



2015 HAWAII UNIVERSITY INTERNATIONAL CONFERENCES
ARTS, HUMANITIES, SOCIAL SCIENCES & EDUCATION
JANUARY 03 - 06, 2015
ALA MOANA HOTEL, HONOLULU, HAWAII

RELIGION, PHILOSOPHY, AND SCIENCE: THEIR EARLIEST INTERPLAY

NICOLAIDES, DEMETRIS
BLOOMFIELD COLLEGE
DEPARTMENT OF NATURAL SCIENCE AND MATHEMATICS

Prof. Demetris Nicolaides
Department of Natural Science and Mathematics
Bloomfield College.

Religion, Philosophy, and Science: Their Earliest Interplay

Synopsis:

Religion came first (10,000 years ago with urbanization) but science followed much later (2,600 years ago). These fields of inquiry have always shared an intimate connection; they have been inspired by the wish to understand the phenomena of nature. Could religion have been a stimulus for the birth of science? And if philosopher Bertrand Russell is right that “philosophy is something intermediate between theology and science,” could philosophy have played a role in this event too?

Religion, Philosophy, and Science: Their Earliest Interplay

Abstract

Religion was born after humans had first concluded that the phenomena of nature were controlled by beings with higher powers, i.e., gods, and specifically at the moment that humans sought to open and cultivate a relationship with such gods. What caused religion to get established and become a way of life was when the idea of human-god relationship developed into a huge human need and thus a lifelong habit, and passed systematically down the generations through rituals and traditions. With this in mind, and emphasizing that what we today refer to as ancient mythology constituted humans' earliest form of religion, how could science evolve then, from within an age-old, time-honored, sacred, often frightening mythological (antiscientific, anti-rationalistic) establishment, where myths, superstition, and the supernatural were the dominant worldview for at least the first 7,400 years of civilization? Could religion have been a stimulus for the birth of science? What was the role of philosophy in this event?

Introduction

In the history of the world, it was religion that came first (about 10,000 years ago with the onset of urbanization)¹ followed by science much later (about 2,600 years ago)². These two fields of inquiry have always shared a very intimate connection; they have been inspired by the wish to understand the phenomena of nature in terms of abstract thinking. Now if “science must begin with myths, and with the criticism of myths”³ then from some general point of view religion—the ancient mythology—may be regarded as the first and most basic type of science that had gradually been forming in the mind of the intellectually evolving human species as a means to understand all the unfolding phenomena in nature. Ultimately true science was born, but it had to be born from within a well-established and time-honored religious outlook. And such challenge, though formidable (for sacredness is not easily questioned or opposed), remarkably was overcome. Since people's religion, especially its evolution, tells a lot about the way they think—their aspirations, endeavors, hopes, passions, needs, desires, their everyday challenges—anyone wishing to understand the success of this transition must search for possible hidden scientific tendencies and signs that might have existed within what appeared to be a purely religious outlook but really was

not.

The Greeks of Mysteries

At least this was the case in sixth century BCE Greece, the era of the birth of science.⁴ The popular religion then was no longer the simplistic, placid, and happy Olympian⁵ of Homer and Hesiod⁶ where death nonetheless was a terrifying end, but the emotionally moving,⁷ ritualistically rich, and intellectually intriguing mystery religions⁸ (the Eleusinian, Dionysian, and Orphic) where afterlife was a hopeful beginning. The ancient Greeks were generally religiously oriented, a fact evident from their art (statues, vase, and wall paintings), diverse and imaginative myths,⁹ rich pantheon, famous oracles, temples, as well as their religious ceremonies, especially those of the mystery religions, the *Mysteries* (called so because details of the rites were kept secret). But their continuously evolving religious outlook contained subtle elements indicative of their forthcoming transition from mythology to science. What were these elements?

On the one hand, in the Olympian religion, nature was the playground of capricious, often immoral gods (although moral too) with people and nature completely at their mercy.¹⁰ Human knowledge even actions were believed to be decidable and controllable by the gods. Zeus for example, could decide to strike with a thunderbolt, Eros could cause someone to fall in love, Apollo could heal but plague too, Artemis could teach hunting skills, Demeter could instruct in agriculture, and the Muses could inspire people with the knowledge of the arts and sciences. Like humans, gods too had specialized professions. So nature and people's own future were entirely up to the goddess Fate¹¹ and all the gods in general. Excluding immortality, it was in a way as in Disney Tinker Bell movies, where the different processes in nature (e.g., the changing seasons) are carried out by different types of fairies of specialized professions, like the tinker fairies, the winter, warm, water, garden, light, frost, plant, the animal fairies, etc.

To the contrary, the mystery religions (especially the Orphic) promoted an entirely different outlook. The worshiper was an intellectually and ethically evolving individual with greater personal responsibility for his own future including the *afterlife*. He held a deep conviction that he had certain control over his knowledge and actions too; he was hopeful that, through mystic rituals and asceticism, divine immortality and wisdom were also humanly achievable and thus not an exclusive privilege of the gods. Such change of religious attitude was indicative of an unsettled, curious, open mind, unsatisfied with the passive and strictly dogmatic mythological worldview of

the Olympian religion as a means to understand nature, life, even death, and in search for something more profound and meaningful—rationalistic, naturalistic, objective, universal, even humanly controllable.

In particular, during the Mysteries the worshiper ate, drank wine, danced, rejoiced, sorrowed, and felt a divinely inspired madness; he went to the extremes of frenzy hoping to experience *passion* (etymologically, a physical and an intellectual suffering), *ecstasy* (etymologically, the release of the soul from the dependence of the body—a spirit/soul was thought that it could enter a body, i.e., in-spire it, but also escape from a body, that is, undergo ecstasy—), and ultimately *enthusiasm* (etymologically, the unification with the honoring god). With such intense emotional arousal the worshiper behaved in ways different from those of everyday: free from the daily inhibitions and oppressions he was his true self. Simply put, during the Mysteries the believer took matters in his own hands and tried ritualistically to feel and act just as he thought his god did and hoped life would imitate the ritual, an idea really as old as religion itself but now with a new twist, an intellectual expectation by the worshiper. For, this ritualistic emotional enthusiasm (this potential unification with a god) led to the belief that everything divine, immortality, omnipotence, bliss, even the godly mystic (secret) knowledge, was humanly attainable, *yes, even the godly knowledge*¹² (the secrets of nature)! The believer of course, first had to achieve absolute purification of his fallen soul through a system of complex sacraments. Once, according to Hesiod's *Works and Days*, during the Golden Age,¹³ the first generation people had pure souls and were allowed by gods to live with them in bliss. But people sinned and were separated from their gods. Still, until they join them again, divine aspects, such as godly knowledge, could begin to be experienced by the worshiper, so he believed, at least ceremonially during the Mysteries, via proper soul purification, prayer, the reconciliation of the gods with offerings and sacrifices, and perhaps through sympathetic magic:¹⁴ “if I manage to feel and act the way I think my god does, I hope I will then begin to become like one.” Anthropomorphism in religion, evolved from imagining merely the *gods* in the image of man, to imagining zealously *man* in the image of the gods, a radical reversal in human psychology indeed: that is, man aspired to be like the gods: almighty, all-knowing, and immortal.

But such belief *did not* remain only ceremonial, to the contrary, it was gradually affecting even the daily life of the Greeks of Mysteries. In particular, the Orphic, who aimed for spiritual drunkenness (so wine was used only symbolically), believed that the exercise of a proper ascetic way of life could ultimately purify one's soul, elevate it to the otherworldly heights of the gods, and thus release it from its cycle of constant deaths and rebirths (thought to occur through metempsychosis). He believed, that is, that he could reach the state of apotheosis¹⁶ (become godlike in every aspect, power, wisdom, happiness, immortality) and thus be allowed once again the honor of eternal bliss and absolute knowledge alongside his gods—the goal of the mystery religions, which were after all religions of salvation. And so death was no longer the terrifying hopeless gloomy place of Hades (of the “Invisible”, thus supposedly unknowable, where the soul is powerless and in oblivion) as in the Olympian religion, but a hopeful state of existence at the Elysium (the Island of the Blessed, of heroes and gods, where the soul could be immortal, conscious, free, and with divine wisdom). Interestingly, modern scientists, through their efforts to figure out the laws of nature—of creation, one might say—have in a sense similar one of the Orphic aspirations: to know the mind of the Divine.

That offered the Orphic, and generally the Greeks of Mysteries, hope for the future (including the afterlife) and in their searches for ways to satisfy their changing religious needs and fulfill their goal, they were stimulated for a philosophy of life (for the search of a deeper truth, about existence, death, nature); a philosophy born of religion.¹⁷ *That* was an intellectual turning point for if “philosophy ... is something intermediate between theology and science”¹⁸ then the discovery of science was the expected logical next step.

This however took place only when the religiously, philosophically, and morally evolving ancient Greek, who desired the longed-for divine knowledge at any cause (through the risk of a Promethean-like¹⁹ retribution in the Olympian religion, or through rituals and/or asceticism later in the mystery religions), grew impatient waiting for the gods to decide to (literally) *in-spire* him. And he had, at some point, realized that mystic rituals, sympathetic magic, reconciliations of anthropomorphic erratic gods in hopes for an *inspiration* (of knowledge “handed out” via godly revelation²⁰), and generally religious dogmatism or asceticism, were not working out. But what could work, was simply the free and rational critique of both, nature *and the worldview of one another*²¹—that is, learning, he thought, should come from thinking people themselves, not from Fate not from rituals, and so finally and without fear he began to imitate the actions of his favorite cultural hero Prometheus, who stole the godly secret of fire *at will*. And when the ancient Greek

tried it he found out it was the only thing that worked. *That* gave birth to science. This “rational critique” attitude, in search of the truth, is of course useful not just as a way to do science but as a general way of life as Socrates would have attested.

Additionally, there was neither an official religion in any of the Greek city-states, nor was there a written religious corpus to which a city or an individual had to conform, nor an organized priesthood to impose particular dogmas, rituals, or a lifestyle.²² “Unlike the great cultures that had preceded them, the Greeks separated science from religion and superstition.”²³ Consequently (and unlike the analogous case of other civilizations) Greek religion not only did not interfere with attempts for a non-mythological worldview but in subtle ways promoted them; for to understand the nature of the world they lived in, humans had to think for themselves, an action, which I think, unavoidably forced them to study nature rationalistically.²⁴ In fact because in Greece there was no theocracy, neither political law nor morality came from the gods (or priests or kings) but from people themselves as well, the type of people who also invented democracy and pursued moral philosophy. The ancient Greeks were passionate, rational, excessive, original, critical, political, religious, philosophical, scientific, brilliant.²⁵ They debated freely, zealously, and with no fear, any theory to the end despite its implications. They took chances, made mistakes, but rose victorious. And one of those rises was the birth of science.

Conclusion

Human knowledge was initially thought decidable only by the gods, then hoped for through rituals and/or asceticism, but at the end proved obtainable only through one’s own rationalism. And so in the vastness of existence, earth was only another planet, the sun just another star, neither was a god or the center of the universe, all things (including humans) were composed of the same primary substance/s and obeyed common natural laws (or one grand law), which should be describable mathematically, advanced life forms evolved from simpler ones, and neither illness was caused by demons nor eclipses by gods. The idea of intellectual progress captivated the Greeks so intensely that for the sake of knowledge they risked angering their gods, “stole” their fire and their (nature’s) other secrets, and gave birth to science. But why were they able to do so?²⁶

References

1. Rodney Stark, *Discovering God: The Origins of the Great Religions and the Evolution of Belief* (New York: HarperCollins, 2009), ch. 1.

Walter Burkert, *Greek Religion: Archaic and Classical*, transl. John Raffan (Massachusetts: Blackwell Publishing Ltd and Harvard University Press, 1985), part I.

2. Andrew Gregory, *Eureka! The Birth of Science* (Cambridge: Icon Books, 2001).

Carl Sagan, *Cosmos* (New York: Random House, 1980), ch. 7.

Isaac Asimov, *Asimov's Chronology of Science and Discovery* (New York: HarperCollins, 1989), p. 42.

3. Karl R. Popper, *Conjectures and Refutations: The Growth of Scientific Knowledge* (London and New York: Routledge, 1989), p. 50.

4. Andrew Gregory, *Eureka! The Birth of Science* (Cambridge: Icon Books, 2001).

Bertrand Russell, *The History of Western Philosophy* (New York: Simon & Schuster, 1945), Book One (Ancient Philosophy).

Bruce Thornton, *Greek Ways: How the Greeks Created Western Civilization* (San Francisco: Encounter Books, 2002).

Carl Sagan, *Cosmos* (New York: Random House, 1980), ch. 7.

Demetris Nicolaides, *In the Light of Science: Our Ancient Quest for Knowledge and the Measure of Modern Physics* (New York: Prometheus Books, 2014), ch. 7.

Erwin Schrödinger, *Nature and the Greeks and Science and Humanism* (Cambridge: Cambridge University Press, 1996), pp. 3–99.

G. E. R. Lloyd, *Early Greek Science: Thales to Aristotle* (New York: W. W. Norton & Company, 1970).

G. S. Kirk, J. E. Raven, and M. Schofield, *The Presocratic Philosophers* (Cambridge: Cambridge University Press, 1983).

Isaac Asimov, *The Greeks; A Great Adventure* (Boston: Houghton Mifflin, 1965).

John Burnet, *Early Greek Philosophy* (London: A. and C. Black, 1920).

Stephen Bertman, *The Genesis of Science: The Story of Greek Imagination* (New York: Prometheus Books, 2010).

5. Allan Menzies, *History of Religion: a Sketch of Primitive Religious Beliefs and Practices, and of the Origin and Character of the Great Systems* (Memphis: General Books, 2010), pp. 146–158.

Robert Parker, “Greek Religion,” in *The Oxford Illustrated History of Greece and the*

Hellenistic World 1986, ed. John Boardman, Jasper Griffin, and Oswyn Murray (Oxford: Oxford University Press, 1986), pp. 248–268.

6. Hesiod was an ancient Greek poet who lived around the late eighth century BCE.

7. Edith Hamilton, *The Greek Way* (New York London: W. W. Norton & Company, 1930), p. 224.

8. Allan Menzies, *History of Religion: a Sketch of Primitive Religious Beliefs and Practices, and of the Origin and Character of the Great Systems* (Memphis: General Books, 2010), pp. 158–162.

Walter Burkert, *Greek Religion: Archaic and Classical*, transl. John Raffan (Massachusetts: Blackwell Publishing Ltd and Harvard University Press, 1985), pp. 276–304.

9. Robert Graves, *The Greek Myths*, (Canada: Penguin Group, 1955).

10. Walter Burkert, *Greek Religion: Archaic and Classical*, transl. John Raffan (Massachusetts: Blackwell Publishing Ltd and Harvard University Press, 1985), pp. 119–189.

11. Allan Menzies, *History of Religion: a Sketch of Primitive Religious Beliefs and Practices, and of the Origin and Character of the Great Systems* (Memphis: General Books, 2010), p. 154.

Bertrand Russell, *The History of Western Philosophy* (New York: Simon & Schuster, 1945), p. 11.

12. Bertrand Russell, *The History of Western Philosophy* (New York: Simon & Schuster, 1945), p. 16.

13. Among other things, *Works and Days* describes the five Ages of Men (the stages of humanity since its emergence). The so-called Golden Age was the first and the best, a prehistoric utopia that, according to the poem, appears to have been the pre-agricultural, pre-urbanized era of carefree wanderers, the hunter-gatherers who lived spontaneously day by day.

14. Allan Menzies, *History of Religion: a Sketch of Primitive Religious Beliefs and Practices, and of the Origin and Character of the Great Systems* (Memphis: General Books, 2010), p. 41.

Bertrand Russell, *The History of Western Philosophy* (New York: Simon & Schuster, 1945), p. 11.

Isaac Asimov, *The Greeks; A Great Adventure* (Boston: Houghton Mifflin, 1965), pp. 70–71.

Robert Parker, “Greek Religion,” in *The Oxford Illustrated History of Greece and the Hellenistic World 1986*, ed. John Boardman, Jasper Griffin, and Oswyn Murray (Oxford: Oxford University Press, 1986), p. 264.

15. John Burnet, *Early Greek Philosophy* (London: A. and C. Black, 1920), ch. 2.

16. Walter Burkert, *Greek Religion: Archaic and Classical*, transl. John Raffan (Massachusetts: Blackwell Publishing Ltd and Harvard University Press, 1985), p. 295.

17. Bertrand Russell, *The History of Western Philosophy* (New York: Simon & Schuster, 1945), p. 24.

John Burnet, *Early Greek Philosophy* (London: A. and C. Black, 1920), ch. 2.

18. Bertrand Russell, *The History of Western Philosophy* (New York: Simon & Schuster, 1945), p. xiii.

19. In ancient Greek mythology the titan Prometheus defied the orders of the Olympian gods, stole the fire that was their exclusive secret, and brought it to humankind. Both Hesiod in his *Theogony* (on the origin of the gods) and Aeschylus (**Error! Main Document Only.**ca. 525/524 – ca.456/455 BCE) in his *Prometheus Bound* described how Zeus, the king-god of the Olympian gods, **Error! Main Document Only.** punished Prometheus. He tied Prometheus on a rock on a high mountain, naked and helpless. By day a wild giant bird would devour his liver. But Prometheus's suffering could not end for he was an immortal god who could not die. His liver would regenerate at night, only to be devoured by the bird again the next day, in a continuous, eternal, and painful cycle.

20. Godly revelation was usually the belief of all early societies, especially of the theocratic states. Theocracy ("rule of god" in Greek) was the system in which the ruler of the people was both a religious leader (a priest) but also a political one (a king). Priests devised and implemented the various religious rituals of daily life in the village or city, and were thus considered *inspired*, *literally*, as if a divine spirit entered their body during a ritual, advised, and generally endowed them with valuable knowledge.

21. Bruce Thornton, *Greek Ways: How the Greeks Created Western Civilization* (San Francisco: Encounter Books, 2002), see the conclusion (*The Critical Spirit*).

Karl R. Popper, *Conjectures and Refutations: The Growth of Scientific Knowledge* (London and New York: Routledge, 1989), pp. 149–150.

22. Allan Menzies, *History of Religion: a Sketch of Primitive Religious Beliefs and Practices, and of the Origin and Character of the Great Systems* (Memphis: General Books, 2010), p. 161.

Bruce Thornton, *Greek Ways: How the Greeks Created Western Civilization* (San Francisco: Encounter Books, 2002), p. 148.

Walter Burkert, *Greek Religion: Archaic and Classical*, transl. John Raffan (Massachusetts: Blackwell Publishing Ltd and Harvard University Press, 1985), pp. 4, 8.

23. Isaac Asimov, *Asimov's Chronology of Science and Discovery* (New York: HarperCollins, 1989), p. 20.

24. Jonathan Barnes, "Hellenistic Philosophy and Science," in *The Oxford Illustrated History of Greece and the Hellenistic World 1986*, ed. John Boardman, Jasper Griffin, and Oswyn Murray (Oxford: Oxford University Press, 1986), pp. 359–379.

25. Demetris Nicolaides, "How Human Idiosyncrasy, Culture, and Biology Aided in the Development of a Rationalistic Interpretation of Nature," in the *Proceedings of the Arts, Humanities & Social Sciences Conference*, Honolulu Hawaii, January 4-6, 2014.

26. Ibid.