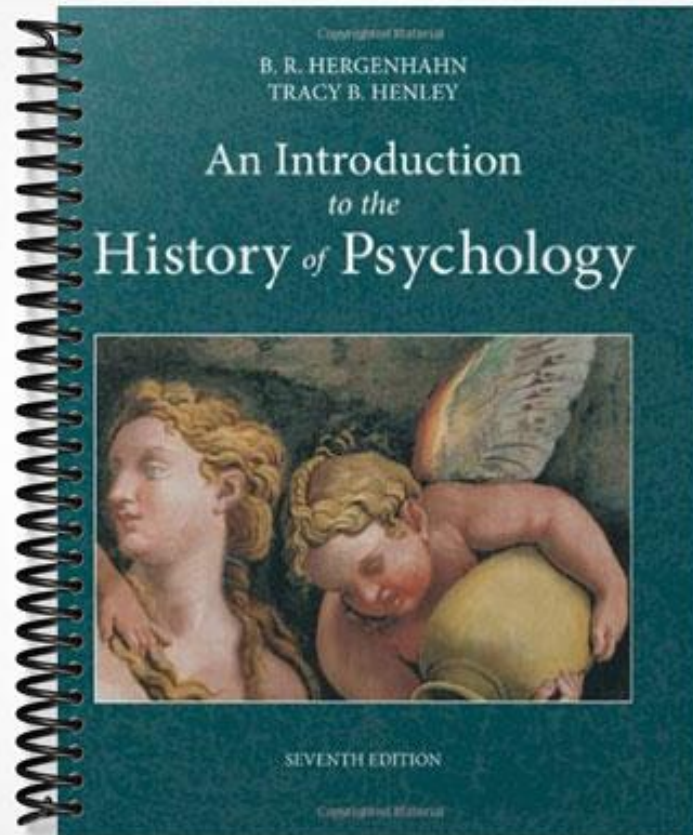
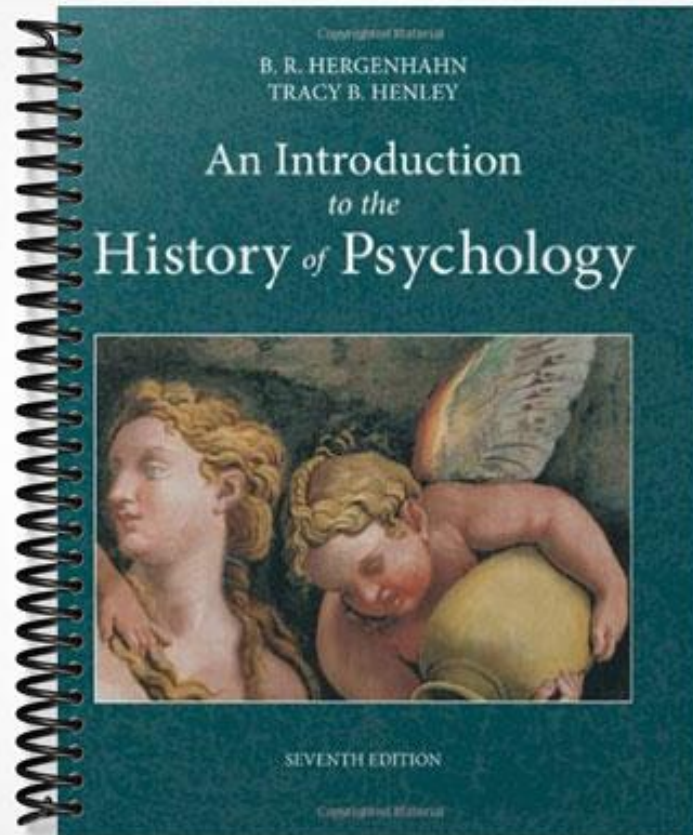


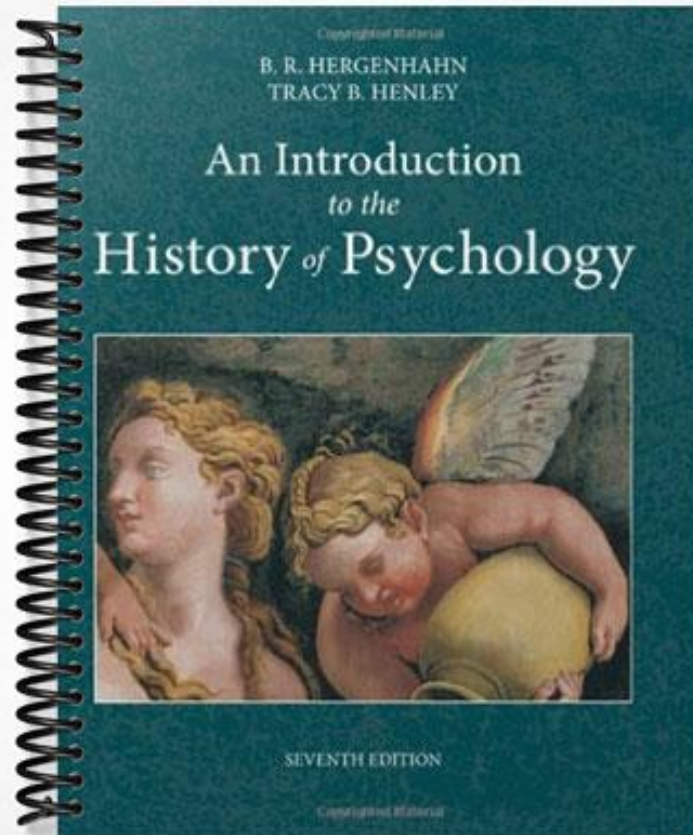
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# **CHAPTER 2**

## **Ancient Greece**

### **LEARNING OBJECTIVES**

After reading and discussing chapter 2 the student should:

- 2.1 Be familiar with how early humans explained their world including animism, anthropomorphism, “magic,” and early forms of Greek religion.
- 2.2 Be acquainted with the pre-Socratic philosophers.
  1. Thales – cosmology and advent of the critical tradition
  2. Anaximander – proposed rudimentary theory of evolution
  3. Heraclitus – constant change
  4. Parmenides and Zeno – reality is finite, uniform, and motionless, no change
  5. Pythagoreans – all explained in numbers and numerical relationships, experience through senses inferior to experience within mind
  6. Empodocles – world made of four elements; earth, wind, fire, and water
  7. Anaxagoras – postulated an infinite number of elements (seeds) from which everything comes from except the mind
  8. Democritus – universe made of atoms; elementism, reductionism
- 2.3 Be familiar with early Greek medicine and its influence on later medicine.
  1. Alcmaeon – naturalistic medicine, health is balance, early studies of physical systems
  2. Hippocrates – all disorders result of natural factors, four humors in body
  3. Galen – association of Hippocrates’ four humors with temperaments and personality types
- 2.4 Be familiar with the relativity of truth and the Sophists:
  - Protagoras – truth depends on the perceiver, not on physical reality
  - Gorgias – there can be no objective way of determining truth
  - Xenophanes – religion is a projection of its creator; postulated a god unlike any of his time
- 2.5 Understand Socrates’ method of inductive definition, his reaction to the relativity of the Sophists and the goal of life.
- 2.6 Understand Plato’s philosophy of the world, including the theory of forms, and use of empirical knowledge, the allegory of the cave, reminiscence theory of knowledge, his theory of knowledge, his tripartite nature of the soul, and his impact on science.

2.7 Be acquainted with and understand Aristotle's philosophy and his treatment of various topics including:

- Ways of knowing truth in contrast to Plato, interaction of rationalism and empiricism.
- The four causes and teleology.
- Hierarchy of souls.
- Aristotle's explanation of how we gain knowledge – the senses, common sense, passive reason, and active reason.
- View of remembering and recall and the laws of association.
- Explanations of imagination and dreaming.
- View on motivation and happiness.
- His proposal of the effect of emotions on selective perception and behavior.

## **CHAPTER OUTLINE**

- I. The ancient world
  - A. Animism and anthropomorphism
  - B. Magic
  - C. Homo Psychologicus
  - D. Early Greek religion
  
- II. The first philosophers
  - A. Thales
  - B. Anaximander and Heraclitus
  - C. Parmenides and Zeno
  - D. Pythagoras
  - E. Empedocles
  - F. Anaxagoras
  - G. Democritus
  
- III. Early Greek medicine
  - A. Alcmaeon
  - B. Hippocrates
  
- IV. The relativity of truth
  - A. Protagoras
  - B. Gorgias
  - C. Xenophanes
  - D. Socrates

- V. Plato
  - A. Theory of forms or ideas
  - B. The analogy of the divided
  - C. The allegory of the cave
  - D. The reminiscence theory of knowledge
  - E. The nature of the soul
  - F. Sleep and dreams
  - G. Plato's legacy
  
- VI. Aristotle
  - A. The basic difference between Plato and Aristotle
  - B. Causation and teleology.
  - C. Sensation and reason
  - D. Memory and recall
  - E. Imagination and dreaming
  - F. Motivation and emotion
  
- VII. The importance of early Greek philosophy

## **LECTURE/DISCUSSION TOPICS**

1. A discussion topic could be to contrast the views of Plato and Aristotle. This can set the stage for contrasts you may make later between opposing views, such as rationalism and empiricism, and cognitive science and behavioral views.
2. The students may have been exposed to some of the Greek philosophers (particularly Socrates, Plato, and Aristotle) in other classes such as philosophy or history. You may have a discussion regarding how the philosophers are discussed in those courses in contrast to in this course.
3. Students could discuss how the ideas of the early philosophers contributed to the development and perpetuation of Christianity. You may begin with the Dionysiac-Orphic religion and end with Aristotle's views.
4. Discuss early Greek medicine and its role in society's views of treatments today. For example, Hippocrates believed that the worst thing a physician could do is interfere with the body's natural healing powers. Is this still true today? You could also compare and contrast osteopathic medical schools with the more traditional medical schools.

## **DISCUSSION TOPICS**

1. Summarize the major differences between Olympian and Dionysiac-Orphic religion.

2. Why were the first philosophers called physicists? List the physes arrived at by Thales, Anaximander, Heraclitus, Parmenides, Pythagoras, Empedocles, Anaxagoras, and Democritus.
3. What important epistemological question did Heraclitus's philosophy raise?
4. Give examples of how logic was used to defend Parmenides' belief that change and motion were illusions.
5. Differentiate between elementism and reductionism and give an example of each.
6. What were the major differences between temple medicine and the type of medicine practiced by Alcmaeon and the Hippocratics?
7. How did the Sophists differ from the philosophers who preceded them? What was the Sophists' attitude toward knowledge? In what way did Socrates agree with the Sophists, and in what way did he disagree?
8. What, for Socrates, was the goal of philosophical inquiry? What method did he use in pursuing that goal?
9. Describe Plato's theory of forms.
10. In Plato's philosophy, what was the analogy of the divided line?
11. Summarize Plato's cave allegory. What points was Plato making with this allegory?
12. Discuss Plato's reminiscence theory of knowledge.
13. Compare Aristotle's attitude toward sensory experience with that of Plato.
14. According to Aristotle, what were the four causes of things?
15. Discuss Aristotle's concept of entelechy.
16. Describe Aristotle's concept of scala naturae, and indicate how that concept justifies a comparative psychology.
17. Discuss Aristotle's concept of soul.
18. Discuss the relationship among sensory experience, common sense, passive reason, and active reason.
19. Summarize Aristotle's views on imagination and dreaming.

20. Discuss Aristotle's views on happiness. What, for him, provided the greatest happiness? What characterized the life lived in accordance with the golden mean?
21. Discuss Aristotle's views on emotions.
22. In Aristotle's philosophy, what was the function of the unmoved mover?
23. Describe the laws of association that Aristotle proposed.
24. Summarize the reasons Greek philosophy was important to the development of Western civilization.

## **GLOSSARY**

**Active reason:** According to Aristotle, the faculty of the soul that searches for the essences or abstract concepts that manifest themselves in the empirical world. Aristotle thought that the active reason part of the soul was immortal.

**Alcmaeon (fl. ca. 500 B.C.):** One of the first Greek physicians to move away from the magic and superstition of temple medicine and toward a naturalistic understanding and treatment of illness.

**Allegory of the cave:** Plato's description of individuals who live their lives in accordance with the shadows of reality provided by sensory experience instead of in accordance with the true reality beyond sensory experience.

**Analogy of the divided line:** Plato's illustration of his contention that there is a hierarchy of understanding. The lowest type of understanding is based on images of empirical objects. Next highest is an understanding of empirical objects themselves, which results only in opinion. Next is an understanding of abstract mathematical principles. Then comes an understanding of the forms. The highest understanding (true knowledge) is an understanding of the form of the good that includes a knowledge of all forms and their organization.

**Anaxagoras (ca. 500–428 B.C.):** Postulated an infinite number of elements (seeds) from which everything is made. He believed that everything contains all the elements and that a thing's identity is determined by which elements predominate. An exception is the mind, which contains no other element but may combine with other elements, thereby creating life.

**Anaximander (ca. 610–547 B.C.):** Suggested the infinite or boundless as the physis and formulated a rudimentary theory of evolution.

**Animism:** The belief that everything in nature is alive.

**Anthropomorphism:** The projection of human attributes onto nonhuman things.



**Aristotle (384–322 B.C.):** Believed sensory experience to be the basis of all knowledge, although the five senses and the common sense provided only the information from which knowledge could be derived. Aristotle also believed that everything in nature had within it an entelechy (purpose) that determined its potential. Active reason, which was considered the immortal part of the human soul, provided humans with their greatest potential, and therefore fully actualized humans engage in active reason. Because everything was thought to have a cause, Aristotle postulated an unmoved mover that caused everything in the world but was not itself caused. (See also Unmoved mover.)

**Associationism:** The philosophical belief that mental phenomena, such as learning, remembering, and imagining, can be explained in terms of the laws of association. (See also Laws of association.)

**Becoming:** According to Heraclitus, the state of everything in the universe. Nothing is static and unchanging; rather, everything in the universe is dynamic—that is, becoming something other than what it was.

**Being:** Something that is unchanging and thus, in principle, is capable of being known with certainty. Being implies stability and certainty; becoming implies instability and uncertainty.

**Common sense:** According to Aristotle, the faculty located in the heart that synthesizes the information provided by the five senses.

**Cosmology:** The study of the origin, structure, and processes governing the universe.

**Democritus (ca. 460–370 B.C.):** Offered atoms as the physis. Everything in nature, including humans, was explained in terms of atoms and their activities. His was the first completely materialistic view of the world and of humans.

**Dionysiac-Orphic religion:** Religion whose major belief was that the soul becomes a prisoner of the body because of some transgression committed by the soul. The soul continues on a circle of transmigrations until it has been purged of sin, at which time it can escape its earthly existence and return to its pure, divine existence among the gods. A number of magical practices were thought useful in releasing the soul from its bodily tomb.

**Efficient cause:** According to Aristotle, the force that transforms a thing.

**Eidola (plural, eidolon):** A tiny replication that some early Greek philosophers thought emanated from the surfaces of things in the environment, allowing the things to be perceived.

**Elementism:** The belief that complex processes can be understood by studying the elements of which they consist.

**Empedocles (ca. 490–430 B.C.):** Postulated earth, fire, air, and water as the four basic elements from which everything is made and two forces, love and strife, that alternately synthesize and separate those elements. He was also the first philosopher to suggest a theory of perception, and he offered a theory of evolution that emphasized a rudimentary form of natural selection.

**Entelechy:** According to Aristotle, the purpose for which a thing exists, which remains a potential until actualized. Active reason, for example, is the human entelechy, but it exists only as a potential in many humans.

**Essence:** That indispensable characteristic of a thing that gives it its unique identity.

**Final cause:** According to Aristotle, the purpose for which a thing exists.

**Formal cause:** According to Aristotle, the form of a thing.

**Forms:** According to Plato, the pure, abstract realities that are unchanging and timeless and therefore knowable. Such forms create imperfect manifestations of themselves when they interact with matter. It is these imperfect manifestations of the forms that are the objects of our sense impressions. (See also Theory of forms.)

**Galen (ca. A.D. 130–200):** Associated each of Hippocrates' four humors with a temperament, thus creating a rudimentary theory of personality.

**Golden mean:** The rule Aristotle suggested people follow to avoid excesses and to live a life of moderation.

**Gorgias (ca. 485–380 B.C.):** A Sophist who believed the only reality a person can experience is his or her subjective reality and that this reality can never be accurately communicated to another individual.

**Heraclitus (ca. 540–480 B.C.):** Suggested fire as the physis because in its presence nothing remains the same. He viewed the world as in a constant state of flux and thereby raised the question as to what could be known with certainty.

**Hippocrates (ca. 460–377 B.C.):** Considered the father of modern medicine because he assumed that disease had natural causes, not supernatural ones. Health prevails when the four humors of the body are in balance, disease when there is an imbalance. The physician's task was to facilitate the body's natural tendency to heal itself.

**Imagination:** According to Aristotle, the pondering of the images retained from past experiences.

**Inductive definition:** The technique used by Socrates that examined many individual examples of a concept to discover what they all had in common.

**Introspection:** The careful examination of one's subjective experiences.

**Law of contiguity:** A thought of something will tend to cause thoughts of things that are usually experienced along with it.

**Law of contrast:** A thought of something will tend to cause thoughts of opposite things.

**Law of frequency:** In general, the more often events are experienced together, the stronger they become associated in memory.

**Law of similarity:** A thought of something will tend to cause thoughts of similar things.

**Laws of association:** Those laws thought responsible for holding mental events together in memory. For Aristotle, the laws of association consisted of the laws of contiguity, contrast, similarity, and frequency.

**Magic:** Various ceremonies and rituals that are designed to influence spirits and nature.

**Material cause:** According to Aristotle, what a thing is made of.

**Nihilism:** The belief that because what is considered true varies from person to person, any search for universal (interpersonal) truth will fail. In other words, there is no one truth, only truths. The Sophists were nihilists.

**Olympian religion:** The religion based on a belief in the Olympian gods as they were described in the Homeric poems. Olympian religion tended to be favored by the privileged classes, whereas peasants, laborers, and slaves tended to favor the more mystical Dionysiac- Orphic religion. (See also Dionysiac-Orphic religion.)

**Parmenides (born ca. 515 B.C.):** Believed that the world was solid, fixed, and motionless and therefore that all apparent change or motion was an illusion.

**Passive reason:** According to Aristotle, the practical utilization of the information provided by the common sense.

**Physis:** A primary substance or element from which everything is thought to be derived.

**Plato (ca. 427–347 B.C.):** First a disciple of Socrates, came under the influence of the Pythagoreans, and postulated the existence of an abstract world of forms or ideas that, when manifested in matter, make up the objects in the empirical world. The only true knowledge is that of the forms, a knowledge that can be gained only by reflecting on the innate contents of the soul. Sensory experience interferes with the attainment of knowledge and should be avoided.

**Protagoras (ca. 485–410 B.C.):** A Sophist who taught that “Man is the measure of all things.” In other words, what is considered true varies with a person’s personal experiences; therefore, there is no objective truth, only individual versions of what is true.

**Pythagoras (ca. 580–500 B.C.):** Believed that an abstract world consisting of numbers and numerical relationships exerted an influence on the physical world. He created a dualistic view of humans by saying that in addition to our body, we have a mind (soul), which through reasoning could understand the abstract world of numbers. Furthermore, he believed the human soul to be immortal. Pythagoras' philosophy had a major influence on Plato and, through Christianity, on the entire Western world.

**Rational soul:** According to Aristotle, the soul possessed only by humans. It incorporates the functions of the vegetative and sensitive souls and allows thinking about events in the empirical world (passive reason) and the abstraction of the concepts that characterize events in the empirical world (active reason).

**Recall:** For Aristotle, the active mental search for the recollection of past experiences.

**Reductionism:** The attempt to explain objects or events in one domain by using terminology, concepts, laws, or principles from another domain. Explaining observable phenomena (domain 1) in terms of atomic theory (domain 2) would be an example; explaining human behavior and cognition (domain 1) in terms of biochemical principles (domain 2) would be another. In a sense, it can be said that events in domain 1 are reduced to events in domain 2.

**Remembering:** For Aristotle, the passive recollection of past experiences.

**Reminiscence theory of knowledge:** Plato's belief that knowledge is attained by remembering the experiences the soul had when it dwelled among the forms before entering the body.

**Scala naturae:** Aristotle's description of nature as being arranged in a hierarchy from formless matter to the unmoved mover. In this grand design, the only thing higher than humans was the unmoved mover.

**Sensitive soul:** According to Aristotle, the soul possessed by animals. It includes the functions provided by the vegetative soul and provides the ability to interact with the environment and to retain the information gained from that interaction.

**Socrates (ca. 470–399 B.C.):** Disagreed with the Sophists' contention that there is no discernible truth beyond individual opinion. Socrates believed that by examining a number of individual manifestations of a concept, the general concept itself could be defined clearly and precisely. These general definitions are stable and knowable and, when known, generate moral behavior.

**Solipsism:** The belief that a person's subjective reality is the only reality that exists and can be known.

**Sophists:** A group of philosopher-teachers who believed that "truth" was what people thought it to be. To convince others that something is true, one needs effective communication skills, and it was those skills that the Sophists taught.

**Teleology:** The belief that nature is purposive. Aristotle's philosophy was teleological.

**Temple medicine:** The type of medicine practiced by priests in early Greek temples that was characterized by superstition and magic. Individuals such as Alcmaeon and Hippocrates severely criticized temple medicine and were instrumental in displacing such practices with naturalistic medicine—that is, medicine that sought natural causes of disorders rather than supernatural causes.

**Thales (ca. 625–547 B.C.):** Often called the first philosopher because he emphasized natural instead of supernatural explanations of things. By encouraging the critical evaluation of his ideas and those of others, he is thought to have started the Golden Age of Greek philosophy. He believed water to be the primary element from which everything else was derived.

**Theory of forms:** Plato's contention that ultimate reality consists of abstract ideas or forms that correspond to all objects in the empirical world. Knowledge of these abstractions is innate and can be attained only through introspection.

**Theory of mind:** An area in cognitive development that concerns how we come to know the beliefs, feelings, plans, and behavioral intentions of other people.

**Transmigration of the soul:** The Dionysiac-Orphic belief that because of some transgression, the soul is compelled to dwell in one earthly prison after another until it is purified. The transmigration may find the soul at various times in plants, animals, and humans as it seeks redemption.

**Unmoved mover:** According to Aristotle, that which gave nature its purpose, or final cause, but was itself uncaused. In Aristotle's philosophy, the unmoved mover was a logical necessity.

**Vegetative soul:** The soul possessed by plants. It allows only growth, the intake of nutrition, and reproduction.

**Xenophanes (ca. 560–478 B.C.):** Believed people created gods in their own image. He noted that darkskinned people created dark-skinned gods and lightskinned people created light-skinned gods. He speculated that the gods created by nonhuman animals would have the characteristics of those animals. He postulated the existence of one all-powerful god without human characteristics but warned that all beliefs are suspect, even his own.

**Zeno of Elea (ca. 495–430 B.C.):** A disciple of Parmenides known for his clever examples and fables (see Zeno's Paradox).

**Zeno's paradox:** The assertion that in order for an object to pass from point A to point B, it must first traverse half the distance between those two points, and then half of the remaining distance, and so forth. Because this process must occur an infinite number of times, Zeno concluded that an object could logically never reach point B.

## **RESEARCH ACTIVITIES**

1. Some students, as a research activity, may want to learn more about the ancient Greeks and the ancient world. The website listed below is a good site to start such an activity. It has multiple links to many of the philosophers and is essentially “an evolving digital library of resources for the study of the ancient world.”

<http://www.perseus.tufts.edu/>

2. The following website provides materials for the study of women and gender in the ancient world. It provides an extensive overview of the topic with multiple links to bibliographies, images, essays, and much more.

Diotima: Materials for the Study of Women and Gender in the Ancient World

<http://www.stoa.org/diotima/>

History of Women in the Ancient World - Directory of Online Resources:

<http://www.academicinfo.net/histancwomen.html>