them as far back as the distant and less remembered Sumerians, who had arrived to the banks of the Tigris and Euphrates around 40,000 BC and who are the earliest known inventors of the secular imaginative cosmological theories. As the earliest amateur primitive scientists, the Sumerians based their conceptions of the universe on the accumulation of concrete facts and long patient observations of nature or natural signs. By 20,000 BC, the Sumerians, the Indo-Europeans, “had been swallowed by the Semites,” but their language still remained the language of liturgy and scholarship (Bottero, 69). The earliest casuists, they passed on their theories to their neighbors across Mesopotamia and Middle East, i.e. to the Egyptians, Phoenicians, Babylonians, and even Etruscans, the migrants from Crete and Asia Minor.

The most ancient representation of cosmos was not known until 1800, when the excavations of Khorsabad, Nimrud and Nineveh (the Sumerian towns) were made. The name ‘Sumerian’ was given to the cuneiform-inscribed language, different from the Akkadian and Babylonian, by the French scholar Oppert (S. Kramer, 1961:5). It was later confirmed by the later excavations of Lagash and by 100, 000 of miraculously found clay tablets, the evidence of another, totally different distant

civilization, which contrasted the existing conceptions of the universe, outlined in Persian, Babylonian, Hebrew and Greek and Roman mythology. The discovered Sumerian mythology was by no means primitive, despite its distance in time. Samuel Kramer, one of the leading authorities on Sumer, attributed to the Sumerians the invention of the cuneiform writing, as well as the earliest known conceptions of the world, the origin of man and animals, and the entire cosmos. The scholar emphasizes the unique Sumerian vision of the world, its organic unity and the earliest articulation of biocosmology.

The Sumerians saw earth, sea, air as a single unified tripartite entity which allegedly begot Man, making him their integral part. This is the earliest story of the creation of the universe in one of the Sumerian clay tablets:

After heaven had been moved away from the earth,
 After earth had been separated from heaven,
 After the name of man had been fixed
 (PBS X,4 16, Kramer, 1961:37).

This sophisticated version, predating all others in Mesopotamia, including the most known Biblical story, presents cosmos as a single Whole, the outcome of the natural logic and cosmic creativity, surprisingly excluding the concept of the creator. The distant Sumerians, unlike the later civilizations, had apparently passed the deistic stage of world construction and were no longer fixated on the creator. They were more concerned with the observation of the natural cycles, the dynamics of nature, the forces of separation and unification. The act or process of separation had been observed as one of the most vital and creative phenomena which produced human beings: HEAVEN EARTH MAN.

The Sumerian creative imagination acknowledged Cosmos as the given First, then the movement within it, as the Second, and only then distinguishing separation and change as the Third. In the Sumerian mind, the start was the natural reality, the semiosphere which they observed and where they found numerous complicated processes, transformations, significations and relationships between various **natural signs**. The Sumerian mind was very analytical, materialistic and pragmatic. It acknowledged the primacy of the Natural World, its power, complexity and the inexhaustible source of creativity. Unlike the ancient Hebrews, who millennia later would grant primacy to the Word — “in the beginning there was the word” — the Sumerians viewed man, the producer of Logos, as a part of the organic whole, a cosmic particle, whose name and role had been fixed very late, at the later stages of cosmic evolution. They invented deities very late and did not entrust them with any substantial duties. Unlike the later cultures, the Sumerians populated cosmos with deities for pure amusement, having decorated the cosmic quarters with idle and inapt gods only afterwards, at the moment when they had already acquired primitive philosophy and science, and cosmology. This unique feature distinguishes the Sumerians from all the later neighbors, conquerors and borrowers of their culture: the Sumerians invented their deistic pantheon as a humorous picture of the real world,

but not out of fear and ignorance. Their harmonious and civilized urban coexistence did not require the divine supervision and rule, they created gods when they needed and wanted to be entertained, or view cosmos as a theatre stage.

In their late poetic mythology, the Goddess Nammu, “written characteristically with the ideogram for sea, was described as mother who gave birth to heaven and earth” (S. Kramer, 1961 : 39). This captured the Sumerian cosmic order— the sea or water was the primeval force and accepted as the cosmic given, the **dominant natural sign**. They attributed the separation of Heaven from the Earth to **An**, whose children, the product of the union with **Ki**, were called **Annunaki**. While Utu was the Sun god and Nanna the queen of heaven. Unlike the later cultures, the Sumerians mocked their gods rather than worshiped them, making them look foolish. For instance, in the Sumerian myth, the god Enki eats the eight plants brought to Earth by the god of plants. The drunken gods mistakenly sculpt wrong men out of clay: the blind, the cripple, the infertile male, the man without sex organ and eunuch. Inanna, the goddess of heaven, is also referred to as a harlot (S. Kramer, 1979: 74). In their imagination, the gods were barbarians who needed people in order to survive, man had to teach gods how to live, not the other way around, as it would happen millennia later. Judging by their cosmic mythology, the Sumerians attached their historic memory and sense of proud Self onto their gods whom they created at the moment in their history when they felt secure and could feel superior of and be amused by. Their gods neither judge, nor rule, nor do they punish. They exist as comic figures while man is a scientist in his cosmic lab, who comes to them to relax and be entertained, after thinking about the universe where air, water, earth, plants and animals are **the** given, or natural forms of signification.

2. Egyptian Cosmology

The recently interpreted by the Dutch scholar, Mark Smith, the Carlsberg papyri provide a glimpse at the world view of the ancient Egyptians, who substantially borrowed it from the Sumerians. The motif of the primaevial ocean or water is recurrent in both traditions. The Egyptians also came to treat cosmos or, the **natural semiosphere**, as a given reality in a state of eternal motion. What is interesting that the Egyptian God Ptah simultaneously delivers the story of the creation of cosmos and that of the town of Hermopolis. The urban Egyptians though, unlike the Sumerians, were unable to separate myth, historical and primitive scientific narrative and epic or give a separate account of the reality around them. Past and present are blurred in their thinking, so is the pantheon of gods and human universe. In the second fragment of the papyri, the god Ptah scatters the seeds and produces eight divinities out of them— “ four males with frog heads and four females with heads,” and “these are our little images” (M.Smith, 2002 :32). The Egyptians had the anxiety of living independently from their gods whom they imagined as the prototypes of humans. According to their mythology, the god Ptah, occasionally represented as a bull, is also the creator of the lotus plant from which the sun emerges in the form of a child (Smith, 2002 :52). This conception of cosmos, with the primacy given to the gods, is a step back from the Sumerian cosmic system, more primitive and thus

simplified. The creation process in the Egyptian narrative is instigated by and reduced to the deeds of the single deity, Ptah, who is **the one**, the earth maker.

However, the myth of the deity, swallowing all others, emphasizes the unity of the forces in the universe, while the *primaeval* ocean, working with the god Atum and bringing cosmos into being, alludes to the primitive materialism of the Sumerians. The Egyptian cosmos is also primary, predating man, plants and animals. The forces of the universe are clearly presented as the ultimate and omnipotent, easily overpowering humans. The Egyptian cosmology tales clearly denote the cyclical nature of the cosmic processes: beginnings, destruction, re-birth, and re-growth. The forces of nature happen to be in conflict with the human activities and goals, as well as with each other, i.e. the moon god fighting against the sun god. The so-called Coffin Text, Spell 335, gives the utterance of the God Re or Atum, “ I am great one who came into existence by himself” (M. Smith, 2002:204). It is the water, the *primaeval* ocean which nobody made. In the Egyptian imagination, the water came first, then came the winds, the sky, earth and the underworld. As much as the Sumerians, the Egyptians attributed great creative power to the wind as the separating factor or **a potent sign**, instigating the semiotic processes in the natural semiosphere. The wind presumably separated the earth from the sky — the God Shu was entrusted with this role and was the counterpart of the Sumerian Enlil. It is interesting that all the familiar biological and physiological processes observable by primitive man — copulation, fertilization, growth, illness, decay and renewal — had invaded the Egyptian cosmological poetry and epic. For instance, very often the Egyptians imagined the sun, having emerged from an egg. The egg image was the most **transparent natural sign**, commonly understood. Bewildered by the fantastic bewitching world, the Egyptians apologized for their poetic representation of the real. They often claimed that” humans came from the eyes of the chief deity and gods from his mouth” (M. Smith, 2002:70). They also created the temporal order of creation where water was first, then came the mountains, the so-called “ high sand” and the land (M. Smith, 2002:76).

The Egyptian cosmological hymns glorify the precious metals of the earth, they praise their deities with the standard epithets: “ his bones are silver”; “his skin is gold”; “his hair is real lapis lazuli” etc. (M. Smith, 2002:139). The experience of the real, its characteristics invade the fantastic Egyptian universe. Their cosmological tales also contain references to the real cities such as Hermopolis or Thebes, real countries (Syria and Egypt) and real seas (Dead Sea, the bitter lake, or the Great Green). The cosmos is called the House of Life, which has it all, the real, the imaginary and inhabited by different creatures, all united into a single entity. There is no clear separation between the real and unreal, possible and impossible.

Contrary to the assumptions about the Egyptian fascination with death and afterlife, it appears from the new archeological findings (Papyrus 100,061, dd circa 1,300 BC) that they accepted the finality of death and destruction, as a part of the cosmic cycle. The Song of the Harper from this Papyrus asserts that

There is none who returns from out there
 Make holiday and do not lag therein—
 See, no man can take his property with!
 See, none who departs comes back again.
 (David Greene, tr. *The Most Ancient Verse*, 1963).

This ancient poem reflects the Egyptian realistic vision of life and reality, understanding of the natural laws and the acceptance of the cycle of death and decay. These new papyri echo the message of the older *Epic of Gilgamesh*, the sole survived Sumerian epic from 2,100 BC, which forewarned man about one's mortality and the impossible desire to be alive forever. History and culture, as we know it, began in distant Sumer. It already, at the dawn of human civilization, had an unmerciful message about the inevitable ending of the existential journey and the biocycle of cosmos, not offering any illusions and teaching, instead, about the reality of Being. Unlike the later myths, it never promised immortality, even to the chosen heroes: when "man was created, death was allotted," preached the ancient wise Sumerian Epic of Gilgamesh (1972: 102).

3. The Phoenician View of Cosmos

The early ancient pre-Hellenic cosmology is characterized by the inexplicable atheism at its core. Despite the presence of deities, there is an essentially secular and primitively scientific model of the universe in the Sumerian, Egyptian and Phoenician concepts, so much differing from the later Mediterranean constructions, such the Hebrew or the Judeo-Christian mythologies. The Phoenicians, the mentors of the Greeks, appeared on the Mediterranean scene around 2,000 BC, developed the script and a most sophisticated for the time technology, science, art and literature. As early seafarers, engineers, architects and shipbuilders, the Phoenicians had developed astronomy, meteorology, mathematics and logic beyond the primitive levels of their predecessors. Philo of Byblos, who had translated into Greek the treatises of the Phoenician priest Sanchuniathon, insisted that the Phoenician cosmology predated the naive poetic cosmologies of Hesiod and Homer, and those of the later Pythagoras and Heraclitus.

They recognized movement, the clash of natural forces as the most powerful signification in the biosphere:

When the air burst into light, on account of the burning of both the land and the sea, there arose winds and clouds, and great downpourings of waters of heaven and floods ([806:28]1981:96).

Their picture of cosmos was primitively scientific, based on the careful attentive observations of the earthquakes, volcano eruptions and floods, which led them to the conclusions about the innate cyclicity in the biosphere, cosmic processes and the ingrained repetition of the same:

When [waters] were set apart and separated from the original place on account of the sun, all things met each other again, in the air and clashed together, thunder and lightening were produced (1981:97).

The ancient Phoenicians, the earliest most skilled seafarers, navigators, astronomers who had spread their urban civilization as far as Crete, Sicily (1,400. BC), Spain, Caucasus (1,000.BC), Crimea and Africa (900 BC), did not attribute the causes of the ominous natural signification to the divine intervention, but to the activity of the existing cosmos. Their Man was an active participant and bearer of the natural, rather than a frightened passive being. When they wanted to deliver a less analytical picture of the world to the illiterate average masses, the Phoenicians had a poetic cosmogony where “the wind loved its elements and moisture resulted, and plexus called Pothos (desire), the source of creation.” According to this poetic story, Mot, the slime, was the child of the wind, from which “every seed of creation was born and the origin of all things” ([806:17]1981:96).

Even this poetic picture, intended for the illiterate, is still rooted in the botanical, biological theory and knowledge, coming from the centuries of observing nature. The early living things first appeared as seeds, then appeared in the shape of an egg. The ancient observers of nature relied on their experience and available practical knowledge while explaining the unseen. The idea of the creature called Mud (Mot) came from the observation of the sun and the moon, and their imagined encounter, giving birth to the third. Their explanations were rooted in the familiar bio dichotomy of the male/female and the reproduction process, based on the natural understandable **triadic model**. Pothos (Desire) was also a product of the triadic union of the Land, Water, and Wind. **Duri dari** was the Phoenician image of the boundless universe, encountered across Mesopotamia. These basic conceptions of the origins of the world, with water and wind as the major active agents, would be later transmitted into the early Hellenic poetic cosmogony of Hesiod and Homer, and then, with the Phoenician philosopher Thales, would enter the Aristotelian biocosmology (Diogenes Laertius, 1972, vol.1., “Thales” 22-46; Aristotle. 444-42; A. Makolkin, 2008; 2009: 22-34). The Phoenician hypothesis which did not avoid some mythological quality still had quickly shortened the distance between the fantastic and primitive scientific view of the natural phenomena.

The Phoenician divine pantheon was borrowed from the Egyptian one — they also had sun god, El, who was supreme, but each of their cities had their own protector. Tyre had Melqart (Milk quart= city ruler) as a patron deity; Byblos had Agrotos (Hero of Agros) and Beirut was happy to have her nymphus Berytus. The early agriculturalists, voyagers, city builders and global colonists, the Phoenicians desperately sought to uncover the mysteries of the universe. They were aware of the power of the primal forces, the elements and the cyclicity of the natural processes, decay and rebirth, and all-connectedness of the Whole, of the innate harmony of cosmos, between the things animate and inanimate. They were intimately familiar with the dichotomy of gender, which shaped their anthropomorphic view of the universe and was paramount for the poetic cosmogony. In their view, the chaotic and

directed movements brought about the **cosmic egg**, the essence of the universe, which denotes their biological vision of the world, or the interpretations of the **natural signs**, affected by it. Much like the Sumerians and Egyptians, the Phoenicians saw the dynamics of the Whole, organized by movement of the parts, their relationship to each other and forceful encounter. They did not name atoms yet, but they knew how small particles could affect objects nearby. The world or cosmos appeared to them as a complicated, dynamic, evolving and alive Whole, a **semiosphere**, ready to display the **semiosis** of its parts.

Long before the Greeks, the Phoenicians had established that “everything was in everything” and had moved much ahead of their mentors-Egyptians, having rejected their mythologized picture of cosmos. The Egyptians pictured cosmos as a divine product where a female deity, Nut, with long extremities, was bent to protect the male deities and performed the most difficult task of holding them both:

Shu, the God of air and Light
holds the female sky -god Nut, separate from Geb, male earth- god
(M.R. Wright, 1995:76).

4. Babylonian/Akkadian Universe

Babylonian culture, a direct derivative of the Phoenician one, had incorporated most of the elements of the Sumerian and Egyptian cosmological systems. The Babylonian god Marduk was the prototype of the Sumerian Sun-God Utu or the Egyptian Thoth, or the antecedent of the Assyrian and Hebrew Shamash. According to the Babylonian myth, Marduk had ordered to build Babylon to serve as the “meeting place for the gods” (P. Walcot, 1966: 26). Thus, in the Babylonian beginning, the Sun was the primary force, a primitive precursor of the future heliocentric system, later revived by Copernicus, and the objective given, the real semiosphere. The divine forces were secondary to them, created within “the primal waters, mingled to form a single body” (P. Walcot, 1966:32). The cultural distance from the Sumerians though was marked by the gradual decline of the primitive science, the analytical controlled assessment of the world and the victory of poesis and myth, with its veneration of the divine intervention and retreat into the imaginary. In contrast even to the 14–12,00 BC Hurrian and Hittite mythology, concentrating on oneness and harmony, the Babylonian imagination was more naive and categorical. If the ancient Sumerian antecedents were free to imagine without the divine intervention and whose deities were designed to entertain and were deprived of responsible duties, the Babylonians placed gods on pedestal, having empowered them and assigned new significant roles to play in their lives. The Babylonians allowed gods to invade and rule them, having accorded them with unprecedented power and knowledge.

5. Etruscan World View

The mysterious Etruscans who flourished between 1,000–100 BC arrived on the territory of the future Roman Empire from Crete, the site of the Phoenician colony.

For along time, their writing and culture puzzled scholars, but the discovered inscriptions at Pyrgi (Cerveteri, Italy), which bear the writing in Phoenician and Etruscan languages, shed some new light, having sustained the hypothesis about the possible migration and cultural encounters of the Etruscans with the Phoenicians. According to Larissa Bonfante and Judith Swaddling, the Etruscans had 21 divinities, and among them they distinguished

USIL= sun= Helios
 Tiur= moon
 Cel=mother goddess

Some of them bear direct kinship to the Phoenician deities, such Apulu= Apollo, god of prophecy or Hercle, the future Greek Heracles. Unlike the Babylonians, the Etruscans preferred to keep their gods and shrines outside the city walls, not letting them interfere into human affairs (Natalia Timofeeva, 1980:85). But the most outstanding characteristics of the Etruscan view of the world was its biocosmological emphasis, more prominent than in the systems of their neighbors. The Etruscans relegated the task of interpreting the world not to deities but to themselves. Some of the most outstanding members of their community were made responsible for the interpretation of the **cosmic signs**, such as movement of the stars, lightening, wind, flood, thunder or earthquake. Their primitive biocosmology was strictly semiotic in nature, practice and functioning. It is not in vain that their primary book and manual about the universe was represented by the bronze liver model sculpture, an aid for a haruspex, the interpreter of cosmos and its signs who recorded them on a liver.

The future Graeco-Roman idea of oneness of Cosmos, the interconnectedness of all the **meteo** and **bio signs** within it had a long protohistory where the Etruscan methods of observation, collecting data about the universe, their conceptions and a unique interpretation of the phenomena constituted a significant transit point in the history of cosmological ideas. To them, the relationship between the Sun, Moon, Planets and the overall meteo-expression of Cosmos on the one hand, and the natural world of plants, animals, birds and humans, on the other, was of a complex semiotic quality, the strata of signs and their, interacting with each other, **signifieds**. The Etruscans were the first among the ancient biocosmologists who actually acknowledged the multilayered interaction of various signs and complex semiotic processes without actually naming them. To them, all signs had a specific purpose and way of expressing meaning, particularly those of the biosphere, directly affecting human organisms. Seneca, in awe of the Etruscan art of interpretation of lightening, noted that, in contrast with the late Roman views and methodology, the Etruscans did not dwell on the abstract cause of the phenomenon, but rather on its direct impact on human organism and its normal functioning or the relationship between Cosmos and all its bio signs.

The Etruscan cartography of the sky, called “*a brontosopic calendar*,” distinguished 11 types of lightening and produced the most meticulous classification of the bio signs, which they tackled pragmatically, persistently, ingenuously and

joyfully (J.R. Jannot, 2005:26). The **cosmological signs**, which appeared to them as most consequential for their own daily physical existence and for the life of the other living creatures, were documented in their *Tyrrhenike ornithoskopia*/ the Etruscan science of observing birds. Although their invented semiosis was motivated by fear of a real biological catastrophe and the unknown divine power, their cosmological system was a highly biology-motivated construct, with the primary focus on the impact of its functioning upon the living organisms. For instance, thunder on June 2nd signified to them easy delivery for women in labor, loss of domestic animals and the abundance of fish, while the October 21st signified trouble for asthma sufferers and heart patients (J.R. Jannot, 2005:188). This was the most remarkable interpretation of the bio signs, later supported by the modern theories of interdependence between the meteo and **corporeal signs**, acknowledged millennia later by modern medicine in the East and West.

In 1877, at the outskirts of Piacenza, Italy, there was found a bronze liver, one of the most precious artifacts and monuments to the primitive Etruscan science, semiotics and medicine, practiced by the privileged diviners (*haruspex*) (J.Welland,1972). This was the best evidence of the practiced by them art of *hepatoscopy* or a recorded projection of cosmos on the liver lobe, accompanied by the ingenuous *de facto- semiotic* interpretation, and one of the richest **cultural signs** of antiquity. In their imagination, the liver, the place where the soul allegedly dwelt, also signified the movement of cosmos, the impact of its invisible forces upon human body or the direct manifestation of permanent **cosmic signification**. Most scholars though were mostly interested in the religious aspect of the Etruscan *hepatoscopy*, the divine rites, sacred rituals and omens, not venturing beyond the religious and ignoring the philosophical, historical and cultural significance, as well as the roots of their biocosmology.

Conclusion

The primeval water, earth and sky of the Sumerians, the cosmic egg of the Egyptians and the Phoenicians, their acknowledgment of the heliocentric role in cosmos and the cyclicity of the universe paved the way to the later Hellenic and Aristotelian conceptions of the universe. The ancient naive amateur scientists laid the foundation of the future astronomy, meteorology, biology and medicine.

The diachronical analysis of the ancient forms of amassing evidence, conducting observation and interpretation alludes to the future scientific practices. It also registers the regrettable vicissitudes of human analytical thought through the ages, with the cycles of abandoning some discoveries, forgetting the wisdom of the past and coming back again to the lost findings of the cultural mentors. Our semiotic approach enables to demystify the modern scientific practices, establishing the line of continuity in the history of ideas and refreshing our shared cultural memory.

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