

2 Early Psychological Knowledge

God provides the wind, but man must raise the sails.

—Attributed to Augustine (354–430)

LEARNING OBJECTIVES

After reading this chapter, you should be able to:

- Understand psychological knowledge accumulated at the early stages of human civilization
- Explain similarities and differences between various traditions and schools
- Appreciate the diversity of this knowledge developed in different regions and within different cultural and religious traditions
- Apply your knowledge of the past to contemporary issues facing today's psychology



Democritus

460–370 BCE, Greek
Builds a materialist platform to study the soul

Confucius

551–479 BCE, Chinese
Brings a moral dimension to psychology



Lao-Tse
6th century BCE, Chinese
Emphasizes virtue and self-improvement



Plato

427–347 BCE, Greek
Builds an idealist platform to study the soul



Hippocrates

460–370 BCE, Greek
Studies the medical aspects of emotions and illness



Aristotle

384–322 BCE, Greek
Builds background for scientific study of the soul

*Roman Stoics (early in the millennium)
Study virtue and moral aspects of human behavior*

700 BCE

600 BCE

500 BCE

400 BCE

300 BCE

200 BCE

100 BCE

0

Knowledge in Mesopotamia (Ancient Egypt)

The Chinese Tradition

The Indian Tradition

The Hindu Tradition

The Buddhist Tradition

The Greek Tradition

The Jewish Tradition

The Christian Tradition

The Muslim Tradition

From a distance, the white piles of the *American Psychologist* on a bookshelf look like a wall of thin horizontal and motionless paper wrinkles. The minuscule characters on the journal covers indicate the chronology of the issues: The older ones are on the bottom; the newest editions are closer to the top. Pull out just a few issues published in recent years. Browse through articles, reports, critiques, and reviews written by contemporary authors about psychology of the 21st century. What you will find is that despite the precious uniqueness of today's research topics, many of them have been already brought up by the scientists who lived many hundreds or even thousands of years ago! Take a few randomly chosen articles and see for yourself.



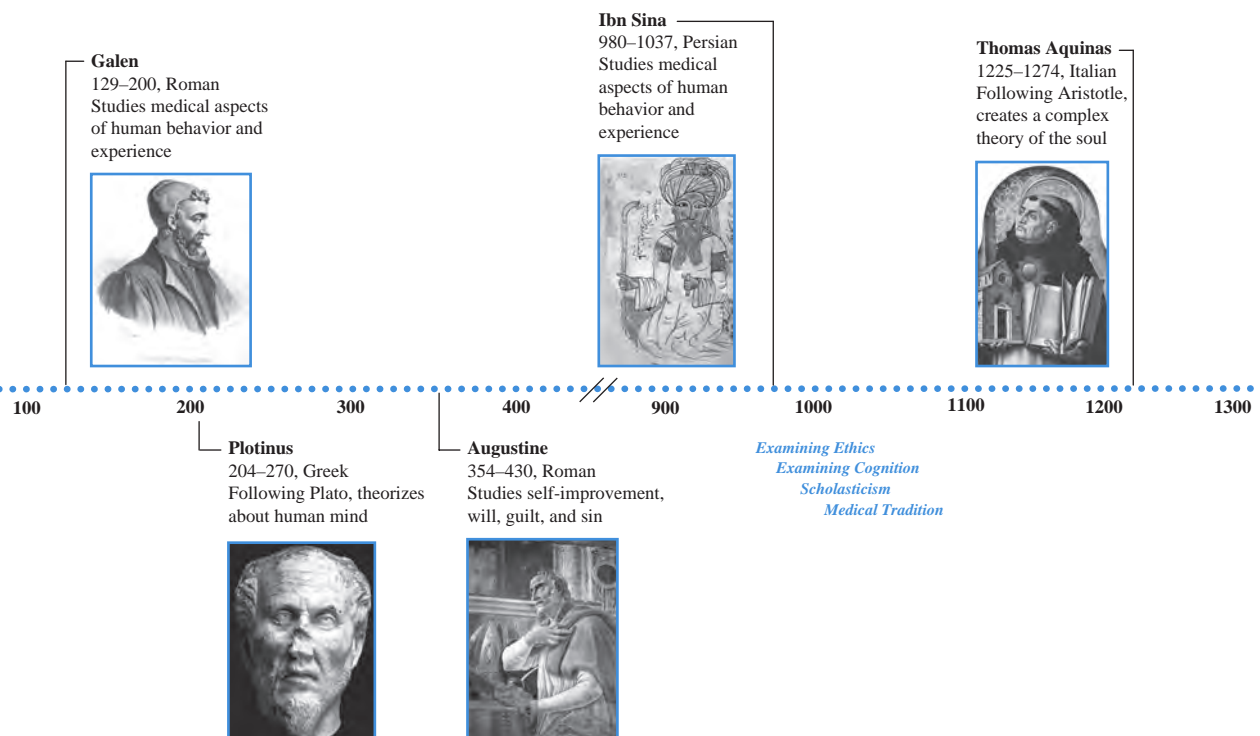
A 2010 article argues about the psychological importance of empowerment, such as setting appropriate goals, self-efficacy, knowledge, competence, and action. Yet if we look back in history, we should find that many great thinkers of different regions and religions paid significant attention to an individual empowerment and the ways to achieve it by focusing on knowledge, moral values, and action.

How does a region of living associate with an individual's personality? For example, are people living on the ocean coast more open to experience and less introverted than those living farther inland? Another 2010 article is looking for empirical connections between regional variations in personality traits. It is an interesting study, but the subject is not new. Thinkers in ancient Greece, Rome, India, and China have discussed the impact of geographic location on individual traits.

What is psychological truth? A 2002 article argues that although the methods of the natural sciences are appropriate for determining psychological truth, psychology is not a natural science but rather a form of human science. Therefore, it should use different criteria for interpreting facts related to human activities. It is remarkable that hundreds of years ago, Aristotle, Seneca, and Avicenna discussed the same subject. For centuries, scores of Greek, Indian, or Arab scholars debated the origins of human thinking and perception and the nature of scholarly methods in studying the mind's work.

The language is the product not only of the mind but also of cultural process. A 2001 article argues about the importance of cultural factors in the understanding of language. In fact, some 2,000 years ago, Epicurus and the Roman Stoics argued about the importance of social factors in the language acquisition process.

How can we understand intuition and the nature of the deliberate thought process? asked a 2003 article. Long ago, Plato, Aristotle, and Socrates in Greece; Ibn Sina in Persia; Lao-Tse in China; and Thomas Aquinas in Paris asked similar questions about intuition and deliberate thinking.



Prevention programs for children and youth are a sound investment in society's future, insists another 2003 article. The great Chinese thinker Confucius understood this and believed in the importance of prevention in the process of a child's development. How long ago? Check his birth date later in this chapter.

As we will see in every chapter of this book, many important questions that keep psychologists busy today have been already asked and addressed in the past. Yet there is no redundancy in this. Contemporary psychology is constantly looking for new, better answers to never-ending inquiries about mental phenomena. In this chapter, we examine some of these inquiries and trace the development of psychological knowledge to the earlier stages of human civilization. These pages are mostly about psychological knowledge of the ancient past. But in many ways, they are also about psychology of today.

Sources: The following articles from *American Psychologist* were used for this introductory vignette: Gergen (2001), Kendler (2002), and Kahneman (2003) on intuition; Weissberg, Kumpfer, and Seligman (2003) on prevention; Rentfrow (2010) on psychological geography; and Cattaneo and Chapman (2010) on empowerment.



Psychological Knowledge at the Beginning of Human Civilization

The first human civilizations emerged 5,000 to 6,000 years ago, when people began to live in organized communities under governing social rules. Systematic agriculture brought a substantial change in the lives of large groups who could acquire food on a regular basis, build permanent settlements, and exchange products through trade. Human consciousness developed further, thus making possible a new type of connection between themselves on the one hand and the physical and social environment on the other (Jaynes, 2000). This connection is called **subjective culture**. It reveals in various forms, including religion, arts, education, and science. People learned about the physical world around them, their bodies, and, certainly, psychological experiences. Systematic knowledge was transforming small human communities and larger civilizations; the developing civilizations stimulated the development of systematic knowledge. The wheel of science began to turn.

What kind of psychological knowledge was accumulated? Early psychological observations began to emerge in written folklore, religious scriptures, and paintings. Although these observations seem grossly incomplete today, they allow us to study people's knowledge related to sensations, emotions, desires, dreams, will, and other experiences. Throughout history, psychological knowledge was never singular or unified (Robinson, 1986).

Who were the people who made early contributions to psychological knowledge? They were physicians, religious scholars, teachers, philosophers, and poets. Most of them occupied special and often privileged positions in society. Most information today is available from sources traced back to the ancient Near East, ancient Greece and Rome, the Middle East, and North Africa; today, these are commonly referred to as the roots of Western civilization. Non-Western written sources came primarily from central Asia, India, and China (see Table 2.1).

Mesopotamia

Located between the Tigris and Euphrates rivers in the area of contemporary Iraq, Mesopotamia was one of the oldest civilizations. Few written sources on social and legal issues have given us approximate information about the type of psychological knowledge that people of this civilization developed. From Hammurabi's Code, a legal document reflecting the social developments

Table 2.1 Psychological Knowledge in the Beginning of Human Civilization: An Overview

Observations	Sources of Knowledge	Major Findings
Behavior and its causes	Observations and generalizations	External forces, including supernatural, control human behavior; however, people can pursue and achieve their goals through will.
Cognition	Observations and generalizations	The soul was commonly recognized as an entity associated with and mediating cognition. Various senses were identified.
Emotion	Observations and generalizations	Various emotional states were recognized. Emotions were considered as distracting processes requiring restraints from the mind.
Specific knowledge	Observations and generalizations	Prescriptions about appropriate and inappropriate behavior, success, coping with problems, and raising the family emerged.

during Hammurabi's rule (c. 1700 BCE), we learn that gods in Mesopotamia were viewed as actual beings and that people pursued good relationships with them to bring health, victory in war, happiness in marriage, or profit in trade deals. People were convinced that forces beyond their control guided their lives. The importance of symbols, signs, and superstitions in people's lives was significant. However, as we understand this today, by observing religious traditions and following rituals, people could better cope with their concerns. Significant wealth was contributed to the construction of temples as places of worship. Mesopotamian civilization was among the first to develop written language. Texts appeared on clay tablets, and some of them contained descriptions of dreams, especially of noble individuals. The contents of dreams were used to make predictions about daily events, health, and destiny. The first professional dream interpreters and fortune-tellers seemed to emerge at that time (Hoffman, 2004).

Ancient Egypt

As in Mesopotamia, religion was an inseparable element of life in ancient Egypt, where people practiced polytheism or worshiping several gods. Superstitions played a big part in human lives (Pinch, 1994). Psychological observations came from various sources, including fragments of written prescriptions about how to behave in social situations, how to respect people of a higher status, how not to offend women, or how to avoid embarrassment (Spielvogel, 2006). Educational principles were summarized in a number of ancient Egyptian treatises now commonly called the *Books of Instruction*. From papyrus manuscripts, prepared sometime between 2900 and 2000 BCE, we infer that the human heart was viewed as the center of the body. It was the location of a person's soul reasoning abilities, emotions, and behavioral traits. The gods could send people knowledge and imperatives through their hearts.

In summary, Mesopotamia and Egypt are examples of two early civilizations that produced documented but very fragmented histories of peoples' searches for answers about the nature of the world, the role of human beings in it, the soul, and supernatural forces. The separation of the material and spiritual—the body and soul—was an important step down the road of relentless inquiry into human psychology. Similar divisions of the spiritual and material appeared in written accounts of the early civilizations of the Assyrians, the Jews, the Persians, and the Babylonians.

Psychological Knowledge in the Civilization of the Greeks

The civilization of the Greeks laid the foundations for Western culture and science. The history of Greek civilization—and the period to which we direct our attention now is approximately 750 to 100 BCE—was a remarkable account of war and territorial expansion, slavery, discrimination, and violence. At the same time, it was a time of great progress in science, philosophy, engineering, trade, medicine, education, and the arts.

A contemporary psychologist examining that period is likely to establish at least three major sources of systematic knowledge related to psychology. One source is derived from Greek philosophy and its several branches, including ethics (studies of moral values and behavior), metaphysics (philosophy), and epistemology (studies of cognition). The second relates to natural science and includes medicine. The third source is found in mythology. (See Table 2.2.)

What did the Greeks know about psychology? The following section of the chapter contains a description of the major findings of the ancient Greeks—philosophers, physicians, and natural scientists—in their investigations into psychology. Overall, most of their findings were rooted in typical Greek beliefs in harmony, proportion, order, and beauty.

Early Concepts of the Soul

In ancient Greece, the separation of the body and soul was generally accepted. Two schools of thought emerged. The first was associated with the view that the human soul originated from the same matter as any other material object. **Materialism** was the fundamental view that the facts of mental life could be sufficiently explained in physical terms by the existence and nature of matter. The materialist view rejected the existence of anything “mental” viewing it as physical or physiological process. The second school of thought, **idealism**, claimed the separation and relative independence of the nonmaterial soul from the material body.

Table 2.2 Psychological Knowledge in the Civilization of the Greeks: An Overview

Observations	Sources of Knowledge	Major Findings
Behavior and its causes	Observations and generalizations, mythology, and medical research	The two sources of behavior are natural and divine. People can control their lives to some degree.
Cognition	Observations and generalizations, mythology, and research of the sensory organs	Materialism: Cognition is a reflection of the outside world. Idealism: Cognition is a result of “higher” processes caused by divine sources.
Emotion	Observations and generalizations and mythology	Emotions regulate behavior but can be destructive and can interfere with cognition. Different kinds of emotions are identified.
Specific knowledge related to psychology	Observations and generalizations, mythology, and early medical research	Assumptions were made about the role of the heart, the brain, the nervous system, and the various internal organs in human behavior and experience.

Materialism

Many early Greek materialists were atomists. **Atomism** stands for the notion that matter is made up of small, indivisible particles. Although atomism may appear to some of us today as naive and simplistic, gradually, through centuries, this “simplistic” outlook was developed into an extremely sophisticated worldview. First written accounts discussing the atomist approach refer to Leucippus (5th century BCE) and particularly Thales (640–546 BCE). Thales was a scientist interested in almost everything. He studied philosophy, history, science, mathematics, engineering, geography, and politics. He was one of the first thinkers who gave materialistic explanations of all natural phenomena, including mental activities (Brumbaugh, 1981).

Thales’s followers included Anaximander (611–547 BCE) and Anaximenes (550–500 BCE). These three thinkers, who lived in the town of Miletus, are known today as representatives of the Milesian school. Their views are considered seminal to the tradition called **material monism**, which holds that all things and developments, including psychological processes, no matter how complicated they are, have one similar material origin. Anaximenes considered air as the founding source of everything, including the soul, which was compared with the breath of life. While Thales viewed water as the origin, Anaximander believed in the existence of a special organizing principle or source called *boundless* (Greek: *apeiron*) and taught that life originated from moisture and people gradually developed from fish. These were early evolutionary views of human development.

Heraclitus (530–470 BCE) introduced a sophisticated concept of the soul—called *psyche*—that consisted of specific particles of ever-living fire, a founding substance. In this system, the strength and quality of the soul are based on the quality of the fire. Drunkenness, for instance, is associated with a wetness of the soul, which is an unhealthy state. Physical death of the body also means death of the psyche. Heraclitus described different states of awareness or, as we call it today, consciousness. He attributed the difference between sleep and wakefulness to a weak or strong connection between the body and the soul. Heraclitus also theorized that people gain their intellectual strength through breathing and lessen psychological capacities in sleep because their sensory organs are shut down temporarily (Kirk, Raven, & Schofield, 1995).

Empedocles (c. 490–430 BCE) continued the tradition of materialism. He was a contributor to rhetoric (the art of using language) and medicine. He maintained that the human soul is more complex than Heraclitus had stated and comprises not only one but several components, including fire, water, and air. Empedocles believed that not only humans but also animals and plants have souls. In humans, the soul is associated with blood and, therefore, with the heart. Alcmaeon of Croton (c. 500–450 BCE) developed a different view. He believed that sensation and thought are connected with the brain and nervous system. Although animals have brains and, therefore, should have souls, they use only sensations, while humans have the distinct ability of intelligence. Alcmaeon assumed that different states of mental awareness are caused by various states of activation and balance of blood in the body: When the blood is active and fills the joints, the person is awake. In Alcmaeon’s teachings, we find the earliest traces of theories appearing many centuries later and describing various bodily “balances” influencing an individual’s functioning. Similar theories appeared in other parts of the ancient world, including India and China, as we shall see.

Democritus (460–370 BCE) was probably the most influential Greek philosopher-materialist. At least two of his assumptions are important for today’s psychologists. First, Democritus believed that the soul consists of atoms. They are round atoms of fire, which provide movement to the body, which is life. The soul does not survive the destruction of the body because the atoms disperse as well. Thus, Democritus explained human inner experience as activities of the soul, which is part of the natural world. Second, Democritus created a three-centric theory of the localization of the soul. He believed that the atoms of the soul are particularly active on three different levels in the human body: around the brain, close to the chest and heart, and in the region of the

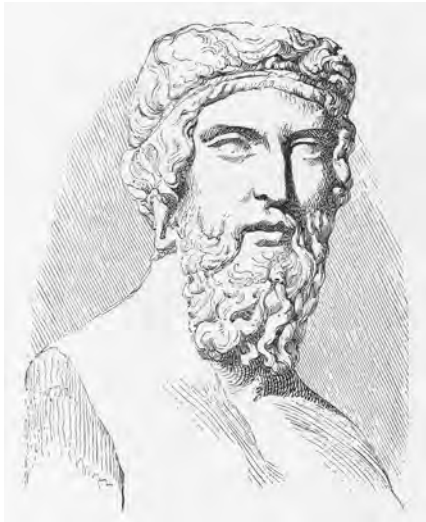
liver. The atoms located close to the brain are responsible for thinking. The atoms that concentrate around the heart are related to emotional processes. And, finally, those atoms that rotate around the liver are in charge of needs and desires. His views were an early theory about the causation of psychological functions and the localization of bodily mechanisms regulating psychology.

Epicurus (341–271 BCE), like Democritus, taught that the basic constituents of the world are atoms—indivisible particles of matter. Human souls consist of atoms of fire and air. The more atoms of fire in the soul, the more active the soul is. All psychological processes, states of consciousness, can be explained in materialistic, atomic terms as different states of concentration of atoms. We return to Epicurus's views several times in this chapter.

To find another example of the materialist understanding of the soul in ancient Greece, we now turn to Stoicism. This name derives from the Greek word referring to the porch in Athens around which, supposedly, the members of the school met. We learn about this philosophical movement from the works of Zeno of Citium (344–262 BCE), Cleanthes (331–232 BCE), and Chrysippus (280–206 BCE). The world, according to the Stoics, consists of a passive matter and an active force called *pneuma*. As a result of the interaction between *pneuma* and matter, the world appears in four categories or levels. The more *pneuma* is involved, the more active the matter becomes. For example, the first level is nature, and the impact of *pneuma* on it is relatively insignificant. On the second level, *pneuma* is more active and is responsible for the growth and procreation of matter. This is the level of plants. The third level is the animal kingdom. Here, *pneuma* is more dynamic and enables matter not only to grow and procreate but also to feel and perceive. The fourth and highest level of interaction is achieved on the human level. *Pneuma*, in the most complete form, represents human soul, which is part of nature.

Idealism

The idealist view challenges most assumptions of materialists. Idealism is a fundamental view that the facts of mental life can be sufficiently explained in mental terms. The soul is nonmaterial, immortal, and can exist alone, separated from the body. The idealist view is well represented in



Plato believed that people differ socially due to the inborn variations in the quality of their souls.

the teachings of Plato (427–347 BCE), one of the most quoted of the Greek philosophers. He is the originator of an influential philosophical view that has been studied and advanced through many generations of thinkers. Plato theorized that the world could be described in three dimensions. The first dimension is the world of the ideal forms (which is the primary reality). The second is the material world created by God. The third is psychological, which is a reflection of the ideal through material. How does the reflection take place? In Plato's famous allegory (which is an extended metaphor or image), human beings are inside an imaginary cave, and they observe reflections of forms on the cave's walls. The reflections are merely replicas of reality, but humans believe that these reflections are the "real" world. The human body offers only a temporary harbor for the soul that is part of the world of ideas. Souls travel there free of earthly concerns and desires. When back in the human body, the soul is capable of recalling the knowledge gained while it was traveling in the world of ideas.

Although the soul is an immortal, undivided, and nonmaterial entity, it can be understood as functioning on three levels. This triarchic understanding of the soul as well as triarchic classification of mental activities will appear again many times in various psychological

Table 2.3 Plato's Views of the Soul

Aspect of Soul	Associated Social Class	Dominant Features
Highest, rational	Philosophers, rulers, and educators	Reason, wisdom, and freedom from immediate concerns and desires
Affective	Warriors	Courage, responsibility, and strength
Desirous	Commoners, including merchants, craftsmen, peasants, and slaves	Needs and desires

theories, including most contemporary theories (*triarchic* in psychological language stands for anything that is made up of three elements or governed by three principles). The highest level belongs to the rational soul that is responsible for abstract thinking and wisdom. The brain is a temporary harbor associated with the rational soul. The next level down is affective and is associated with the area of the heart. The affective soul is emotional, courageous, and fearless. The lowest part of the soul is responsible for desires and needs associated with the abdominal level.

Plato believed that people differ due to the variations in the quality of their souls. Philosophers and rulers are likely to possess the highest-quality rational souls. Warriors have strong affective souls. Slaves should have dominant desirous souls. According to Plato, large groups of people also form categories according to the quality of their souls. Greeks, for example, were likely to have the most advanced rational souls. Tribes that lived in northern Europe had mostly affective souls, and Egyptians possessed lower kinds of souls. Society functions according to similar principles. Because the highest levels of the soul are supposed to dominate the lowest ones, the ideal state is supposed to be organized in a certain way: wise aristocrats rule, brave warriors defend, and other people produce, build, repair, cook, clean, buy, and sell (see Table 2.3). Somewhat analogous views differentiating people according to their natural skills, predispositions, or even size of their brains appeared again in the 19th century and later to justify policies of social and racial segregation.

Plato's theory of different realities left its mark in the history of psychology and remains consequential today. In effect, the teachings of Plato about perception may turn an average person's assumptions about our inner experience upside down. As you remember, Plato believed that the reality of objects, which our senses detect, is not real but exists as a reflection of immaterial ideas that constitute true reality. These and similar fundamental assumptions about human perception occupied the minds of many prominent philosophers. (Some of these ideas are discussed later in this chapter as well as in Chapters 3, 4, and 12.) Various applications of Plato's views are still significant today, for example, in the ongoing discussions related to visual arts, literature, and cinematography. Leading neurophysiologists ask a question: What is behind our perceptions? (Kandel, 2012). See the following Case in Point.

CASE IN POINT

Contemporary Applications of Old Theories

Plato and *The Matrix*. Have you seen *The Matrix*? This movie portrays the mystery and confusion of a virtual world. Appearing real for its inhabitants, this world, in fact, is constructed of sheer perceptions. Malevolent machines control the people who live under this illusion. Eventually, a computer

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programmer learns the truth about the two worlds and joins a rebellion against the machines to get free from the slavery of the "dream world." *The Matrix* remains today one of the most mind-provoking and entertaining movies ever made. Not only does it stir your imagination, it also has an educational value. The film essentially addresses and explores Plato's theory of cognition: The reality of the world is "given" to us through our senses, and our ability to know what is beyond our sensations is limited. We, humans, are sitting in the "cave," mistakenly believing that the shadows on the walls are the real world. This statement, however, is not entirely pessimistic. It encourages critical thinking. For example, if there is a reality beyond our sensory limits, then what can prevent us from studying it? Or what if myths and fairy tales of the past tell us a bigger, richer story than most people tend to recognize? Finally, if people believe in their own psychological "realities" due to their different cultural backgrounds, can't we study these realities? As you can see, the old theories and allegories (like *the cave* allegory) can inspire new, present-day questions.

Those who are interested in learning more about the linkages between the ideas presented in this movie and other concepts related to mind and consciousness can read the book by William Irwin *The Matrix and Philosophy*.

CHECK YOUR KNOWLEDGE

1. Most probably, the earliest professional dream interpreters appeared in
 - a. ancient Greece.
 - b. France.
 - c. ancient Mesopotamia.
 - d. the United States.
2. Material _____ holds that all things and developments, including psychological processes, no matter how complicated they are, have one similar material origin.
 - a. idealism
 - b. atomism
 - c. pneuma
 - d. monism
3. A fundamental view that the facts of mental life can be sufficiently explained in mental terms is called
 - a. materialism.
 - b. the triarchic view.
 - c. atomism.
 - d. idealism.
4. Compare and contrast materialism and idealism in the Greeks' teachings.
5. Explain the meaning of Plato's cave allegory.

See more practice questions on the companion website.

Matter and Form: Hylomorphism of Aristotle

Plato's most prominent student, Aristotle (384–322 BCE), developed an original theory of the soul and its relationship with the body. This theory is frequently called **hylomorphism**, a term composed of the Greek words for matter (*hylê*) and form (*morphê*). He introduced the soul in his manuscript called *De Anima* (The Soul) as the *form* of the body, which is the *matter* of the soul. Before Aristotle, you will keep in mind, philosophers who maintained the materialist view considered the soul as a special kind of matter. Plato, on the other hand, considered the soul as a bodiless substance. Aristotle merged these points of view. He viewed the soul as an active, creative influence in the body: the body's form but not the body itself. He connected the body and the soul by claiming their coexistence and maintained that the existence of the living organism is impossible without the soul, and conversely that the soul cannot exist without the living body.

He held that the soul possesses individual capacities or faculties: nutrition (growth and reproduction), perception (reflection of reality), and reason (highest function associated with thinking). Of all living organisms, only human souls possess all three capacities. They are not separate entities but rather interconnected functions. He advanced the concept, common among Greeks, of psychological functions or skills divided into three categories: (1) functions associated with growth and strength; (2) functions associated with courage, will, and emotions; and, finally, (3) skills associated with logic and reason. Aristotle also considered the heart as the center of vital activities and believed that blood should be a source of activities of the soul. He referred to the brain as a “coolant” of blood. When we study today's popular beliefs through idioms and expressions, we will easily find that across cultures, people use many references to the brain as a center of reason that “cools down” or restrains the “hot”, emotional impulses of the heart.

The Greeks' early views of the matter and soul should help us understand better their views of human cognition, including sensation, perception, and thinking. Many contemporary debates about the fundamental principles of human cognition (Chapter 13) and its applications originate in the works of ancient Greeks.

Cognition

Greek philosophers expressed a wide range of ideas about the mechanisms of cognition. These ideas became a base for **epistemology**—the branch of philosophy that studies the nature of knowledge, its foundations, extent, and validity. Early epistemology grew almost entirely out of observations and their critical discussion. There were no laboratory experiments or quantitative studies. Nevertheless, clever assumptions about how people see, hear, remember, and think remain valuable indicators of the sophistication of the knowledge possessed by the ancient Greeks. The most fundamental differences among the scholars were based on their interpretations of the major source of cognition and its mechanisms. Consider several viewpoints.

Materialists shared several important assumptions. First, they generally believed that the soul serves as the detector of the processes taking place in reality. Individual experience gives people the capacity to portray the outside world accurately. Sensation is a foundation of thinking, and without sensation, thought is impossible. Thinking helps people in interpreting their sensations. Mistakes may occur when people interpret something using their imagination, fantasy, and abstract judgments.

Second, despite some differences, Greek materialists generally supported the view according to which sensation is possible because of a kind of emanation or “discharge” coming from objects. These are particles of matter or atoms of different shapes and forms. They make an impression on our senses and thus evoke sensation and then thought. This view was later called the **emanation theory** of sensation, which was recognized as a scientific theory up until a few hundred years ago. How does sensation work? Alcmaeon, for example, was among the first to introduce the principle of similarity to explain the functioning of perception. The human eye, in Alcmaeon's theory, contains substances such

as fire and water, and therefore, the eye is set to receive substances that also contain fire and water. The human ear contains air, thus enabling us to perceive sound going through air. These were the earliest views about the specialization of human senses. Science later developed these views in many sophisticated ways, but the core explanatory principle remained the same.

Third, most materialists, including Democritus, believed that characteristics of matter such as color, taste, sound, and smell do not belong to atoms. Properties such as sweetness or white color do not exist at the atomic level because atoms are not sweet or white. All these sensations are products of an interaction between the atoms of the soul and atoms of the external world. These suggestions laid the foundation for the 17th-century discussions about primary and secondary characteristics of human perception, which we will describe in Chapter 3.

Fourth, Greek materialists attempted to explain the basic mechanisms of thinking. Epicurus, for example, theorized that people combine impressions to form simple concepts. As a next step, specific concepts are compared with one another, and common features are found. Finally, abstract concepts are formed. Human souls do not have any inborn images; concepts are formed as a result of experience. Consider dreaming. A dreaming person deals with concerns that were avoided during the day. Language also has natural origins. It is acquired as a result of numerous attempts to identify objects and attach meanings to them. People try to associate objects with sounds, and different languages are formed when, in different places on Earth, people learn to identify objects by dissimilar sounds. These views of language are echoed in the 20th century in the works of behaviorists.

For Plato, who challenged materialist views, human beings possess two kinds of knowledge. One is derived from their sensations, and this knowledge is our opinions: You may see one thing or one side in a story, while other people may see it differently. Opinions, therefore, cannot represent true knowledge. Individuals can learn truth coming from immortal ideas, which as you keep in mind, existed before these individuals' conception. The soul acquires universal and true knowledge by recollection: They recall the experience they have gained while traveling in the immortal world of ideas. Plato's views about the existence of knowledge prior to experience made a great impact on many psychologists, including our contemporaries.

Another distinct view of cognition belongs to Aristotle. As you remember, Aristotle, like Democritus and Empedocles, believed that the main source of sensation is the external world of objects. Aristotle, however, developed a quite different view of specific mechanisms of sensation. Unlike his many materialist predecessors, he did not use the emanation theory to explain sensation. The sensory process is the acquisition of a form of an object by the body organs capable of receptive function such as the eye, the ear, the tongue, and so on. Any object is capable of initiating sensation, but there must be a specific environment in which this process takes place. For example, hearing requires air, vision is impossible without light, and so on. Sensory organs cannot produce any images without being affected by objects in the specific environment. Aristotle named five main types of sensation; all of them are recognized today as the basic senses: vision, hearing, taste, smell, and touch. How do people manage their sensations? An individual's soul uses the mechanism of association, including consolidation, comparison, and distinction among sensations.

CHECK YOUR KNOWLEDGE

1. The branch of philosophy that studies the nature of knowledge, its foundations, extent, and validity is called
 - a. hylomorphism.
 - b. reason.
 - c. epistemology.
 - d. idealism.

2. Aristotle held that the soul possesses these individual capacities or faculties: nutrition, perception, and
 - a. emotion.
 - b. reason.
 - c. movement.
 - d. memory.
3. Explain the emanation theory of sensation.

Emotions and Needs

For most Greek thinkers, emotions came into view largely as “intruders” in the process of the logical reflection of reality. They were necessary processes, though frequently excessive and inappropriate. Humans should learn how to control their emotions to prevent them from disturbing reason.

Most atomists connected emotions with specific activities of the soul’s particles. Both Democritus and Epicurus believed that atomic movements cause emotions. For example, positive emotions are associated with the movement of round and smooth atoms. Negative emotions are associated with the movement of atoms with small hooks and the atoms that do not have to travel in smooth trajectories. Aristotle disagreed with atomists and wrote in *De Anima* that human emotions reflect the biological activities of the body. Similar views of emotions as processes linked to a physiological response appeared in the 19th and 20th centuries (Cannon, 1927; Lange, 1912).

Views of motivation appeared primarily in the teachings about ethics, or principles of moral behavior. Heraclitus reflected on the relative character of needs: Animals often desire things that no humans would. People learn about pleasure and displeasure through the opposing experiences. Healthy individuals do not pay attention to their health. Illness makes health pleasant. Similar arguments apply to hunger and fatigue (Kirk et al., 1995). Democritus drew a distinction between primary motivation and its secondary effects—that is, an internal impulse versus a reaction to an external event.

The Greeks believed that excessive desires are destructive. For example, Epicurus distinguished between three types of needs. The first involved natural desires necessary for survival: those such as hunger or thirst. The second type contained natural, but unnecessary, desires, such as the desire to eat only exotic or expensive food. The third type consisted of “vain” or “empty” desires. They included desires for power, wealth, and fame. These desires are difficult to satisfy, mostly because they may have no limit. Moreover, they make people unhappy. The 20th-century psychologists and therapists, such as Carl Rogers and Abraham Maslow, build some of their psychological theories around a similar point: People may easily miss happiness if they exclusively dedicate themselves to money, possessions, and control of others. Epicurus also taught that life is made up of three different kinds of events. One kind involves inevitability: There is nothing that we can do about certain things. Another kind involves chance. Here, again, people have little control over accidents. The third kind of events is manageable. People should know about such circumstances and learn how to deal with them.

Self-control was an important virtue. The sign of a reasonable individual, according to Democritus, was the ability to fight desire. Epicurus, despite incorrect claims that he encouraged people to be carefree and satisfy every craving, in fact, taught people to limit the pursuit of the vain needs and free themselves from unnecessary fears (including fear of God and fear of death). If a person can banish fear about the future and face it with confidence, then the state of joy and

tranquility (called *ataraxia*) will be achieved (Annas, 1994). For Epicurus, the avoidance of pain was more important than the pursuit of pleasure. He also favored intellectual pleasures over physical enjoyments (Long & Sedley, 1987).

Yet how can people achieve moderation and self-control? In the teaching of the Greeks, the soul functions associated with human needs or affects were one level “below” the rational soul activities associated with thinking and logic. Democritus called the heart “the queen, the nurse of anger” and believed that atoms of the soul near the liver were associated with desire. Stoics offered two practical ways for dealing with disturbing desires or affects. The first is to suppress or replace one emotion by initiating another. For example, anger can be suppressed by joy. The second way is to better understand each emotion. Emotions, especially negative ones, occur because people have wrong impressions about the past and incorrect expectations about the future. If people learn how to reflect their past and future in the right way, they will be able to rid themselves of unpleasant emotions. There is some noteworthy resemblance between these assumptions on the one hand and techniques—used in contemporary cognitive therapies—on the other to understand the nature of a person’s problems and to develop a healthier view of life (Butler, 2008).

Similarly, suggestions by the Stoics many centuries ago resemble core principles of a few contemporary psychological theories and their applications. Stoic philosophers maintained that an ideal person is a wise one, free of distracting and harmful emotions and lives according to the law of necessity. A wise person controls desires. A wise person also does not have to change the world—for many things in it are simply beyond our control—but has to find ways to adjust to it. Such recommendations are fairly close to some contemporary understanding of the concept of *coping* used in several forms of psychological counseling and therapy, especially with individuals suffering from excessive anxiety and depression (Bemak, Chung, & Pedersen, 2003; Snyder, 1999).

Biological Foundations of Human Psychology

Ancient Greeks emphasized the role of the brain and physiological processes in mental functioning. Alcmaeon of Croton (described earlier in this chapter) attributed mental activities to the brain and the nervous system. Herophilus (335–280 BCE), who worked in Alexandria (contemporary Egypt), wrote the manuscript *On Dissections*. Working in a community where human autopsies were permitted (in many places at that time it was prohibited), he prepared a detailed description of the nervous system that recognized the brain as the base of thought and intelligence. He also described the functioning of the retina and distinguished nerves as motor and sensory.

Erasistratus (3rd century BCE) was the leader of a Greek school of medicine in Alexandria. He made insightful comments about the functioning of the nervous system and suggested that air carried from the lungs to the heart is converted into a vital spirit distributed by the arteries. Like Herophilus, he distinguished between motor and sensory nerves. Erasistratus dissected the human brain, noting the convolutions, cerebrum, and cerebellum (although these names had not been given to these parts of the brain yet). He compared the brains of animals and humans to explain more advanced intellectual capacities of humans. Table 2.4 summarizes major assumptions of Greek physicians about the functions of the body and their related mental activities.

Abnormal Symptoms

References to abnormal psychological symptoms usually dealt with severe psychological disturbances involving unusual, different from normal, emotional states or outrageous behavioral acts. A common label for these symptoms was *madness*. The references to madness, however, are fragmentary, and the observations over specific details are often imprecise.

Table 2.4 Body and Human Psychology: A Glance Into Greek Medicine and Science

Bodily Functions	Psychological Functions
The brain	The brain is associated with the functioning of the soul and primarily with its higher, intellectual functions. In Aristotle's theory, the heart is the center of mental activities.
The nervous system	The nervous system is a conductor of impulses coming either from the heart or from the brain; such impulses are responsible for bodily movements and the psychological processes, including sensation, emotion, and thinking.
Sensory organs	Five basic sensations and the responding sensory organs are recognized. The disagreements in the understanding of their functioning were common; materialists and idealists disagreed about the validity of human sensations.

Despite differences in specific accounts, the Greeks shared several common views of abnormal emotions and mood (Simon, 1978; Tellenbach, 1980). For example,

- There should be physical (or somatic) sources of certain mood states.
- Either an excessive surplus or a deficiency in bodily substances is associated with mood problems.
- Some people have predispositions to developing abnormal mood symptoms.

Melancholy (often melancholia) was the most common label for mood-related symptoms that we call today depressive. The term originates from the Greek *melas* (black) and *khole* (bile, the liver-generated bitter liquid stored in the gallbladder). Initial references to the word *melancholia* are found in the *Corpus Hippocraticum*, a collection of writings that are believed to have been written or compiled by the Greek physician and scientist Hippocrates (460–377 BCE). He wrote that all types of human illnesses have natural causes. Melancholia results from particular imbalances of blood and other humors. When the blood is contaminated with black bile, it causes imbalance and the mental state of the person is disturbed. This is manifest in melancholy symptoms, such as feelings of sadness and fear, despondency, sleeplessness, and irritability. Hippocrates also recognized personality types that develop a predisposition to melancholic illnesses. In summary, these observations provided early accounts of normal and abnormal mood states. They also showed that people might have individual liabilities to certain psychological dysfunctions. This is a topic of serious interest in modern clinical psychology (Krueger & Markon, 2006).

Plato adopted the prevalent Hippocratic doctrine of balance and proportion and applied it to his concept of human mortality and the finite body and immortality and the indivisible soul. Illness, in his view, is always disproportion, or *ametria*. Excessive pleasure and pain are sources of soul illness. The soul can be contaminated by bitter and bilious bodily humors, which can generate excessive sadness or excessive irritability and rage, called *mania*. Mania is not always destructive. There was a special kind of it—*divine mania*—a form of inspiration in poets and philosophers.

Aristotle in *Problemata* paid attention to different states of human gall and the temperature of black bile. If it is colder than the norm, he believed, it could cause a depressive emotional state. If it is warmer, it can produce an elevated emotional state. To illustrate, a sad, fearful, or numb person has colder bile, while a cheerful person has warmer bile. Wine, if it gets in the blood, can also produce effects resembling emotional disturbance. This influence, however, is short term. The bile's long-term influence causes *athymia* and *extasis*, two opposite forms of melancholia (depressive and manic states, in contemporary terms). Melancholia is an enduring emotional

imbalance, which has higher incidence in the spring and in the fall because bile was believed to have a seasonal pattern. There are people, according to Aristotle, who tend to be more tempered than others because of the quicker change in their black bile's temperature.

CASE IN POINT

Old Controversies and New Debates

Greek Mythology and the Insanity Defense. Greek mythology provides an interesting example of what could be the first case of "insanity defense," a legal procedure that allows the defense to direct the attention of the court to the suspect's severe psychological dysfunction causing his or her inability to understand the nature of the committed crime or the essence of the ongoing criminal procedure. In the myth called "The Madness of Hercules the Strongman and Adventurer," Hercules, one of several illegitimate offspring of Zeus—the most powerful of the Greek gods—was seriously disturbed by Zeus's wife Hera. She was jealous of Hercules because she thought people looked at him as a living reminder of Zeus's unfaithfulness to her. She cast a spell on Hercules, who, as a result, developed madness and lost the ability to think rationally. Driven by an irrational, violent outburst, he killed his own wife and three children. Moreover, he remained unaware of his terrible actions due to his madness. At long last, he regained rational thought and could recall the terrible crime he had committed. The townspeople, however, forgave him, because they believed that he was temporarily insane during the act of violence and had no control over his actions.

The insanity defense will become a subject of renewed emotional debates in the 20th century and today sparked by the murders of prominent officials (the U.S. president William McKinley killed in 1901), celebrities (John Lennon killed in 1980), or mass murder cases (committed by Anders Breivik in Norway in 2011) among many others. Although insanity defense is a legal procedure, ultimately, it rests on a suspect's psychological evaluation and how it resonates in the mind of the judge and the members of the jury. As in the Hercules myth, the ultimate decision is in the hands of the people. This underlines the crucial role of the psychological evaluation of the suspect.

As a trained and qualified psychologist, under what evidential circumstances would you agree to participate on the insanity defense for a murder suspect?

If you are interested in a global analysis of insanity defense, read *The Insanity Defense, the World Over* by Rita Simon and Heather Ahn-Redding.

Views of Healthy and Moral Behavior

The Greeks made sophisticated observations about many other aspects of human experiences and behavior that could be studied today in health psychology and social psychology. Thales commented on the importance of having a healthy body because it provides a person with a healthier soul and good skills. Democritus maintained that happiness, like unhappiness, is a property of the soul. People find happiness neither by means of the body nor through material possessions but through uprightness and wisdom. People should value the soul first and the body second because perfection of the soul corrects the inferiority of the body, but physical strength without intelligence does very little to improve the mind. Reciprocity in relationships is critical: The person who loves nobody is not loved by anyone; similarities of outlook create good friendships.

Psychological sources of moral actions interested many philosophers, particularly Socrates (469–399 BCE). He believed that if people knew the good, they would always do the good. People go astray because they do not really know how to act rightly. This position of Socrates influenced centuries-long discussions among philosophers, social scientists, and psychologists about the sources of moral behavior and the role of emotions and reason in ethics. This debate continues even today (Prinz, 2008).

CHECK YOUR KNOWLEDGE

1. What was the anatomical center of mental activities according to Aristotle?
 - a. The liver
 - b. The spinal cord
 - c. The heart
 - d. The brain
2. According to Aristotle, *athymia* and *extasis* are two opposite forms of
 - a. melancholia.
 - b. madness.
 - c. insanity.
 - d. black bile.
3. Why was self-control important for the Greek thinkers?
4. How did the Greeks understand melancholy?

Evaluating the Impact of the Greeks

Greek thinkers made a remarkable contribution to philosophy and science and laid a strong foundation for the further development of global psychological knowledge. There are at least five major areas of influence: (1) the study of the soul, (2) the teachings about the mechanisms of human cognition, (3) the suggestions about the biological foundations of mental activities, (4) the initial inquiry in the fields of clinical psychology, and (5) the rich observations of social behavior.

In the teachings about the soul, the Greeks set the stage for a continuous debate in the history of psychology about the origins of knowledge, the existence of free will, the place of human beings in the hierarchy of species, and the ability of humans to exercise control over their lives. Today an increasing number of psychologists explore the body–mind relationship and its many applications to health psychology (Epel, 2009). The Greeks developed early theories associating the brain with intellectual functions. They provided valuable assumptions about the role of the nerves in bodily and psychological processes. These assumptions were verified much later in history.

Theories about cognition and its mechanisms set the tone for the debate about the accuracy of knowledge and the possibility of knowledge without prior experience. Atomists such as Democritus and Epicurus provided powerful ideas equating perception with reception, the view that became dominant for some time. Many of Plato's ideas, transformed over the course of centuries, provide an important theoretical basis for the contemporary scientific argument maintaining that the processes in the brain contribute to perception and may create a perceived reality of its own (Gregory, 1997). In terms of practical applications, Greeks introduced memorization techniques and used them to improve their public-speaking skills (Yates, 1966).

Greek thinkers conducted remarkable observations about appropriate and inappropriate behavior, healthy choices, recipes for success, and warnings against failure in personal affairs. Despite the differences in their positions about how much control people could have over their lives, the philosophers emphasized the importance of education, honesty, moderation, friendship, cooperation, hard work, and the ability to persevere in difficult circumstances.

The Greeks also made valuable observations of abnormal behavior, understanding it as a deviation from a norm. They provided descriptions of what are identified today as anxiety

and mood disorders. The Greeks explained abnormal psychological symptoms as reflections of bodily imbalances, behavioral excesses, or a person's inability to cope with difficult circumstances. These and similar views of psychological disorders are common in today's clinical psychology.

Psychological Knowledge in India and China: An Introduction to Non-Western Traditions in Psychology

Great thinkers of Greece, India, and China lived around the same historical period but in different parts of the vast Eurasian continent. Historians maintain that there was very little scientific interaction among their respective cultures (Cooper, 2003). You may be surprised, however, to realize how similar their psychological observations frequently were.

Experts associate the origins of Indian history with the birth of the Indus Valley civilization and its original settlements in the Punjab region, along the Ganga and Yamuna plains, and the migration of the Aryan tribes. With agriculture and trade increasing by 500 BCE, many settlements along the Ganga became centers of social life (Flood, 2012). As was the case in ancient Greece, Indian thinkers made the earliest observations about human mind and behavior. What we call today psychological knowledge can be picked up in bits and pieces from their writings on religion, metaphysics, and epistemology. One of many remarkable features of the early Indian philosophy is the extraordinary attention it paid to the search for the meaning of the individual psychological experience. The emphasis was on educated human beings who found a way to free the self of the unpleasant constraints of their daily experiences. What we call "Indian philosophies" traditionally include at least six different schools in Hinduism, as well as religious traditions of Buddhism, which originates in India. A comparative or comprehensive analysis of these schools is not our goal. We focus instead on the contributions of Indian philosophers to the development of psychological knowledge.

The Hindu Tradition

A Hindu is a person who recognizes the divine nature of Hinduism's holy writings, accepts their ideas, and follows their prescriptions. The roots of Hinduism are found in texts and ritual hymns called *Vedas* dated 1500 BCE and earlier and further developed in the oral teachings or *Upanishads*—the fundamental and sacred texts of Hinduism. The ultimate law or universal order governing objects and people is called *dharma*. (In ancient Greece, this law was called *logos*.) The world is organized according to *karma*, or universal rules of cause and effect. Multiple Gods, both male and female, in various forms, benevolent and malevolent, rule the universe. Hinduism cherishes the belief that all living creatures undergo a cycle of rebirth and their souls transmigrate from one body to another. According to an earlier tradition, the different parts of a person go to different places after the person's death: the eyes go to the sun, the breath to the wind, and the "self" goes to the ancestors. Later it has been established that the self moves from body to body in accordance to this person's actions (*karma*). Whereas the Greeks saw life of an individual as ending in death, in Hinduism life is circular: People's souls live and die many times (Fernandez, Castano, & Singh, 2010). In a very short way, Hinduism may be characterized by the belief in reincarnation determined by the law (*dharma*) and causality (*karma*) and a possibility of salvation (Flood, 2012, p. 6).

Although there are female Gods and women are present in scriptures, Hinduism's classical written sources are mostly male discourse. We will see this tendency prevalent in many written sources relevant to the history of psychology. **Androcentrism** is placing male human beings or the masculine point of view at the center of a theory or narrative.

The Life Cycle

A person is said to be made of five immortal (mind, speech, breath, sight, and hearing) and five mortal (hair, skin, flesh, bones, and marrow) parts (Collins, 1990, p. 83). Human actions have consequences, either immediate or delayed. Everything happens for a reason, and all thoughts and behaviors have a special place in an intelligible whole. Dharma emphasizes ritual and moral behavior that may not be neglected without consequences. People have obligations in regard to their position in society and to their stages of individual development. Societal positions and the roles attached to them are called castes and they are hierarchical. The highest position is held by the Brahmins, followed by the Nobles or Warriors, followed in turn by the Commoners and finally, the Serfs. The Brahmins teach religion; the Nobles practice defense; the Commoners plow, tend cattle, and lend money; and the lowest class serves the upper ones. The higher classes are more “pure” than the lower ones. Each caste is inalienable with some exceptions. The rules of endogamy (marriage) and commensality (eating together) must be followed. These rules are supposed to provide stability to social order. Women are generally inferior to men, and the latter should exercise control over them as father does to his children, husbands to their wives, and sons to their widowed mother. If a woman respects male authority, she will be rewarded in afterlife. Rites of passage in Hinduism mold and preserve social identity, hierarchy, and order. They refer to pregnancy, childbirth, and physical and social development (e.g., first solid food, shaving of the beard, the beginning of the study of the Veda, and marriage). Boys are generally more valuable than girls. With the birth of the boy, his father reserves a place in heaven.

The caste system has had a profound impact on India’s society as well as on individual behavior and thinking of many generations of Indians. It is outlawed in contemporary India, but its prescriptions are embedded in customs and subsequent thought and behavior of many individuals.

The Mind and Behavior

One unifying assumption of different branches of early Indian thought related to cognition was that reflections of reality, such as perceptions, emotions, and desires, are largely distorted. Unprepared individuals tend to misunderstand their own place in the general scheme of things (Isaeva, 1999). The Sanskrit language contains terms describing at least three types of cognitive processes: (1) *shravana* (hearing about), (2) *manana* (reflecting), and (3) *nididhyasana* (meditating). Reality is substantially different from how it usually appears to us. False beliefs lead to insecurity. Only the right state of mind can bring an individual back to a state of security at peace with the self. The role of **transcendence** (knowledge beyond empirical experience) is key in Indian theories of the mind. The philosophers of the Greek civilization, as you might remember, also made similar assumptions about the distortions of human cognition. However, the work of the mind attracted only some attention from Greek philosophers, with the exception of Epicurus and a few others. For most Indian philosophers, conversely, cognition was the main focus of their teachings.

How can the right view be obtained? **Yoga** (meaning in Sanskrit, the primary language of Hinduism, “to control” or “to unite”) is the means whereby the mind and senses can be restrained, the limited self can be transcended, and the self’s true identity can be ultimately experienced (Flood, 2012, p. 94). Yoga is a discipline to facilitate the transformation of consciousness. Consciousness can be transformed through focusing attention on a single point. The transformation of consciousness eradicates mental constraints or impurities such as hate or greed. The true self is believed to be beyond the mind and its senses. All things constantly change and influence one another, yet there is an inner logic, such as a cause-and-effect sequence of events according to karma. There is no clear distinction between mind and matter. Consciousness is the ultimate reality. Reason is subordinated to intuition. Detachment or nonattachment from relationships and material things is the true objective of human life (Chaudhary, 2010).

However, the individual should fulfill moral prescriptions. It is important to be ethical, honest, celibate, and nonviolent. It is imperative to practice self-discipline. It is also critical to control body and breathing, seek isolation, and practice sense withdrawal, concentration, and meditation. The concept of “wheels” or **chakras** suggests the existence of bodily centers and channels through which energy flows. By learning about chakras, the individual gains some control of the body and mind.

Illness is likely to originate from an imbalance within the body. The symptoms of illness manifest in bodily sicknesses and in psychological complaints. The human mind can control and direct activities of the body and other sense organs and help in the process of healing. This view, in fact, remains a fertile ground for modern theories underlying the importance of the patient’s own positive attitudes in the course of therapeutic treatment (Rao, 2000).

In a quick summary, *Hinduism* is one of the most ancient systems of religious, moral, psychological, and social views—a global worldview that continued its development through centuries.

The Buddhist Tradition

Buddhism originated in India and has its roots in Hinduism. Buddhism is a system of knowledge, values, and behavioral prescriptions based on the belief that although life is full of suffering, liberation from suffering is possible. It occurs when people accept the right point of view of the world and start practicing their beliefs. The founder of Buddhism was Siddhartha Gautama (563–483 BCE), whose life and teachings influenced hundreds of millions of followers. They regard him as the Supreme Buddha, or the enlightened one. Buddhism, like Hinduism, had a profound impact on human understanding of mental activities and continues to influence contemporary psychology.

The teachings on the *Four Noble Truths* are most central to the Buddhist tradition. First, Buddhism maintains that suffering (*dukkha*) is an inseparable part of life. One does not necessarily have to suffer. He or she may have a happy life or be indifferent to the world around. Yet no emotional state lasts forever (Gethin, 1998). Several types of suffering exist. One is everyday physical and psychological suffering that is inevitable and associated with physical pain, discomfort brought by illness, loneliness, aging, and dying. Another type of suffering is rooted in anxiety or stress. Anxiety is caused by people’s desire to hold onto things that are constantly changing. We constantly try to possess something that will not be there for us tomorrow. The third type of suffering is rooted in the lack of satisfaction about everything not measuring up to our expectations or desired standards. Does this all mean that humans are destined to suffer? No. Moreover, acknowledging the existence of suffering is not about giving up. There is a way to avoid suffering.

To find this way, one has to understand the true origins of suffering and this is the Second Truth. They are our cravings or desires conditioned by ignorance. People mistakenly believe that they need pleasurable experiences by getting what they want: status, power, money, admiration, fame, and physical comfort. Their attachment to such pleasurable experiences is the key source of suffering. Realizing that there is an escape from cravings and ignorance is learning the Third Truth of Buddhism.

The Fourth Truth is about acting on suffering reduction and elimination. This is essentially about becoming the moral person by looking at things carefully and critically, speaking truthfully, trying not to harm by deeds or words, making constant attempts at self-improvement, understanding self, avoiding being influenced by cravings, and practicing concentration and meditation. Buddhism thus calls for reducing greed for material possessions, hunger for political power, and bickering for privileges and a higher social status.

Contrary to a common misperception, Buddhism does not encourage people to turn to poverty and social disengagement. There is a path between two extremes of human existence. People

should not succumb to greed and self-indulgence. At the same time, they should not practice self-punishment and total **asceticism**—a lifestyle of restraint or abstinence from various worldly pleasures. Instead, people should adopt the Middle Way—the concept that has also become a distinct feature of Buddhism. It means that people should avoid the excesses of self-indulgence and self-punishment. Moderation and nonviolence should be practiced.

IN THEIR OWN WORDS

Buddhism and Cognition

All that we are is the result of what we have thought. The mind is everything. What we think we become.

Siddhartha Gautama, the founder of Buddhism (563–483 BCE). A great debate about the nature of the human mind will continue throughout history and across cultures.

The Self

Buddhism separates bodily states from mental ones. A body is like a house. Like a space enclosed by timber or clay is called a house, the space enclosed by bones, flesh, and skin is called a body. The human body originates from nourishment and comes to an end with the cessation of it. Feelings originate from a sensory contact and end with its cessation. Mental processes are associated with the living body and end with its death. Yet when the body dies, the mental processes are reborn in a new body (Collins, 1990, p. 114). Here, Buddhism suggests a concept that differs from the Greek's understanding of the soul as a somewhat constant, permanent spiritual entity.

Each lifetime, bounded by the birth and death of the physical body, is also associated with the occurrence of the self. Human beings say in different languages “I am” or “me” referring to their bodies and minds. In fact, everything is passing. Bodies change, come and go, as well as what we conveniently call “the self” that is also attached to the body. Are you the same “you” that you were 10 years ago? Your body is very much different now, so is your “self.” It is like a flame on a candle burning for some time. Is it the same flame that has been there a minute ago? Like the flame needs a candle to burn, the soul needs a body to reflect. When the body dies, so does the soul. It will be reborn again in another body. But when one is reborn, is he or she the same or different? The Buddhist answer is neither. In a way, speaking in contemporary terms, our consciousness is an illusory and impermanent phenomenon destined to come to an end at the death of the body yet leaving a karmic inheritance for a future “I” who is neither the same nor different. Ultimately, **nirvana**, or a state of profound peace of mind and perfect enlightenment is achievable. According to Buddhist theory, people should be free from being attached to passing events, feelings, and thoughts. The right end result will be the final discovery that no “self” exists, and the bliss of nirvana will consist among other things, in living out this sublime truth (Collins, 1990, pp. 74, 190). We shall return to these views several times discussing the work of the mind and the consciousness.

Meanwhile, individuals are different from one another. Individuality is determined by social status. Karma determines one's social status and may allow one to advance in the future based on one's good deeds. Some individuals are like “carvings” on a rock. Their emotional states are solid and long-lasting. Other people are like “carvings” on the earth because their mental states are fast passing. Yet others are compatible to marks on the water because they are extremely changeable.

Some people are self-tormentors like ascetics. Others are butchers, bandits, and executioners. They distress others. There are people who torment both selves and others. There are more than 100 different types of personalities. The differences are rooted in four underlying elements (earth, water, fire, and wind) and three features: greed, hatred, and delusion and their opposites. Then they are combined in various ways: a temperament can be, for example, greedy and hating. The sources of these temperaments are different karmic habits like body humors, such as phlegm, bile, and wind (that is in the breath). If a person is predominantly deluded, this is because the body phlegm is in excess.

In summary, Indian philosophers within Hinduism and Buddhist traditions created comprehensive outlooks of human behavior and mind, including basic cognitive mechanisms, thinking, consciousness, the self, moral and immoral behavior, choice, and duty. They provided detailed descriptions of different types of people (called personality types today), the complexity of emotions, and the impact of emotions on behavior. They also described symptoms that are called today hallucinations, anxiety, and various depressive manifestations. Significant attention was paid to self-cognition and meditation, concentration, and ability to understand the inner self.

CHECK YOUR KNOWLEDGE

1. In the ancient Indian tradition, what are *chakras*?
 - a. Bodily channels
 - b. Multiple "selves"
 - c. Religious books
 - d. Antidepressants
2. A lifestyle of restraint or abstinence from various worldly pleasures is called
 - a. karma.
 - b. asceticism.
 - c. yoga.
 - d. nirvana.
3. Explain androcentrism.
4. Explain the Four Noble Truths.

Confucianism and Psychological Views in China

The first Chinese emperor (ascending the throne in 246 BCE), pursuing efficiency and order, designed a radiating system of roads, unified different measures of weight, made standard coins and a uniform writing system, and even suggested the typical width of wagons. Historians provide evidence that more than 2,000 years ago, Chinese emperors used a system of written examinations to evaluate potential government employees (Bowman, 1989). Politics and science in China seemed to pursue similar goals: the search for the ultimate effectiveness of society and efficiency of individual actions (Smith, 1991).

Like the ideas of the Greek philosophers that spread around the geographic vicinity of the Mediterranean Sea, the ideas of Chinese philosophers spread across eastern Asia. For nearly

two millennia, the minds of people of the world's most populous country were shaped by the teachings of Confucius (c. 551–479 BCE). Confucius did not write books. His teachings were preserved through his students, then students of his students, and scores of followers and commentators. In Greece, the teachings of several philosophers were preserved in a similar way.

Confucian teachings appear as moral prescriptions and can be compared with the views of Epicurus, Socrates, or the Stoics of ancient Greece. Confucius and his followers based their views on the concept of *ren*, which is a lifelong determination of a human being to become a truthful and caring person (Tu, 1979). Virtuous and efficient behavior was the center of attention. Confucius believed that anyone could be virtuous. The key was a person's commitment to improve. No matter how successful one becomes, there must be motivation to be better. A person is good as long as a genuine effort is made even though the actual achievement may be small. There are no limits to self-perfection.

For Confucius, the ideal person is a balanced one, someone who does not stop doing right things because of the fear of unpleasant consequences. There is no reason to worship God. People can improve themselves and be happy without fear of God. People have to love their families and neighbors. They have to respect authority and obey the law. People must avoid disruptions of the social order and learn how to accept it. Learning should advance social purpose (Lee, 1996). Confucius also advocated that all people should be educated, irrespective of their abilities (Higgins & Zheng, 2002).

Do humans possess moral goodness? Mencius (c. 372–289 BCE), a great Chinese philosopher and follower of Confucius, taught that being a good person is natural. People act in moral ways because they are originally unselfish. For Mencius, the difference between people and animals lay in people's capacity to reason and ability for moral actions. Others challenged the idea about the "good nature" of people. For instance, Hsun Tzu (298–238 BCE), another prominent follower of Confucius, taught that human nature is rooted in evil. Without education, people are likely to pursue their selfish interests and turn to animal-like behavior. People learn to act morally because of their fear of punishment.

Many original ideas introduced by Confucius and his followers were gradually incorporated into Chinese customs and laws. The ideas of Confucianism were also recognized as the official philosophy of the government. Leading scholars were even summoned by government officials to clarify the true meaning of certain Confucian ideas (Fairbank & Reischauer, 1989).

Holism and Harmony

One of the prominent features cultivated by many Chinese philosophers is **holism** (often described as Zheng He Lu). This is the concept holding that everything is interconnected in the world and body. The holistic mode of thought rests on the assumption that everything exists in the integration of two historic Chinese concepts—*yin and yang*—the entities that are

ON THE WEB

Confucius. A brief biography and related information is posted on the book website.

Questions: Confucius taught that altruism could be learned under a particular condition. Which one? Whom did he call "petty men"?



Confucius believed that people could improve themselves, be happy without fear of God, and respect traditions and authority. His views had a great impact on Chinese culture.

opposed to one another and yet are also connected as a whole in time and space (Peng & Nisbett, 1999). The ideas of interconnected yin and yang are found in other early Chinese systems of thought. Tung Chung-Shu (179–104 BCE), for example, connected the human body with nature and used comparisons that linked human joints with days of the year, and human organs with basic substances of nature, such as fire, water, and so on. According to his teachings, human nature is associated with yang, which is goodness, and yin, which is a form of natural emotions. Yin is dark, feminine, soft, and hidden. Yang is bright, masculine, firm, and open. The capacity for goodness is planted in human nature but could be retrieved through training and education. People have to restrain their emotions and desires and turn instead to reason.

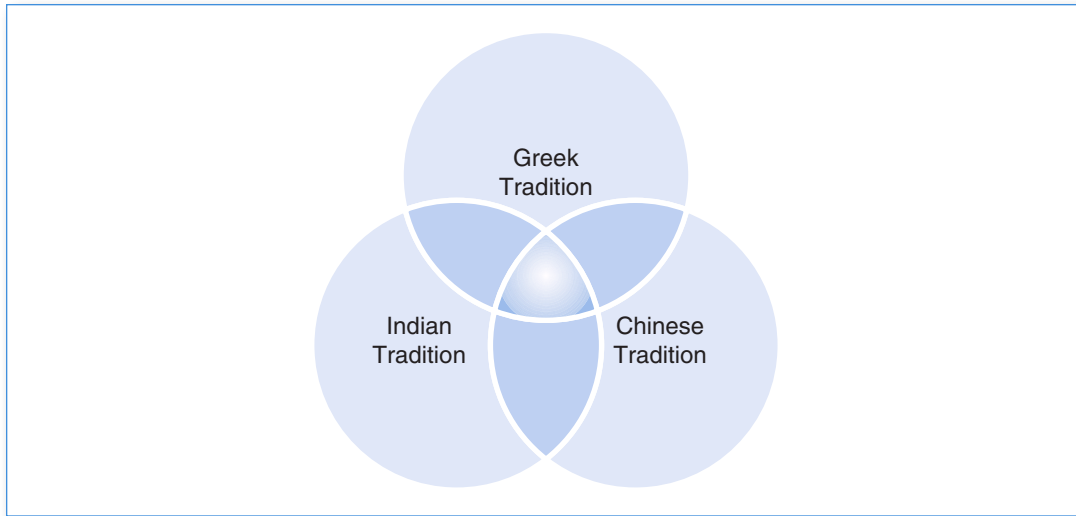
China did not have a powerful institutionalized religion like Christianity, Islam, or Judaism. However, there was an influential system of views called **Taoism**, consisting of philosophical-religious views challenging the Confucian tradition but coexisting alongside it for centuries. The founder of Taoism is believed to be Lao-Tse (604–531 BCE), a contemporary of Confucius. Taoism promotes the development of virtue in the individual and personality traits such as empathy, kindness, self-restraint, and modesty. Human beings should live in accordance with nature and promote simplicity and a healthy approach to life (Mote, 1971).

Like Indian philosophies, Taoism paid significant attention to the harmony of interconnected things. Such emphasis on harmony was associated with Taoist interest in healthy lifestyles, healing, and the prevention of illness. Most valuable for psychologists today are Taoist ideas about coping with the effects of aging, fatigue, and stress. Taoists were interested in health and vitality; they experimented with herbal medicine and pharmacology; they developed systems of gymnastics and massage to keep the body strong and youthful (Bokenkamp, 1997). Many early Taoists despised wealth, prestige, and social status. Taoism was frequently seen as an opposing system of thought to Confucianism, but it did not threaten the social structure of the Chinese society (Welch, 1957).

CHECK YOUR KNOWLEDGE

1. The concept of *ren*, a lifelong determination of a human being to become a truthful and caring person is associated with
 - a. Confucius.
 - b. Lao-Tse.
 - c. holism.
 - d. Taoism.
2. Explain *yin* and *yang* concepts.

Like in Greece, both the Indian and Chinese ancient traditions developed a sophisticated view of behavior, emotions, thought, and other mental activities. In contrast to Indian thinkers, who were focusing primarily on the complexities of mind, cognition, and its distortions, Chinese philosophers were interested, above all, in ethical and social problems. Yet it would be incorrect to state that these were their exclusive interests. Both Indian and Chinese schools, as well as the Greeks, developed a remarkable worldview of the individual, social roles, cognition, and the ability of people to control the outcomes of their behavior. Most important, all these

Figure 2.1 Overlapping Interests of the Greek, Indian, and Chinese Traditions

traditions emphasized the interconnectedness of physical and spiritual processes and underlined the meaning of harmony and balance in human behavior and thought. See Figure 2.1 to visualize a comparison of the traditions.

Psychological Knowledge at the Turn of the First Millennium

Meanwhile, the impact of Greek science and culture on other regions and civilizations was significant. Many of their works appeared in translations. Prominent thinkers of Rome, North Africa, the Middle East, Persia, and other parts of the world learned from the Greeks. However, other cultures developed their own original psychological views and theories.

The Romans: Psychological Knowledge in Philosophy and Science

The Roman Empire lasted for nearly 500 years before its disintegration in 476 CE. The Romans saw themselves as carriers of the divine mission to rule and enlighten. This sense of exceptionalism and mission gave the Roman elites intellectual ammunition to justify slavery, violence, and oppression of other people. On the other hand, the Romans preserved and developed the intellectual heritage of Western civilization. They were impressed with scientific accomplishments of Greece. The Greek language remained popular in the Roman Empire, and most educated Romans spoke it fluently. Most important for the history of psychology remains the Romans' teachings in the fields of medicine and their sophisticated theories of human behavior, moral choices, and individuals' ability to control the outcomes of their decisions.

Medical Foundations

One of the most notable figures of science and medicine in Rome was Galen (c. 129–200 CE), physician and writer of Greek origin. Born at Pergamon, Asia Minor, into an educated, well-to-do family, he settled in Rome, where he produced most of his works. In the history of psychology,

Galen stands out for his views about the soul, structure and functioning of the nervous system, and bodily balances.

The fundamental force of life, according to Galen, was *pneuma*, which exists in three forms. The first kind is located in the brain and is responsible for imagination, reason, and memory. The second, vital pneuma, with its center in the heart, regulates the flow of blood. The third kind of pneuma resides in the liver and is responsible for nutrition and metabolism. The rational faculties of imagination, reason, and memory are located in the ventricles of the brain. The brain receives vital pneuma from the heart, which is mixed into the sanguine humor (blood). The brain then extracts the pneuma and stores it in the ventricles, from where it is distributed throughout the body via the nerves. This mechanism of circulating pneuma controls muscles, organs, and all of the body's activities. The liver is responsible for the desires, the heart is responsible for the emotions, and the brain controls reason.

Galen described the nervous system as being like a tree. Nervous paths, like branches, are filled with the substance similar to one in the brain, which is pneuma. Two kinds of nerves exist. One is soft, and it connects the sensory organs with the brain. The other kind is harder; it connects brain with the muscles. Each sensory organ has its own pneuma; that is, the eye has a kind of visionary pneuma and the ear contains a kind of auditory pneuma. People do not recognize what is happening in the sensory organs. Only pneuma that is in the brain allows individuals to perceive (Scarborough, 1988). Galen also distinguished two kinds of bodily activities. Automatic activities were typical for organs such as the stomach, the heart, the lungs, and others. Other movements are voluntary and controlled by the soul. This was an early observation of reflexes (called this way much later).

The Roman medical tradition was primarily rooted in earlier Greek studies, which contained the principal ideas about bodily fluids, their imbalances, and the impact they make on mood and behavior. According to Galen, for instance, bodily substances in the brain directly affect manic and depressive symptoms in an individual. The quality of blood affects emotions. For example, hot blood causes unrestricted anger. Intense emotions are not good for the person. Therefore, individuals have to balance emotions by balancing the fluids in their own bodies. Situational and contextual factors could cause acute emotional problems too. Cicero (106–43 BCE) and Arateus (30–90 CE) suggested that individuals who develop melancholia have predisposing conditions of their bodies or in their lives that lead to emotional problems. According to Cicero, among these contextual factors are fear, grief, and neglect of reason.

Moral Behavior

A remarkable school of philosophy in Rome grew out of the tradition established by the Stoic philosophers in Greece. The only complete works by Stoic philosophers of the Roman period available today are those by Seneca (4 BCE to 65 CE), Epictetus (c. 55–135 CE), and Marcus Aurelius (121–180 CE). Most of these works focused on ethical behavior and discussed duty, moral choices, rationality, and free will. Marcus Aurelius stressed the importance of virtues such as wisdom, justice, fortitude, and moderation, believing that the moral life leads to happiness. He also believed that a divine providence had placed reason in people. Marcus Aurelius, who was also a Roman emperor, denounced violence on moral grounds and hoped to rule according to ethical standards rather than political calculations (he knew how difficult it was in reality).

For the Roman Stoics, the ultimate goal of a person's existence was to obtain a state of mind free from immediate desires for pleasure. Unfortunately, most people are "slaves" of their own passions. Nevertheless, people have rational minds that allow them to free themselves from disturbing emotions, such as fear of death. Even when people learn to exercise reason, they shouldn't try to change the world. Instead, they have to adjust to it. Those who understand this wisdom can

be happy. The ideas of the central role of moral duty and acceptance of one's own fate were embraced later by many scholars within the religious tradition of European philosophy in the High Middle Ages (Yakunin, 2001).

What role did Roman thinkers play in psychology's history? First, they preserved and strengthened the traditional Greek views of the soul, its structure, and functions. Roman philosophers, especially in the beginning of the first millennium, turned their attention to moral behavior, self-restraint, and moderation. They emphasized the importance of reason, patience, goodwill, and hope. The Romans strengthened the view of the distracting role of human emotion and emphasized the importance of self-control. They gave significant attention to reason as a superior form of cognition as compared with sensations and emotions. Scientists of ancient Rome made a significant contribution to anatomy and physiology. As the Greeks and Chinese did in their traditions of thought, the Romans emphasized the importance of balancing natural processes within the human body.

Scholars in ancient Greece and Rome used religious teachings sometimes to justify their views of morality or fate or to explain the fundamentals of the universe. With advancing Christianity, religion began to play an increasingly important role in science and philosophy. Over centuries, organized religion established its virtual monopoly on psychological knowledge. To understand the initial impact of religion on psychology, we turn to the Scholastic tradition.

The Early Christian Tradition: Immortality of the Soul

At the beginning of the first millennium, Christianity was spreading beyond its original birthplace near Jerusalem. Christian communities were founded in most big cities in the eastern part of the Roman Empire. Written Gospels about the life of Jesus Christ and his teachings, known as the New Testament, circulated widely around the Mediterranean. Early in the 3rd century, the New Testament was translated from Greek to Latin, thus allowing Christianity to find millions of new followers. In the 4th century, Christianity became Rome's official religion and later an integral part of the European culture. The influence of the religion grew in education and science. Philosophy was gradually becoming part of **theology**, the study of the nature of God and religious truth. Theology gradually expanded its monopoly on psychological knowledge. **Scholasticism**, the dominant Western Christian school of thought of the Middle Ages, was based on critical discussions of religious doctrines. Scholastics often referred to the works of Aristotle and his later reviewers.

An early founder of the Christian tradition, Plotinus (204–270 CE), was also the founder of neo-Platonism. He based his teachings on Plato's main ideas; historians often view Plotinus as a representative of a late movement in Greek philosophy. His views are presented in six books, each containing nine essays or chapters. Therefore, the title of his works is *The Enneads*, from the Greek *ennea*, which means nine. Plotinus developed a complex cognitive theory suggesting that the mind plays an active role in shaping or ordering the objects of perception rather than passively receiving data from sensory experience.

The central concept of his teachings related to psychology is *the soul*. Plotinus believed that the soul is a divine, nonmaterial, and eternal entity possessing three functions. The first one allows the soul to be connected with eternity—with the absolute, divine, and perfect soul. The second function connects the soul with the body and individual feelings. The third function gives the soul self-reflection to learn about its own past and present. Through the “lower” functions, the soul undergoes the drama of existence—it suffers, forgets, falls into vice, and so on, while through the “higher” functions, the soul remains unaffected and persists in the divine state.

Plotinus also commented on perception of beautiful things. The beauty of physical objects, he wrote, is based on the unity that they exhibit—the statement that resembles some fundamental

assumptions of the Gestalt psychology of the 20th century (Chapter 9). He explains beauty not only as the product of the human mind but also as a concept that has divine nature. Beauty is close to God, while ugliness is due to a departure from unity toward evil, from spiritual to material. For example, individuals appear ugly when they are dirty. As the soul is purified from material substance, it becomes close to reason and beauty. Being courageous, for instance, means to release the self from fear of physical death, and this is beautiful.

Plotinus's theoretical views of cognition are quite sophisticated. His assumptions about an active function of the soul that is building its own experience may resemble some of today's most intriguing theories of cognition (Scholl, 2005). Another area that also relates to contemporary psychology was the study of guilt and its psychological causes.

Psychological Foundations of Guilt and Sin

A long-lasting contribution to philosophy and psychology came from Augustine (354–430 CE). He was born and resided in the Roman Empire, in North Africa, which is present-day Algeria. A creative thinker and prolific writer, he lived at a time when the empire began to collapse, devastated by numerous invaders and weakened by its own social and political problems. New separate and smaller states began to develop in place of the empire. To many contemporaries, these rapid changes signaled the end of the world: Authority, order, and the way of life—as people knew them for centuries—were breaking down. Violence and destruction appeared as unchangeable attributes of human existence. Yet Augustine, a professor in Milan (contemporary Italy) who later became a religious official, used religion to rebuild his optimism. He proposed a psychological solution to people's problems. It was Augustine from whom Christianity would later inherit its position on guilt, sin, and sex—the view that until today remains embedded in many traditional beliefs, values, and customs.

Like most of us today, people who lived hundreds of years ago tried to address their own insecurities. In early adulthood, Augustine was confused about his personal ambitions, sexuality, and choices of the right worldview. He studied Plato. To be closer to God, he tried various forms of religious mysticism. He converted to Christianity as an adult. He turned to the search to explain human sin. Augustine became convinced that a single motivational force could explain all the sinful acts that people commit. This force was will. Roman Christians had commonly applied this term to explain behavior. They maintained that human beings have free will—that is, people are responsible for their own decisions. If this was the case, why do people commit sinful acts knowingly? His answer was that there is not only one will but two.

The Dual Nature of the Will

Augustine formulated the principle of two wills. The spiritual will, called **caritas**, stands for good intentions, ethical actions, self-restraint, and virtue. There is also a carnal will that is responsible for sinful behavior. Called **cupiditas**, it stands for excessive desire, violence, and greed. Cupiditas and caritas are in continual battle against each other. They divide the self into struggling entities: lust versus chastity, greed versus self-control, and cravings versus moderation. Wealth, power, or material possessions cannot bring spiritual salvation to a person. Only spiritual will can. To accept the spiritual will is to be on the way to God. Unfortunately, the power of the carnal will continually distracts human beings from doing the right things. In *Confessions*, Augustine gave the following example. One day, while sitting at his writing table, he spotted a spider weaving a web. Rather than doing the work he was supposed to do, Augustine idly watched the spider. That was negligence: Rather than participating in the work he should do, he was distracted by the lazy desires of the carnal self (Hooker, 1982).

Table 2.5 Psychological Knowledge in the Scholastic Period: An Overview

Psychological Phenomena	Sources of Knowledge	Major Findings
Behavior and its causes	Religious scholarship, observations and generalizations, mythology, and medical research	Humans can exercise rational behavior; moderation is the most desirable behavior.
Cognition	Religious scholarship, observations and generalizations, mythology, and research of the sensory organs	The existence of the soul is acknowledged as an eternal, nonmaterial entity.
Emotion	Religious scholarship and observations and generalizations	Emotions regulate behavior but often become disturbing.
Specific knowledge	Religious scholarship, observations and generalizations, mythology, and medical research	Specific facts about human behavior and inner experience are accumulated.

Human Sexuality

Augustine described human sexuality as a feature of carnal will. To guarantee the right path in their lives, human beings should suppress sexuality, leave sex only for procreation purposes, and pursue unconditional chastity. This was a fundamental element in his theory, which was accepted and promoted by the institutions of European Christianity for many centuries to come. This view not only determined many prohibitive views of sexuality; it also set the views on public morality, self-expression, the nature of guilt and shame, good education, and even psychological disorders, which we will examine in Chapters 6 and 8. A dual nature of human will is one of the most fundamental legacies of Augustine found in the European thought: first in theology, then in philosophy and literature, and finally in psychology in the works of Sigmund Freud, Carl Jung, and their followers in the 20th century.

Why did Augustine's views receive such enduring acceptance in European theology and culture? Why did guilt become an attribute of so many people's beliefs? Let's turn to personal observations. How many of us have a tendency to accept blame for misfortunes beyond our control? To say, "I am to blame for this" when you are not is seemingly out of logic, especially seeing how many people around us deny personal wrongdoing. However, self-blame can be logical. What would you prefer, to feel guilty or to feel helpless in the face of an illness, an accident, a failure, or other serious difficulties? If we blame others or feel helpless, we are not solving the problem that we face. Guilt, on the other hand, could help us mobilize our own psychological resources to tackle the problem we are facing. We are guilty because we, according to the Christian doctrine, are linked to the original sin of Adam and Eve. This feeling of guilt may help some people explain why bad things sometimes happen to good people (Pagels, 1989).

Do Augustine's views, expressed more than 1,500 years ago, make sense to you today? Some psychological studies provide support for Augustine's assumptions. Research by June Tangney and Ronda Dearing (2003) showed that people's awareness of their own guilt in cases of perceived wrongdoing can be used as a therapeutic tool to help avoid serious anxiety-related and other emotional problems. Guilt according to contemporary research appears as a powerful personal resource to explain and regulate behavior.

Augustine also made general observations about the soul. In his view, plants and animals also have souls. This was a common view rooted in earlier Greek teachings, those of Aristotle in particular. The senses are coordinated by the soul's inner capacity, which is another similarity with Aristotle's teachings. The human soul is both immaterial and immortal. The inner capacity combines the information of the senses and passes judgment on the results of this synthesis. People can learn through self-understanding and observation of their own thoughts and emotions. This idea has reappeared later in studies involving introspection (Chapter 4), a popular psychological method of the 19th century (see Table 2.5).

CHECK YOUR KNOWLEDGE

1. According to Galen, *pneuma* functions on three levels:
 - a. brain, neck, and shoulders.
 - b. brain, heart, and liver.
 - c. eyes, ears, and the skin.
 - d. the sun, the moon, the sea.
2. Augustine believed in two types of human will. Which ones?
 - a. Logical and illogical
 - b. Male and female
 - c. Mature and immature
 - d. Spiritual and carnal
3. What were the Roman Stoics' views of human emotions?

Further Development of Knowledge in the High Middle Ages (1000–1300s)

The Middle Ages as an epoch begins with the collapse of the Western Roman Empire, although historians debate the precise dates. The High Middle Ages in Europe was a period of economic growth and recovery from an earlier period of violence and political disarray. The development of new agricultural practices, a warming of the Earth's climate, and fewer wars allowed peasants to produce more food. These factors contributed to population growth, the further development of the cities, and a relative social stability. The Catholic Church was the religion of the majority in Europe. It was an extremely influential institution, affecting all aspects of life. After a period of decline, the church restored its influence, and monasteries continued to be centers of education, science, and philosophy. Although life in the monasteries was difficult and the majority of monks were engaged in hard physical labor, these institutions produced many prolific thinkers in the areas of philosophy and theology. One of these individuals was Thomas Aquinas.

Christian Theology: Restoring Aristotle's Prestige

Thomas Aquinas (c. 1225–1274) was born to a wealthy influential family in the Neapolitan territory of Italy and was educated in a monastery in which his uncle was abbot. Thomas (as he is

commonly addressed by historians) continued the Aristotelian tradition: He believed that the soul is the form of the body that gives it life and energy. Thomas added that the soul without the body would have no individuality, because such uniqueness comes from matter. For this reason, resurrection of the body, an important Christian belief, is crucial to the idea of personal immortality. Thomas Aquinas followed many of Aristotle's assumptions and distinguished five faculties of the soul. The first is the vegetative faculty involved in nutrition, procreation, and growth. The second is the sensitive faculty engaged in sensations, including higher cognitive functions. The third faculty is the motor, and it is responsible for movement. The fourth is appetitive faculty, which is involved in motivation and will. Finally, the fifth faculty is the intellectual one, the highest form of reason.

For Thomas, human cognition was not a merely passive process during which atoms irradiate from objects and reach the body and thus cause sensations. The soul should play an active role in sensation and particularly in the complex processes of thinking. Intellect, the fifth faculty, is the greatest treasure of humans, placing them above the animals. Although sensations can portray reality correctly, their accuracy reaches only a certain degree. Only the fifth faculty can lead a person to an understanding of the physical world and human life. Moreover, the soul can understand the self and realize its unique, nonmaterial origin.

The views of Thomas Aquinas, as you can notice, resemble the positions held by Aristotle, especially about the structure and functioning of the soul. Unlike Aristotle, however, Thomas believed in the nonmaterial essence of the soul and a possibility of its independent existence. Aristotle did not use God to explain his theory of cognition. Thomas in contrast suggested that the concept of God is vital in the understanding of cognitive activities. Aristotle also assigned a greater role of environment in the formation of thinking, while Thomas believed that the higher mental processes should be understood as the process that belonged to the soul itself.

In summary, what was the impact of the Scholastic and early Christian tradition of thought on psychology's history? Psychological knowledge developed, to some degree, as a symbolic alliance of Christian theology and the Greek philosophy. The works of many Greek philosophers, Plato and Aristotle in particular, were thoroughly analyzed and critically evaluated. In fact, the method of critical thinking in analyzing scholarly texts has one of its roots in the early Scholastic tradition. A centuries-long search for moral foundations of an individual's behavior continued in the High Middle Ages. The discussions of free will, guilt, emotion, rationality, belief, and doubt—all of these and many other features of our complex psychological experience—received their early critical evaluation in Scholasticism.

Christian theology had a major impact on the development of psychological knowledge in Europe in the early millennium and during the High Middle Ages. In similar ways, Muslim theology affected philosophy and science in the Middle East, parts of North Africa, and central Asia in the first millennium after the birth of Islam in the 7th century.

Psychological Views in the Early Arab and Muslim Civilization

Several original and independent schools of thought appeared in different parts of the developing Islamic world, which was spreading its spiritual and political influence through the Arabic Peninsula through the Middle East. Creative ideas continued to flourish outside the religious tradition. An important factor helping scientific ideas spread around the broad geographic region was the common language. As in the ancient Greek civilization, when the Greek language dominated the Mediterranean region, Arabic became the language of communication for most educated circles in the Middle East and North Africa. For example, Arabic translations of teachings of Galen and Hippocrates became very influential among scholars in the Middle East. Following Galen's descriptions, many doctors in the Middle East would identify the liver as a location for

anger, courage and passion were associated with the heart, fear was linked to the lungs, laughter to the spleen, and greed was associated with the kidneys (Browne, 1962).

As was common in Europe, scholars in the Middle East were proficient in several fields. A scholar could be a philosopher, an astronomer, a natural scientist, a doctor, and a poet—all at the same time. Many philosophers practiced medicine, and physicians wrote sophisticated philosophical tractates. Basran al-Kindi (c. 865 CE), a prominent Arab philosopher, was a private teacher of the son of a caliph. He studied the teachings of Aristotle and Plato and promoted the necessity of critical questioning of knowledge. Al-Farabi (870–950 CE), a man of Persian descent born in Turkistan in central Asia, attempted to blend the ideas of Aristotle and Plato with Sufism—the Islamic tradition of mystical thought. Al-Farabi reportedly wrote 117 books and was employed by many people of power.

Al-Farabi studied knowledge, its extent and validity. He identified three types of social groups—an early contribution to the discipline we now call social psychology. He used allegories to describe these groups. For example, the ideal social group is compared with a *virtuous* city. People are good and happy in this city, like the limbs of a healthy body, with all the functions working properly. There are also other groups in which people are engaged in different types of behavior. Al-Farabi called them inhabitants of the *ignorant* city, the *dissolute* city, the *turncoat* city, and the *straying* city. The souls of the people who inhabit these cities are contaminated and face possible extinction. Yet in the *virtuous* city, people cooperate to earn happiness. Collaboration is what could bring happiness to all people (Fakhry, 1983).

The Greek Influence

Many Middle Eastern Hellenists—supporters of the Greek tradition of thought—described people as guided by reason. In their views of nature, the function of God was diminished to the role of universal creator or universal intelligence. This view, as you may expect, did not match with the most fundamental positions of Islamic scholars, whose influence grew, and who often did not welcome theories brought from afar.

Despite resistance, there were many attempts to combine Greek teachings with those of Islamic scholars. As an example, in the formative period of Muslim theology, the school called Mutazilites (approximately during the 9th century and later) promoted the doctrine of free will, rationalism, and Aristotle's logic in an attempt to blend them with religious teachings. Abul-Walid Ibn Rushd, better known as Averroes to Europeans (1126–1198), played a decisive role in the defense of Greek philosophy against the criticisms of religious scholars. His views helped him gain popularity in Europe, especially his commentaries about Aristotle, which sparked discussions among medieval scholars and renewed their interest in Greek philosophy.

Ibn al-Haitham, known to Western scholars as Alhazen (965–1040), was born in Basra, in contemporary Iraq, but taught in Egypt, where he lived throughout his life. Psychologists should acknowledge his valuable observations based on experiments on visual sensations. He contradicted Ptolemy's and Euclid's theory of vision that objects are seen by rays of light emanating from the eyes; according to him, the rays originate in the object of vision and not in the eye. He described accurately various parts of the eye and gave a scientific explanation of the process of vision. He also attempted to explain binocular vision and gave a correct explanation of the apparent increase in size of the sun and the moon when near the horizon—a prologue to the concept of constancy of perception developed much later in the 20th century.

The Medical Tradition

An important contribution to psychological knowledge belongs to Ibn Sina (980–1037), best known to Europeans by the Latin version of his name, Avicenna. His teachings for many centuries influenced the minds of countless generations in various parts of the world. His two

most important works are *The Book of Healing* and *The Canon of Medicine*. Although Avicenna adopted many ideas of Aristotle, there is substantial difference between the two scholars. For example, Avicenna, like Aristotle, described three functions of the soul. However, Avicenna believed that the center of mental functioning is the brain, not the heart, as Aristotle had suggested. Avicenna also maintained that the soul contains abstract concepts, a higher level of reflection independent from direct perception. Abstract concepts cannot be formed as a result of experience. They must exist prior to experience. An idea can exist in our mind without being attached to an existing object. When we think about a chair before making it, the idea about this chair existed before the chair was created. This means that material objects can come out of ideal concepts.

Avicenna followed Galen's teachings in physiology and psychology and offered a biological model of the psychological processes. He postulated that the nerves contain special endings. A steamlike substance moves back and forth through the nerves from the body's surface back to the soul. Ibn Sina was among the earliest scientists to experiment with perception. He established that if a colored disk is rotated with a certain speed, a person stops seeing different colors on the disk and perceives only one color instead. Memory, according to him, is a summary of perceptions. Emotions accompany perception. Furthermore, emotions could affect the body and its functions. Anger can make the body hotter, grief dries it out, and sadness weakens the strength of the body. Avicenna believed that black bile mixed with phlegm causes depressive symptoms, such as inactivity, passivity, and silence. On the contrary, a mixture of black and yellow bile can cause manic symptoms, including agitation and euphoric excitement.

Views of Social Behavior

Early Islamic scholars expressed various views about personality traits and the connections between behavioral choices and actual behavior. For example, is it good enough to consider yourself a moral individual, or is it imperative to engage in moral acts? These views are relevant to us today because they emphasize the debate about the sources of moral behavior. For example, we can condemn violence in theory. But what if violence is necessary to help another person unlawfully held in captivity?

Consistent with the teachings of European and Asian philosophers, most Middle Eastern thinkers recommended behavioral asceticism, or abstinence from material pleasures. This meant that a person should exercise moderation; pray systematically; display humility, tolerance, repentance, and patience; and follow a simple life. Muslims were taught to use the life of Mohammed as the touchstone for proper thought, decision, and action. His life was the model to follow for millions, as were the lives of Christ and Buddha to their followers.

There are also many literary sources that originated in the Middle East, Iran, and central Asia dealing with the individual's personality and social behavior. One of the most popular forms of art was poetry. Creations of Firdawsi, Umar Hayyam, and Nizami are translated and known today in many countries. We learn from these works about passion and romantic love, anger, jealousy, pride, and generosity of people living many hundreds of years ago.

ON THE WEB

Ibn Sina. A brief biography and related information is posted on the companion website.

Question: Beyond sense perception, retention, and imagination, Ibn Sina discusses estimation. What is it?

ON THE WEB

An Exercise. "Who said this?" You may find out that ancient thinkers could say quite contemporary things! See how well your intuition works. See the companion website.

Overall, Arabic, Middle Eastern, and central Asian scholars played a crucial role in preserving knowledge that originated in ancient Greece. Many detailed translations of the Greeks appeared in Arabic. Then, many Arabic texts containing these translations and critical evaluations were brought back to Europe centuries later. A lot of rediscoveries about ancient Greece and Rome came in Arabic translations! They, along with other reasons, stimulated the development of European sciences, medicine, and philosophy. Scholars working within the Islamic tradition produced a complex knowledge about psychological activities; they also studied anatomy and acknowledged the connection between the brain and mental processes; they explained the basic mechanisms of memory, perception, imagination, and thinking. Like Greek, Roman, Indian, and Chinese scholars, they emphasized the importance of moderation, rational choice, and strong moral values as guidelines of human behavior (Table 2.6).

Table 2.6 Psychological Knowledge in Early Middle Eastern Civilizations: An Overview

Psychological Phenomena	Sources of Knowledge	Major Findings
Behavior and its causes	Islamic scholarship, Greek teachings, observations and generalizations, and medical research	People make rational choices; external and internal forces affect behavior.
Cognition	Islamic scholarship, Greek teachings, observations and generalizations, and research of the sensory organs	Existence of the soul is acknowledged. Sensory organs give accurate impressions of reality. Higher cognitive functions have divine origins.
Emotion	Islamic scholarship, Greek teachings, and observations and generalizations	Emotions regulate behavior but can be disturbing.
Specific knowledge	Islamic scholarship, observations and generalizations, mythology, and medical research	Various facts were accumulated about behavior, decision making, and moral choices.

CHECK YOUR KNOWLEDGE

1. Thomas's views of the soul resemble the positions held by which philosopher?
 - a. Aristotle
 - b. Ibn Sina
 - c. Democritus
 - d. Confucius
2. Who wrote *The Book of Healing* and *The Canon of Medicine*?
 - a. Thomas
 - b. Ibn al-Haitham
 - c. Nizami
 - d. Ibn Sina
3. What was the major impact of Greek thought on Middle Eastern science?
4. What was the "color experiment" by Ibn Sina?

Assessments

For centuries, psychological knowledge emerged within many scientific and cultural traditions. Scholars of those epochs underlined a distinction between material and ideal worlds, the body and mind, but offered different views about the interaction between them. How different were these views?

Do Not Overestimate the Differences

Today we should acknowledge but not misjudge the differences between so-called Eastern and Western views of the body–mind interactions. The differences exist, but they must not be exaggerated. In short, scholars in ancient Greece and Rome did not completely separate the material and spiritual; similarly, scholars in India and China did not consider the body and mind inseparable. Idealism and materialism are neither exclusively Eastern nor exclusively Western intellectual concepts.

The Greeks and later the Romans recognized sensation, perception, emotion, thinking, and motivation as distinct processes. Yet they were not isolated from one another. The earliest ideas of interconnectedness and complexity of psychological processes are found in the statements of Heraclitus and the comprehensive logic of Aristotle. Scholars in India and the Middle East shared a similar view. The holistic view of the individual was, in fact, a major accomplishment of those scholars. This view allowed them to focus on the balance, harmony, and interdependence of psychological processes (Peng & Nisbett, 1999).

Scholars in Europe, Africa, and Asia made remarkable assumptions about the biological foundations of mental processes. Although their views were often erroneous from today's perspective, most ancient scholars made right assumptions about the role of the brain and the nervous system in regulating behavior and mental functions. They made fascinating observations about emotions and their regulatory role in behavior. Almost in a similar fashion, scholars in Greece and India believed in the importance of rational choice over immediate emotional impulses or desires. In Rome and Medina, scholars emphasized the importance of a healthy lifestyle, rationality, and moderation—the key foundations of today's health psychology.

There were many differences among these traditions, of course. On the one hand, most philosophers in Rome and Greece accepted homosexual feelings and behavior as normal. In Islamic and Christian traditions, on the other hand, homosexuality was rejected outright. According to some philosophers, such as Epicurus, human beings are supposed to be independent thinkers, critical and skeptical about the words they hear. According to other traditions (Stoics and followers of Confucianism among others), people should follow the rules, be loyal to society, and accept their fate. In Hinduism and Buddhism, a person is born and reborn multiple times. The Greek, Roman, Chinese, Christian, and Muslim traditions rejected this view. In Buddhism, an individual is an autonomous social and spiritual agent. Other traditions were more skeptical about this view.

Knowledge Accumulated Within Spiritual Traditions Is Valuable

It is also inaccurate to perceive all knowledge developed within religious traditions as dogmatic and noncreative. It is true that organized religion, be it Islam or Christianity, sets limits on what can be researched. We will later see how religious institutions opposed experimental research in psychology. Religion often requires putting faith before experience or scientific evidence. Nevertheless, religious prescription gave inspiration and guidance to a great number of scholars in the Islamic, Christian, Buddhist, Hindu, Jewish, Taoist, and other religious systems. Semantic analysis of religions across the world shows that they underlined similar basic human strengths—including justice,

humanity, wisdom, and temperance—and provided people with knowledge about their self-improvement (Dahlsgaard, Peterson, & Seligman, 2005). The religious understanding of the soul as a nonmaterial, independent, eternal, and active substance, as well as one capable of being separated from the body, generally corresponds with many contemporary views of the nature of the psychological processes that emphasizes its active character, the role of the will, and the importance of individual responsibility, perseverance, and self-regulation. Psychological idealism, the position supported in many religious schools of thought, was also a cornerstone of many scientific theories of the 19th and 20th centuries.

Were There “Signature Themes” in European and Asian Philosophies?

An interesting question remains about “specialization of thought” among the Greek and Roman academics, Chinese and Indian philosophers, and, to a certain extent, Middle Eastern scholars. It is tempting to suggest that the Greeks had developed a generally universal system of knowledge that involved the understanding of psychological phenomena by observing the natural (physics) and philosophical (metaphysics) perspectives. In China, to the contrary, the fundamental knowledge was mainly concerned with the theoretical justification of the principles of efficient human behavior in society within human networks, such as local community, family, and so on (Kleinman & Kleinman, 1991). In India, as we can continue, the systematic knowledge was primarily preoccupied with the cognitive aspects of human life: the understanding of the self, the nature of perception and thinking, and the accuracy of human knowledge. Middle Eastern science and philosophy held a unique position between the East and the West because it was partially rooted in the findings of Greek philosophers and partly in its own scientific discoveries in natural sciences and medicine. It also developed its unique perspective of psychology within the framework of the Islamic theology.

These arguments are somewhat incomplete. Knowledge developed within major scholarly traditions was very much comprehensive. Cognition was studied in India and by Greek philosophers. Studies of happiness and anxiety-free existence appear in many teachings, not only in the works of Indian philosophers but in many others, including Aristotle, Seneca, and Epicurus. We can find remarkable similarities in a vast range of specific psychological observations. For example, scholars of the past almost unanimously emphasized that honesty and hard work were desirable behaviors, while drunkenness and carefree lifestyles were not.

On social–psychological and social issues, the views of most ancient philosophers were largely similar. Women were generally encouraged to participate in social affairs. However, most scholars were against equality between men and women and maintained that women should perform traditional roles in the family and in local affairs. Slavery was viewed as part of life, an inevitable component of social stratification. Astrology was also popular in predicting the future and in protecting from misfortunes.

Conclusion

Although merciless invasions, natural disasters, and countless reconstructions destroyed or dramatically altered most of the physical foundation of early civilizations, new generations could preserve core elements of their ancestors’ intellectual life. Many important questions about psychology were asked in the distant past. Many great theories about human behavior and experience developed during the early stages of human civilization. They were later advanced, forgotten, and revived again. Centuries later, we turn yet again to the ancient legacy.

Summary

- Early psychological observations began to emerge in written folklore, religious scriptures, and paintings. Although these observations seem grossly incomplete today, they allow us to study people's knowledge about sensations, emotions, desires, dreams, will, and other experiences.
- Most information today is available from sources traced back to the ancient Near East, ancient Greece and Rome, the Middle East, and North Africa; these are commonly referred to today as the roots of Western civilization. Non-Western written sources came primarily from central Asia, India, and China.
- Greek thinkers made a remarkable contribution to philosophy and science by developing original views of the principles of human behavior and experience. Their views laid a strong foundation for the further development of global psychological knowledge. There are at least five major areas of influence: (1) the study of the soul, (2) the teachings about the mechanisms of human cognition, (3) the suggestions about the biological foundations of mental activities, (4) the initial inquiry in the fields of clinical psychology, and (5) the rich observations of social behavior.
- Like the Greek tradition, both Indian and Chinese ancient traditions developed a sophisticated view of behavior, emotions, thought, and other mental activities. Hinduism and Buddhism as worldviews maintain their impact on all types of psychological knowledge. Both Indian and Chinese schools, as well as the Greek school, developed remarkable worldviews of the individual, social roles, cognition, and the ability of people to control the outcomes of their behavior.
- Roman scholars preserved and strengthened the traditional Greek views of the soul, its structure and functions. Roman philosophers also turned their attention to moral behavior, self-restraint, and moderation. They emphasized the importance of reason and patience, goodwill and hope.
- The Scholastic tradition of psychological knowledge developed, to some degree, as a symbolic alliance of Christian theology and the Greek philosophy.
- Arabic, Middle Eastern, and central Asian scholars played a crucial role in preserving knowledge that originated in ancient Greece. Moreover, scholars working within the Islamic tradition produced original and complex knowledge about psychological activities; they also studied anatomy and acknowledged the connection between the brain and mental processes; they explained the basic mechanisms of memory, perception, imagination, and thinking. Like Greek, Roman, Indian, and Chinese scholars, they emphasized the importance of moderation, rational choice, and strong moral values as guides of human behavior.

Key Terms

Androcentrism 46	Epistemology 39	Nirvana 49
Asceticism 49	Holism 51	Scholasticism 55
Atomism 35	Hylomorphism 39	Subjective culture 32
Caritas 56	Idealism 34	Taoism 52
Chakras 48	Material monism 35	Theology 55
Cupiditas 56	Materialism 35	Transcendence 47
Emanation theory 39	Melancholy (often melancholia) 43	Yoga 47

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