

## Chapter 1. Ancient Greece

Although our story begins in Ancient Egypt and Mesopotamia, or even perhaps in more remote prehistorical times, we are going to pick it up in Ancient Greece, and trace forward from there. Our subject is sometimes known as the Western Esoteric Tradition.

### 1.1. Athens

The geographical and social stage for the philosophical drama of the western tradition involves five primary cities: Athens, Alexandria, Rome, Byzantium, and Baghdad. We are going to extract from the history of these cities the minimum data we will need to follow the evolving drama, utilizing the smallest practical set of references.

Attica coalesced by 700 BCE into the city-state of Athens, ruled by nine archons. In 594, Solon was made sole archon. Around 550, the religion of Dionysius was introduced. There was a democratic reform of the constitution in 508.

Between 559 and 510, Cyrus, Cambyses, and Darius created the Persian Empire, the largest the world had seen. Then, under Xerxes, it made war on Athens, which ended in 449.

The Peloponnesian War (431-404) and a plague devastated Athens and Sparta. The Acropolis -- including the Parthenon (begun in 447) and several other monuments -- was completed during this period.

Socrates (469-399) began a new tradition in philosophy, his student Plato (427-347) founded the Academy in the grove of Academus, his student Aristotle left Athens after the death of Plato, tutored Alexander the Great as a child, then returned to Athens after Alexander's death to found the Lyceum in the grove of Lycus.

The Hellenic period..., the Hellenistic period.

#### Sources

[Garrity, 1972/1986; ch. 15], [Langer, 1940/1956; pp. 50-61]

### 1.2. Orphism and the Orphic Hymns

#### 1.2.1. Orpheus

The mythical Orpheus, born around 1000 BCE in Thrace or Macedonia. According to legend, the son of Kalliope (one of the Muses) and Apollo, or perhaps, Oiagros, a river god. Sailed with Jason and the Argonauts searching for the Golden Fleece, protected them from the Siren with his magic song. Charmed animals with his lyre. Tried to rescue his lover, Euridice, from Hades. Expounded the religion of Dionysos. Killed by the Maenads. [Guthrie, 1993, Ch. III]

#### 1.2.2. The Orphic Tradition

Our main theme, is a perennial, though still overlooked, undercurrent in European civilization: a mythic current we call the Orphic Tradition. Born in the goddess-worshipping partnership societies of the Paleolithic past before 25,000 BC, this tradition was overpowered and absorbed by the patriarchal dominator society in Neolithic times since 4,000 BC.

Because the emergence of this tradition into the historical record coincides with Orphism, the most important religion of ancient Greece, we shall refer to the entire cultural current as the Long Line of Orphism, or the Orphic Tradition (OT). Like a great river system, the OT arose in a pure spring of partnership culture in the remote past, flowed through time with many branchings and

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combinations, became brackish with cultural debris, and was replenished occasionally as by a fresh spring, in yet another Orphic Revival, a wave of resurgence, inevitably followed later by a backlash wave of repression.

Indeed, since its early historical period, the Orphic Tradition has come to the surface of history from time to time in such an Orphic Revival, characterized by a return of the partnership values of prehistory, by a renewal of creativity in the arts, a striving for the rights of women, for the rights of animals, for the preservation of the environment, and for peace. Fundamental to this conflict between the partnership way and the dominator paradigm is the dichotomy of chaos and order. The patriarchal religion worships order, and strives always to defeat chaos, while the old partnership way accepted chaos and order, apparently without conflict.

The deepest roots of the now re-emerging concepts of Chaos, Gaia, and Eros have been found in the planet-wide religion of the Mother Goddess, of the Late Paleolithic world, 25,000 years ago. This area of scholarly work has provided us with some of the important shifts of our historical images. These roots are shrouded in the mystery and uncertainty characteristic of prehistory (preceding our extant written records).

As a viable society, the gylanic Minoans died out completely around 1400 BC, taken over by the androcratic Myceneans. But the religion, ritual, and mythology of Minoan Crete and its gylanic root culture were incorporated and preserved in the Mycenaean culture, and later in ancient Greece, in the form of Orphism, and its mystery schools.

By The Long Line of Orphism we mean this whole root system:

- \* the Paleolithic religion of the Mother Goddess since 25,000 BC,
- \* the gylanic planetary culture of the Early Neolithic after 10,000 BC,
- \* its climax at Catal Huyuk, 6,000 B.,
- \* its partial erosion in Sumer, 4,000 BC,
- \* its defeat in Babylon, 2,000 BC,
- \* its postflorescence in Minoan Crete, 1,500 BC,
- \* its gender transformation in Mycenae, 1,200 BC,
- \* its reconstitution in the Orphic and Mystery traditions in ancient Greece, around 600 BC,
- \* their vestigial remains in Western Civilization up to the present time.

As we will see, the early Orphic tradition in Crete was contemporaneous with parallel traditions in Mesopotamia, Ugarit, and Egypt from 3,000 B.C. to about 400 A.D. These four traditions — Sumerian/Babylonian, Egyptian, Ugaritic, and Cretan — constitute the root system of Western Civilization. Trinity is characteristic of the Orphic tradition, since its origin in the Goddess culture of TriVia. The rise of Christianity out of Judaism combined the Three into One, but the Long Line of Orphism carries on \\*- in the Collective Unconscious, and in some of the trinities, sciences, and secret societies, of our time.

### 1.2.3. Orphic Revivals

The miracle of ancient Greece, which preserved some aspects of partnership culture \\*- including Greek Orphism \\*- underneath the veneer of a strong dominator overlay, is epitomized by the Academy of Plato and the Lyceum of Aristotle, both in Athens, and their successor university, the Alexandrian Museion.

Reformations of the Orphic Tradition include:

- \* Orpheus reformed Dionysism,

- \* Pythagoras reformed Orphism,
- \* the Buddha reformed Hinduism,
- \* Plotinus reformed Platonic Neopythagoreanism,
- \* Jesus reformed Judaism.

All of these reformations involved the revival of Orphic features. Reformation, as in these examples, is an archetypal form of social transformation. So also is revival, which repeats an earlier reformation. Many important social transformations following the fall of ancient Greece have Orphic features: For example, the rise of early Christianity may be regarded as an Orphic Revival, for its early themes of Gnosis, the Trinity, and Love are clearly Orphic and Neoplatonic, as its later theme of the Mother. There are other parallels between Orpheus and Jesus, as historical or mythical figures. They were both reformers, leading people towards an increased sensitivity and love for all life: plants, animals, women, and men. Both were also saviors, identified with the hope for the salvation of individuals, and of the world. The Troubadour Renaissance in the South of France in the Eleventh Century and the Neoplatonic/Hermetic Renaissance in the North of Italy in the Fifteenth, have also been described as Gylanic Resurgence Waves by Eisler. We will call them Orphic Revivals. Some of the Orphic features recognizable in these historical events are:

- \* a movement toward partnership of the genders,
- \* more freedom in sexual behavior,
- \* a florescence of the arts, and
- \* a renewal of spirituality.

The social upheaval in the United States and Europe in the 1960s also fits this pattern of Orphic Revival. From this most recent Orphic Revival were born three recent paradigm shifts within the sciences, all based on the mathematical theories of dynamical systems, chaos, and bifurcations. The cultural transformations of the 1960s affected the evolution of dynamical systems theory, and the lives of the mathematicians (such as myself) working in this field; chaos theory was the result.

These three paradigm shifts in the sciences, occurring in distinct areas at the same time, in the 1970s, carry the names of Chaos, Gaia, and Eros. At that time, probably no one involved knew that these three names belonged to the three most important concepts of early Orphism, the Orphic Trinity of Hesiod, from 800 BC, until Hypatia's death, in 415 AD. The original significance of the Orphic Trinity of Chaos, Gaia, and Eros is determined by Orphic mythology.

The three concepts, Chaos, Gaia, Eros, have a continuous tradition from the paleolithic past to the present. The trinity form from the paleolithic goddess religion survives even today. Orphism, the most important religion of ancient Greece, straddled the shift from the partnership society, worshiping the Divine Mother and her Divine Son or lover, to a male-centered, dominator system.

Our vision of the Long Line of Orphism is based upon the thesis, of Melaart, Gimbutas, and Eisler, of a major social bifurcation around 4000 BC from a partnership society to a dominator system. Thus, the Long Line of Orphism connects our Utopian past and future, like Ariadne's thread, strung through the labyrinth of our troubled present. [From Chaos, Gaia, Eros: Intro Part 2: XGE/TEXT2/CH1/part1.b of 1992]

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### 1.2.4. Greek Orphism and the Orphic Hymns

Orphism was the most important religion of ancient Greece, and was characterized by meditations, rituals, and a unique philosophy. The rituals and meditations apparently involved music and hymns, but the only surviving records are the texts of Orphic Hymns written in late antiquity. In the English translation of Athanassakis, the 87 surviving hymns occupy about 50 pages. The titles are mostly names of divinities. Here is a sample, a short hymn called: 5. *To Ether*. Crocus is suggested as the appropriate incense for its rendition.

Yours are Zeus' lofty dwelling and endless power, and of the stars, the sun,  
and the moon you claim a share.  
O tamer of all, fire-breather, life's spark for every creature,  
sublime Ether, best cosmic element, radiant, luminous, starlit offspring,  
I call upon you and beseech you to be temperate and clear.

#### Sources

[Abraham, 1994. (Ch. 9)], [Athanassakis, 1977], [Hogart, 1993]

## 1.3. The long line of Platonism and Neoplatonism

Here is the list of all the significant persons (mythical and real) in the roots and branches of Platonism.

### 1.3.1. Ancient Egypt

- Ua

See [Charles Finch, preprint]

- Amenhotep IV - Akhnaton, 1387 - 1366 BC

Twenty-one years of monotheism. Following the priesthood of Heliopolis, Amenhotep IV worshipped three sun-gods:

- Re-Harakhti

The falcon-headed Horus of the Horizon.

- Aton,

The physical sun itself.

- Shu

A third sun-god, deposed Amun, the king of gods of Thebes. [Steindorff, Ch. 14] He ordained the worship of Aton before all other gods, and built a precinct for Aton, called Akhetaton or Amarna, midway between Thebes and Memphis.

### 1.3.2. Ancient Greece

#### Early antiquity (Presocratics)

- Orphism (ca 800 BC)

The Orphics brought the doctrine of the immortal soul to Greece from the East. [Grube, p. 121]

- Pythagoras (ca 550 BC)

Inspired by his long stay in Egypt and by the orphics, Pythagoras introduced a mathematical religion combining the metempsychosis of the immortal soul, the primacy of the One, and an arithmetic cosmology.

- Parmenides (ca 475 BC)
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Parmenides asserted the existence of the One, eternal and immovable, as the basis of the material world.

- Empedocles

### **Plato**

- Plato, 428-347 BC.

After the death of Socrates, Plato wrote the early (Socratic) dialogues in two groups (8+6=14, including Republic I). Following his first trip to Sicily (387 BC) and his meeting with Pythagoreans, especially Archytas of Tarentum, he founded the Academy, and wrote the 8 middle dialogues (including Republic II-X). Following his second trip to Sicily (367-365 BC) he wrote the 6 late dialogues. The theory of ideas and forms occurs in the middle dialogues, especially Phaedo, Symposium, Republic II-X, Phaedrus, and Parmenides. The Good, a special form, appears in the Republic. In Parmenides Plato says that the One is not in time and has no share of time. [Kraut, p. 39]

The cosmology, the World Soul, and the Demiurge, are presented especially in Timeaus, the first of the late dialogues. [Kraut, p. xii] In Timeaus Plato says that forms are eternal, that time is a moving image of eternity. [Kraut, p. 39] In the Timeaus, also, we find the tripartition: ideas, world-soul, and sensibles. [Merlan, p. 221] The soul includes the world-soul, and individual souls, both incarnate, as human souls or minds, and discarnate, as daemons. Daemons carry messages between gods and humans. [Louth, p. 34]

We must always try to keep in mind that "Plato" may be a person, a group, or a scholarly tradition.

### **Old Academy**

- Speusippus
- Xenocrates

Speusippus and Xenocrates identified the soul with mathematical. [Merlan, p. 222] Xenocrates trinity: Zeus (number), monad, dyad. Also, One-number-soul, dyad-intelligibles, existence-sensibles. Daemons (both good and evil) are sub-lunar. [Dillon]

- Aristotle
- Posidonius

The division of being into three spheres (ideas, mathematical, and physical) was reported by Aristotle as Platonic. Posidonius equated this with the tripartition of Aristotle: ideas, mathematical, physical. Hence the equation: world-soul = mathematical. [Merlan, p. 221]

### **Middle Platonists**

- Philo, Alexandria, 20 BC - AD 40.

Philo Judeus worked at the harmonization of Platonic and Hebraic philosophy. Among other things, he identified the angels of Moses with the daemons of Plato. [Edwards, v.6, p. 152]

- Numenius

### **Neoplatonists**

Here is a definition of Neoplatonism, abstracted from [Merlan, p. 1].

1. Hierarchy of spheres of being, ending with ordinary reality (being in space-time).
  2. The series is a causal chain.
  3. Series begins with a principle which is the source of all being.
  4. The supreme principle, the One, is beyond being, is unique, and utterly simple.
  5. Each successive sphere is more complex, and more deterministic.
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6. The knowledge of the One is above predicative knowledge.

And here are the neoplatonists:

- Ammonius Saccas (Alexandria, 175-250 AD)
- Origen (Alexandria, Christian, 185-254)
- Plotinus (Rome, 205-270)
- Porphyry (Rome, 232-304)
- Iamblichus (Syria, 250-326)
- Proclus (Athens, 409-487)

In Iamblichus and Proclus, the tripartition (ideas, mathematical, physical) was reiterated, together with the equation, soul = mathematical. [Merlan, p. 221] Perfection of Plotinus, triads within triads. [Harris, p. 10]

- Denys, the pseudo-Dionysios (Alexandria, ca 500)

The hidden author of the *Corpus Areopagiticum* adapted the triads of triads of Proclus to the angels/daemons of the neoplatonic hypostasis of soul and created the hierarchies (he invented the word) of angelic choirs:

- first rank: seraphim, cherubim, thrones
- second rank: dominions, powers, authorities
- third rank: principalities, archangels, angels

For Porphyry, Iamblichus, and Proclus, these choirs of angels would be intelligibles, that is, belonging to the Nous, above the realm of Soul. [Louth, p. 37]

- Marinus (Alexandria, Jewish, c. 500, infl. Kabbalah)
- Marius Victorinus (Rome, Christian, c. 350)
- Hypatia (Alexandria, Pagan, c. 415)
- Stephanus (Alexandria, Christian, to Byzantium c. 600) [Harris, p. 11]

### 1.3.3. Middle Ages

#### Byzantium

- Michael Psellus (1018-1079)
- George Gemistos (1360-1450)

#### Islamic

- al-Farabi (870-950)
- Avicenna (980-1037)
- Averroes (1126-1198)

#### Jewish

- Isaac (850-950)
- Joseph (d. 1149)
- Solomon (1020-1070)
- Abraham (1092-1167)

#### Christian

- Augustine (354-430)
  - Boethius (470-525)
  - Pseudo-Dionysius (c. 500)
  - John Eriugena (820-870)
  - Thomas Aquinas (1225-1274)
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- Dante
- Meister Eckhart (1260-1327)
- Nicholas of Cusa (1401-1464)

#### 1.3.4. Renaissance

- Ficino (1433-1499)
- Pico della Mirandola (1463-1494)

##### Cambridge

- John Colet (1466-1519)
- Benjamin Whichcote (1609-1683)
- John Dee (ca 1600)

#### 1.3.5. Modern

- Bergson (ca 1900)
- Sheldrake (contemporary)

##### Sources

We have followed Deck, Dillon, Edwards, Gregory, Grube, Harris (Long line of platonism given in 20 pages), Kraut, Louth, Merlan, and Steindorff.

### 1.4. Pythagoras

Pythagoras of Samos, born ca 570 BCE. Travelled and studied in Egypt and Babylon. Initiate and reformer of Orphism, which became the most important religion of ancient Greece. Synthesized spiritual and natural philosophy into the framework for classical Greek culture, including the metaphysical and sacred aspect of Number, the One (monad, unity) and its emanations. Introduced the terms philosophy and cosmos. Created a school around 520 BCE in Croton (southern Italy) featuring communal living, gender equality, vegetarianism, mystery initiations, Orphic poetry, harmonics, music therapy and the monochord, geometry, arithmology, and cosmology. The school was destroyed by a popular revolt around 500 BCE. Among the important followers were Philolaus (b. 474 BCE) and Archytas of Tarentum, an important influence on Plato. The Pythagorean doctrine is based on these three principles:

1. Ideas: material objects are attracted to absolute forms, which have an existence of their own. Mathematics is the study of these forms.
2. Transmigration: an animal has an immortal soul, which reincarnates after death, until a state of perfection is attained.
3. Ideas and souls are related by harmony.

##### Sources

This section is condensed from Joscelyn Godwin's Foreword and David Fideler's Introduction to [Guthrie, 1987, pp. 11-15, 19-49], and [Cornford, 1932/1992].

### 1.5. Plato

Ficino regarded the divine Plato (427-347 BCE) among the greatest of the prisci theologi. Socrates (479-399 BCE) was the agent of a major shift in which philosophy turned from nature to human life. Plato, his disciple, had the genius to grasp Socrates' meaning, and to present it brilliantly in a series of ten dialogues. In 387 BCE, Plato created his school in Academia, a suburb of Athens. Around 390 B.C.E, Plato visited Western Greece (Southern Italy and Sicily), encoun-

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tered Pythagorean communities, met Archytas of Tarentum, the great Pythagorean, and adopted Pythagoreanism as a second influence. Platonism consists in the joining of these two streams. He expanded the teaching of Socrates, on the perfection of the soul, to a complete system of nature. In this system, things like morals and justice were based on absolute ideals. Wisdom consists of knowledge of these ideals, and philosophy is the search for wisdom. In 14 more dialogues, Plato presented this unified system. Regarding the metaphysics of matter, Plato subscribed to a Pythagorean form of atomism, in which the elements are regular polyhedra. [Cornford, 1932] [Lloyd, 1970; p. 74]

Plato (429-347 BCE) became a follower of Socrates. During a visit to Sicily, he met the Pythagorean, Archytas of Tarentum, and became a Pythagorean himself. Returning to Athens, he founded the Academy around 385 BCE, over the entrance to which was written (according to tradition), *Let no one ignorant of geometry enter here*. His writings, a number of dialogues regarded as the foundation of all Western philosophy, have been divided into three phases by historians of philosophy. The Republic, written around 400 BCE in the middle phase, describes Plato's mathematical curriculum for the Academy: arithmetic, plane geometry, solid geometry, astronomy, and music. Plato complains that solid geometry is not well enough developed. (Katz, 1993; p. 49)

Here is just one of many competing schemes for the order of the dialogues. [Ledger, 1989]

#### **Early group, 400-387 (return from sicily)**

- Euthyphro I
- Ion
- Lysis 400bc A
- Crito I
- Early middle group, 387-380
- Gorgias I
- Meno I
- Charmides I
- Apology I
- Phaedo I
- Laches I
- Protagoras I

#### **Middle group, 380-366**

- Euthydemus I
- Symposium 384bc A
- Cratylus I
- The Republic A
- Parmenides B
- Theaetetus A
- Phaedrus A

#### **Late group, 355-347**

- Philebus B
  - Sophist B
  - Statesman (Politicus) B
  - Laws B
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- Timaeus B
- Critias B

Agrees roughly with earlier opinions re early, early middle, and late group. Differences include: Parmenides earlier than usual, Phaedrus later. (Ficino thought it among the earliest.)

Diogenes Laertius proposed that the dialogues were published in nine fours, or *tetralogies*. For example, the third tetralogy is: Phaedrus, Parmenides, Philebus, and Symposium. [Allen, 1981, p. 8] Ficino wrote commentaries on these, and on Timaeus and Sophist as well.

#### **The dates of composition of the Ficino commentaries:**

- Symposium and Philebus, 1469, [Kristeller, 1964; p. 10],
- Phaedrus, 1468. [Allen, 1981; p. 17]
- Timaeus ??,
- Parmenides ??,
- Sophist ??.

#### **The skopoi (principal themes) of the four:**

- Parmenides: the One
- Philebus: the Highest Good
- Symposium: Love
- Phaedrus: Beauty

#### **Sketch of the Symposium**

The persons of the dialogue are Apollodorus, Phaedrus, Pausanias, Eryximachus, Aristophanes, Agathon, Socrates, and Alcibiades. The scene is a banquet at the house of Agathon. Socrates is detained, and enters when the meal is half over. After the meal they take turns making speeches to the god Love.

- Phaedrus: love is the best incentive to virtue, the source of the greatest good.
- Pausanias: both spiritual and common love derive from Aphrodite.
- Eryximachus: medicine is a knowledge of bodily love.
- Aristophanes: physical love is desire to be an androgyne.
- Agathon: praises the god of Love.

At last it is Socrates' turn. He denounces all the preceding as lies, and claims he will now tell the truth about Love. There follows a long monologue. Love is love of something, desire for something not possessed, desire to be good or great, desire for beauty. He repeats an account of love he heard from Diotima of Mantinea, his teacher in the art of love. The banquet ends with a free-for-all on physical love. [Jowett, v.1; p. 301]

#### **Sketch of the Parmenides dialogue.**

An actual philosopher, Parmenides of Elea, born ca 515 BCE, founder of the Eleatic School, the first philosophical school to base truth on pure reason. The fragments of Parmenides tell of his meeting the Goddess of Truth after a chariot ride, pulled by horses and guided by handmaidens of the sun, immortal charioteers. Parmenides visited Athens around 450 BCE and met Socrates, as recounted by Plato in the dialogue, Parmenides. [Wheelwright, 1966; pp. 91-100]

The persons of the dialogue are Cephalus, Adeimantus, Glaucon, Antiphon, Pythodorus, Socrates, Zeno, Parmenides, and Aristoteles. The event begins with the story of the elder Parmenides' visit to Athens, bringing the writings of his student, Zeno, and his meeting with the young Socrates. Then they discuss the writings of Zeno, to the effect that Being is One. Parmenides and Socrates have a short dialogue on the theory of ideas. Then follows a long dialogue

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of Parmenides and Aristoteles on ontology. This is a difficult dialogue to read, and understandably, it is not well known. [Jowett, v.2, p. 87]

### **Sketch of Phaedrus**

The persons of the dialogue: Socrates and Phaedrus. The scene: under a tree by a river. This dialogue has six parts:

1. Introduction [227a-230e]\*,
2. reading of a long speech by Lysias on lovers versus non-lovers [230e-234c],
3. long speech of Socrates in response to Lysias [238d- 241d],
4. discussion [241d-244a],
5. long speech of Socrates on the soul [244a-257b],
6. discussion [257b-257e].

The second long speech of Socrates (5), which comprises about half of the whole piece, includes a short allegory in which a god is portrayed as a charioteer with two good horses, and a man is portrayed as a charioteer with two horses, one good and one bad [246a-248a or so]. [Jowett, v.1; p. 233][Nichols, 1998] \* Stephanus pagination.

### **The Chariot Image**

Solid wheels emerged into the archeological record around 3500 BCE in Sumer, spoked wheels and chariots around 2000 BCE in Mesopotamia, reaching Greece around 1500 BCE. So horse-drawn chariots could not be expected to be used as metaphors in early literature before that time. In fact, in Greek literature, the earliest use we know is in the *Odyssey* of Homer, Books 3 and 4, perhaps around 1000 BCE.

The ship lands at the Pylos, the stronghold of Neleus, where Telemakhos is seeking information regarding the death of his father, Odysseus. Athena bids him, "Go to old Nestor, master charioteer". [p. 42] They find Nestor, the son of Neleus, who invites them to a feast. And the next day, after another banquet, a chariot is prepared for Telemakhos and Nestor's son, Peisistratos. The travel hard for two days to the mansion of Menelaos.

For Homer, the chariot car and horses are a means of terrestrial transportation. But by 500 BCE or so, we find in the *Fragments* of Parmenides, the chariot provides transportation to the Goddess. Around the same time, we have the mythic chariot of Arjuna and Krishna in the Hindu classic, the *Mahabharata*, and Ezekiel saw the wheel.

Following this tradition later we have Plato's image in the *Phaedrus*, and later, as we will see, the journey to the One of the Neoplatonists, Sufis, the Merkabah mystics among the Jews, and so on.

### **Sources**

[Abraham, 1994; p. 165]

[Fitzgerald, 1962; pp. 41-58]

[Wheelwright, 1966; p. 96-96]

### **Sketch of Philebus**

Persons of the dialogue: Socrates, Protarchus, and Philebus. The main topic of *Philebus* is the rivalry of pleasure and knowledge. After a brief introduction [11a-14c], there is a long preface on dialectics [14c-31b], followed by a catalogue of pleasures [31b-67]. [Frede, 1992]

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### Sketch of the Timaeus

The Timaeus is a discussion of four persons: Socrates, Timaeus, Critias, and Hermocrates. It begins with a review by Socrates of a discussion (in *The Republic*) on the preceding day. This concerned the constitution of the ideal State and its citizens. Then Critias tells the famous story of Atlantis, which was told to his great-grandfather by Solon, one of the seven sages. [21]<sup>1</sup>

Then Timaeus is asked to begin the feast with a description of the creation of the Universe. [28] He tells how God, because he was good, made the world after an eternal pattern. He brought order into the world, and soul and intelligence. [30] The world is composed of fire and earth. [31] Being solids, these two elements require two more, water and air, to bind them. [32] The world is a sphere [34] with the soul in the center. [35] The proportions used in the creation of the world were those of the Pythagorean tetractys and the diatonic scale. [36] Within the sphere are the circles of the seven planets.

Within this frame God made the body of the universe. [37] Then he made time, a moving image of eternity. [38] And then he made the four species of animals, [39] gods, birds, sea, and land animals. [40] The gods made man and the lower animals, and God made the human souls of the same four elements as the body of the universe, along with part of the soul of the universe. [41] Then he sets in motion the process of incarnation, and reincarnation, of these human souls into mortal bodies. [42] The created gods make these mortal bodies of the four elements. [43] As a person becomes a rational creature through education, his human soul moves in a circle in the head (a sphere) of his mortal body. [44] The head obtains sight from a reaction between the light of the eyes and the light of day. [45] From sight we derive number and philosophy. [47] Now we come to the nature of the elements. [48]

In the creation process there are three natures: an intelligible pattern, a created copy, and the space in which creation proceeds. [49] Space can receive any form, that is, the impress of any idea. [50] The elements are affections of space, produced by the impression of ideas. [51] The four elements took shape in space, and God perfected them by form and number. They are solid bodies, and all solids are made up of plane surfaces, [53] and plane surfaces in turn are made of scalene and isosceles triangles. Three elements are made from equilateral triangles, the fourth from isosceles triangles. [54] The first and simplest solid is the tetrahedron, the second is the octahedron, the third is the icosahedron, and the fourth is the cube. God used a fifth solid to delineate the universe. [55] The elements are shaped as follows: earth as the cube, water the icosahedron, air the octahedron, fire the tetrahedron. [56]

There is much more, the Timaeus ends on [92], but we will stop here. At this point, four of the five cosmic figures have been described, including all the details we have given in our Section 6.2 above. Plato obviously knows all about these four, and knows also that there are five, but the dodecahedron is not described in detail in the Timaeus.

After page [56] there are details on how space can change from one element to another, on the number of solids which make up a visible piece of matter, a kind of atomic theory.

For an extraordinary analysis of the precedence of math over the creation by the demiurge, see [Gadamer, 1980; ch 7]

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1. Each sentence is followed by a number in brackets. These are the page numbers of the Stevens (Stephanus) translation.

## Sources

[Brandwood, 1992], [Frede, 1992], [Ledger, 1989], [Nichols, 1998], [Wheelwright, 1966], [Gadamer, 1980]

## 1.6. Aristotle

Aristotle is not among the *prisci theologi*, but he is important to our story of Galileo's leap.

As a young man, Aristotle (384 - 322 BCE) came to Plato's Academy (Greek, *akademe*) from Macedonia, where his father was a Greek physician. He became Plato's most illustrious student. After twenty years at the Academy, Plato died (347 BCE), and his nephew Speusippus was appointed its head. Aristotle left Athens, became the tutor of Alexander the Great, and eventually (ca 340 BCE?) returned to Athens to create the Lyceum (Greek, *Lukeion*) in competition with the Platonic Academy. After a few years, following the death of Alexander the Great (323 BCE), Aristotle was forced to leave Athens, and died within a year.

Aristotle wrote extensively. A large set of dialogues and popular expositions published early in his career, close in spirit to Plato, were extensively read for centuries, and then were lost in late Antiquity. A large collection of more technical notes from his courses at the Lyceum, published in the first century BCE, have survived. Alexander of Aphrodisias, in the second century CE, in his commentaries on Aristotle, modified the doctrine in an anti-Platonic direction. For example, he denied the immortality of the soul. [Kristeller, 1979; p. 32-50]

The majority of Aristotle's writings, from about 40 years of philosophical work, have been lost. This may be a factor in the apparent divergence of his ideas from those of Plato. The surviving works are summaries of academic lectures devoted to logic, metaphysics, the sciences, ethics, politics, rhetoric, and poetics. The work on logic was the only text of classical Greek which was carried forward to the monastic schools of Medieval Europe, where he remained the ultimate authority on science and philosophy until Copernicus and Galileo, in the 16th and 17th centuries.

Originally a Platonist, Aristotle eventually renounced Plato's theory of ideal forms, and became antagonistic to the teachings of the *Academe*. For Plato's archetypal ideas, existing in a world of their own, Aristotle substituted his forms, as ideals carried within material nature, toward which natural forms evolved by desire. This subtle distinction, the essence of Aristotle's dispute with Platonism, was destined to increase over the centuries. Aristotle's philosophy and science also differed from Plato's in an increased reliance on the observation of nature. In physics, Aristotle rejected the atomism of Leucippus and Democritus. [Lloyd, 1970; pp. 45, 102]

In Aristotle's *Metaphysics*, we find his theory of substance. Natural things consist of matter and form. [Book Delta, 4] Accidents (ie, attributes) belong to a thing, but are not in the substance of the thing. [Book Delta, 30] He contrasts this with Plato, who regarded Forms and Mathematical Objects as substances. [Book Z, 2] [Lloyd, 1970; p. 19] [cf *galileapo2.frame*; p. 10]

## Sources

This section is condensed from [Cornford, 1932], the Introduction by Louise Ropes Loomis in [Aristotle, 1943], [Apostle, 1966], and [Kristeller, 1979].