Early Psychological Knowledge

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

Attributed to Augustine (354–430)
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 miniscule 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 modern day psychology. What you will find is that despite the precious uniqueness of the problems that psychology deals with today, many of the issues at point are not new. It is amazing how many current topics have been discussed in the works of the scientists who lived hundreds or even thousands of years ago! Take a few randomly chosen articles and see that some of today’s main topics had already been addressed by thinkers in Greece, Iran, China, or India!

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 a 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 also discussed the same subject. Scores of Greek, Indian, or Arab scholar debated the origins of human perception and the nature of scholarly methods in psychology for centuries.

The ideas of individualism in collectivism are better understood if we recognize the religious contexts in which they were formed, suggests an article published in 2000. Is this a brand-new point of view of the 21st century? No. The idea that psychological knowledge, both theoretical and empirical, develops within
particular religious conditions, has been already acknowledged by thinkers in ancient Greece and Rome, in Iran and Egypt.  

*The language is the product not of the mind but of cultural process.* A 2001 paper defends the importance of cultural factors in understanding of language. In fact, this point was raised much earlier, by Epicurus and the Roman Stoics.

*How can we understand intuitions and thoughts, accessibility of knowledge, and the nature of the deliberate thought process?* asked a 2003 article. The same question about intuition was put forward by Plato, Aristotle, and Socrates in Greece, Ibn Sina in Persia, Thomas Aquinas in Paris, and Lao-Tse in China. The miracle of human intuitive thinking continued to occupy the minds of dozens of scholars throughout history.

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

Do these all references and quotes mean that contemporary psychology attempts to reexamine knowledge? Probably, yes. Today’s psychology tries to give new answers to the never-ending questions related to the miracle of human experience. As we can see in this chapter, many important questions about psychology had been already asked in the past. We examine some of these inquiries and trace the development of psychological knowledge to the earlier stages of human civilization. We begin our studies with an examination of some ideas of the ancient past. But in many ways, this chapter is also about today’s psychology.

The following articles from the *American Psychologists* were used for this introductory vignette: Gergen (2001); Kahneman (2003); Kendler (2002); Sampson (2000); Weissberg, Kumpfer, and Seligman (2003).

**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. People began to develop a new type of connection between themselves and environment. This type of connection, called *subjective culture*, manifested itself in various forms, including early 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
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 even 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 during Hammurabi’s rule (c. 1700 BCE), we learn that gods in Mesopotamia were viewed as actual beings and people cared about their 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 remarkable. However, by observing religious traditions and following rituals people could feel somewhat confident. Significant wealth was contributed to the construction of temples as places of worship. Mesopotamian civilization was among the first to develop written language. Texts were written on clay tablets, and some of them contain descriptions of dreams, especially of noble individuals. Dreams were used to make predictions about daily events, health, and destiny. The first professional dream interpreters seemed to emerge at that time (Hoffman, 2004).

Ancient Egypt

As in Mesopotamia, religion was also an inseparable element of life in ancient Egypt. Psychological observations come from various sources, including fragments of

<table>
<thead>
<tr>
<th>Observations</th>
<th>Sources of Knowledge</th>
<th>Major Findings</th>
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<tbody>
<tr>
<td>Behavior and its causes</td>
<td>Observation and generalizations</td>
<td>External forces, primarily supernatural, control human behavior; people could pursue and achieve goals through will.</td>
</tr>
<tr>
<td>Cognition</td>
<td>Observation and generalizations</td>
<td>The soul was recognized as an entity associated with cognition.</td>
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<tr>
<td>Emotion</td>
<td>Observation and generalizations</td>
<td>Various emotional states were recognized.</td>
</tr>
<tr>
<td>Specific knowledge</td>
<td>Observation and generalizations</td>
<td>Prescriptions were given about appropriate and inappropriate behavior.</td>
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</tbody>
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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, 2005). Educational principles were summarized in a number of ancient Egyptian treatises now commonly called the Books of Instruction. From papyrus manuscripts, prepared sometimes between 2900 and 2000 BCE, we infer that the human heart was viewed as the center of the organism. It was the location of the soul, reasoning abilities, emotions, and personality 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, and supernatural forces. The separation of the material and spiritual—the body and soul—was an important step down the road of a relentless inquiry into human psychology. Similar division of the spiritual and material also 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. The history of Greek civilization—and the period to which we direct our attention now is approximately 750 BCE 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). Another relates to natural science and includes medicine. The third source is found in mythology. (See Table 2.2.)

<table>
<thead>
<tr>
<th>Table 2.2</th>
<th>Psychological Knowledge in the Civilization of the Greeks: An Overview</th>
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<tbody>
<tr>
<td><strong>Observations</strong></td>
<td><strong>Sources of Knowledge</strong></td>
</tr>
<tr>
<td>Behavior and its causes</td>
<td>Observation and generalizations, mythology, medical research</td>
</tr>
<tr>
<td>Cognition</td>
<td>Observation and generalizations, mythology, research of the sensory organs</td>
</tr>
<tr>
<td>Emotion</td>
<td>Observation and generalizations, mythology</td>
</tr>
<tr>
<td>Specific knowledge</td>
<td>Observation and generalizations, mythology, medical research</td>
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</table>
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 of psychology. Please notice that most of these 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, with two different schools of thought developing. 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 suggesting that the facts of mental life can be sufficiently explained in physical terms by the existence and nature of matter. The materialist view rejected the existence of anything psychological or mental and teaches that anything referred to as “psychological” is nothing but physical or physiological processes. The second school of thought, **idealism**, claimed the relative independence of the nonmaterial soul from the material body.

**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 naïve and simplistic, gradually, through centuries, this “simplistic” outlook was developed into a remarkably sophisticated worldview. First written accounts discussing the atomist approach refer to Leucippus (fifth century BCE) and particularly of Thales (640–546 BCE). 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 as 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 was originated from moisture and people gradually developed from fish. These were early evolutionary views.

These ideas were developed by Heraclitus (530–470 BCE). He introduced a very 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 awakening...
to a weak or strong connection between the body and the soul. Heraclitus also theo-
ized that people gain their intellectual strength through breathing and lessen psychol-
ogical 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
remarkable contributor to rhetoric (the art of using language) and medicine. He
maintained that the human soul is more complex than Heraclitus had stated and is
comprised of 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. A different
view was developed by Alcmaeon of Croton (c. 500–450 BCE). He believed that sen-
sation and thought are connected with the brain and nervous system. Although ani-
mals have brains and, therefore, should have souls, animals use only sensations, while
humans have the distinctive 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 future theories of various bodily
“balances” and their impact on individual functioning. Similar theories were devel-
oped in other parts of the ancient world.

Democritus (460–370 BCE) was probably the most influential Greek philosopher
of the materialist school. Two of his assumptions are important for today’s psycholo-
gists. First, like other materialists, Democritus explained human experience as activi-
ties of the soul, which is part of the natural world. The soul consists of 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. Second, Democritus
created a three-centric theory of the localization of the soul. He believed that the
atoms of the soul are 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.

The views of Democritus were developed by Epicurus (341–271 BCE). Like
Democritus, he 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 are 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 (the name derives from the Greek word referring to
the porch in Athens around which, supposedly, the members of the school met), the
philosophical movement that was developed by 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 

\[ \text{pneuma} \]

As a result of the interaction between pneuma and matter, the existing world appears in four cate-
gories 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, in fact, part of nature.

**Idealism.** The idealist view challenges most assumptions of materialists. Idealism is a fundamental view suggesting 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 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 can 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, human beings are located inside of an imaginary cave, and they observe reflections of forms (the reality) 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 existing 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 theories including most contemporary (triarchic in psychological language stands for anything that is comprised 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 and can be associated with the level of the abdomen.

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 and fighters 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 affective souls, and Egyptians possessed lower kinds of souls. Society is built according to the same 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, cook, clean, buy, and sell (see Table 2.3). Somewhat similar views differentiating people according to their skills or even size of their brains appeared again in the 19th century to justify policies of social and racial segregation.

Table 2.3  Plato’s Views of the Soul

<table>
<thead>
<tr>
<th>Aspect of Soul</th>
<th>Associated Social Class</th>
<th>Dominant Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest, rational</td>
<td>Philosophers, rulers, educators</td>
<td>Reason, wisdom, freedom from immediate concerns and desires</td>
</tr>
<tr>
<td>Affective</td>
<td>Warriors</td>
<td>Courage, responsibility, and strength</td>
</tr>
<tr>
<td>Desirous</td>
<td>Commoners, including merchants, craftsmen, peasants, and slaves</td>
<td>Needs and desires</td>
</tr>
</tbody>
</table>

Plato’s theory of different realities is remarkable. In effect, the teachings of Plato about perception may turn an average person’s assumptions about psychology upside down. As you remember, Plato believed that the reality of objects, which we detect by our senses, is not real but exists as a reflection of immaterial ideas that comprise the true reality. These and similar fundamental assumptions about human perception occupied the minds of many prominent philosophers. (Some of these ideas are discussed in Chapters 3, 4, and 12.) Various applications of Plato’s views are still significant today, for example, in literature and cinematography (see the following Case in Point).

CASE IN POINT

Plato and The Matrix. Have you seen the Hollywood blockbuster, The Matrix? The movie portrays the mystery and horror of an artificial, virtual world. Appearing real for its inhabitants, it is, in fact, built of sheer perceptions. Based on the idea that what is perceived by us as reality is only an illusion controlled by malevolent forces,
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 (hulê) 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 combined these points of view together. 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 the soul cannot exist without the living body.

He further theorized 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. Aristotle considered the individual faculties of the soul not as separate entities but as interconnected functions. He advanced the common among Greeks concept of psychological functions divided into three categories: (1) skills associated with growth and strength; (2) skills 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. Cross-culturally,
human language today contains references to the brain as a center of reason that cools down or restrains the affective 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 and its applications originate in the works of ancient Greeks.

**Understanding 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 conducted or quantitative studies performed. Nevertheless, clever assumptions about how people see, hear, remember, and think remain valuable indicators about 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. At least three schools of thought are discussed here.

**Three Views of Cognition.** Materialists shared several important assumptions. First, they generally believed that the soul serves as the detector of the processes that take place in reality. Individual experience has the capacity to portray the outside world accurately. Sensation is a foundation of thinking, and without sensation thought is impossible. Thinking helps people to understand what is behind their sensations. Mistakes may occur when people try to make generalizations about their senses using 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 shape and form. They make an impression on our senses and thus evoke sensation and then thought. This view was later called the emanation theory of sensation. 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 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 to 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 simply avoided during the day. Language also has natural origins. It is acquired during life 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 exists in the form of opinion: you may see one thing or one side in a developing story, while other people may see something completely different. Opinions, therefore, cannot represent true knowledge. Individuals can discover 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 process of sensation 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 handle so many sensations? An individual’s soul uses the mechanism of association including consolidation, comparison, and distinction among sensations.

**CHECK YOUR KNOWLEDGE**

What is epistemology?

Explain three main views of cognition in ancient Greece.

What is the emanation theory of sensation?
Understanding Basic Emotions and Needs

In many Greek manuscripts, emotions came into view largely as “intruders” in the process of a logical reflection of reality. They were acknowledged as necessary processes, though frequently excessive and inappropriate. Stoic thinkers, for example, insisted that 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 atoms. Both Democritus and Epicurus believed 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 wrote in *De Anima* that human emotions should link to the biological activities of the body. Similar views of emotions as processes requiring a physiological response appeared in the 19th and 20th centuries (Cannon, 1927; Lange, 1912/1885).

Views of motivation appear 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. A healthy person does not pay attention to his health. Illness makes health pleasant. Similar arguments apply to hunger and fatigue (Kirk, Raven, & Schofield, 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 type involved natural and necessary for survival desires: those such as hunger or thirst that have a physical limit. The second type contained natural, but nonnecessary, 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 have no natural limit. Several 20th-century psychologists, such as Carl Rogers and Abraham Maslow, build some of their arguments around a similar point: people can discover happiness if they dedicate themselves to nonmaterial issues, including love, creativity, self-understanding, and compassion.

Self-control was an important virtue. The sign of a reasonable man, according to Democritus, was the ability to fight desire. Epicurus, despite popular misinterpretations of his views and claims that he encouraged people to enjoy life carelessly and satisfy their own unlimited needs, in fact taught people to limit the pursuit of the vain needs and free themselves of 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). Moral discipline is imperative in dealing with needs. 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).
If self-control is so important, how can a person achieve it? In the teaching of the Greeks, the function of the soul associated with human needs or affects was one level “below” the rational soul 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 had a lot do with desire. Stoics offered two practical ways in dealing with disturbing desires or affects. The first is to suppress one emotion by initiating another. For example, anger can be suppressed by joy. The second way is based on a better understanding of emotions and better knowledge of the person’s future and the past. 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 resemblance between these assumptions and recommendations—used in contemporary cognitive therapies—about the necessity to develop a different, healthier view of life (Butler, 2008).

Similarly, suggestions by the Stoics many centuries ago resemble core principles of a few distinguished psychological theories developed in recent times. Stoic philosophers maintained that an ideal person is free of harmful emotions and lives according to the law of necessity. A wise person should not surrender to emotions or desires. The main task of human beings is not to change the world but to find ways to adjust to it. Such recommendations are fairly close to some contemporary understanding of the concept of coping used in some contemporary multi-cultural forms of psychological counseling with trauma survivors (Bemak, Chung, & Pedersen, 2003).

Understanding the 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 nervous system. Herophilus (335–280 BCE), who worked in Alexandria (contemporary Egypt), released 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 recorded his views on 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 and examined 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.
Understanding Abnormal Symptoms

References to abnormal psychological symptoms usually referred to severe psychological disturbances involving unusual emotional states or outrageous behavioral acts. In translations, a common label for these symptoms was madness. The references to madness, however, are fragmentary, and the observations are very imprecise.

Yet observations about mood and melancholy are particularly interesting. Melancholy (often melancholia) was the most common label for 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). Despite differences in specific details, the Greeks shared several common views of emotions and mood (Simon, 1978; Tellenbach, 1980). Among these views were the following:

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

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 illness have natural causes. Melancholia results from particular misbalances of blood and other humors. When the blood is contaminated with black bile, it causes misbalance and the mental state of the person is disturbed. This is manifested in a variety of 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. These early observations describe normal and abnormal states of mood and illustrate individual liabilities to certain psychological

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

<table>
<thead>
<tr>
<th>Bodily Functions</th>
<th>Psychological Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>The brain</td>
<td>The brain was associated with the functioning of the soul and primarily with intellectual functions. In some theories (Aristotle) the heart was viewed as a center of mental activities.</td>
</tr>
<tr>
<td>The nervous system</td>
<td>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.</td>
</tr>
<tr>
<td>Sensory organs</td>
<td>Five basic sensations and the responding sensory organs were recognized. The division in the understanding of their functioning occurred primarily between materialists and idealists.</td>
</tr>
</tbody>
</table>
dysfunctions, which is a topic of serious interest in today’s clinical psychology (Krueger & Markon, 2006).

Plato adopted the prevalent Hippocratic doctrine of the balance and proportion and applied it to his concept of human mortal and finite body and immortal and invisible 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 on one hand or excessive irritability and rage on the other. There was also a special kind of mania—*divine mania*—that did not fall into the illness category but was recognized as 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, it can 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 one. Wine, if it gets in the blood, can also produce effects resembling emotional disturbance. This influence, however, is short term. The bile’s influence is long term, which can cause *athymia* and *extaisis*, two opposite forms of melancholia (depressive and manic states, in contemporary terms). Melancholia, in other words, 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 the black bile’s temperature.

### CASE IN POINT

**Greek Mythology and an Early Insanity Defense.** Greek mythology provides an interesting example of what could be the first case of “insanity defense,” a legal procedure that uses the concept of severe psychological dysfunction and inability to understand the nature of the committed crime in order to explain (and often excuse) the actions of the accused. 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 he thought people look at him as a living reminder of Zeus’s unfaithfulness to her. She cast a spell of madness upon Hercules, who, as the result of the spell, lost the ability to think rationally. Driven by an emotional outburst, he kills his wife and three children. Yet Hercules was so distressed that he remained unaware of his terrible actions. At long last, he regained rational thought and could understand the terrible crime he had committed. The townspeople, however, forgave him, because they believed that he was temporarily insane and had no control over his actions.
Evaluating the Impact of the Greeks

Greek thinkers made a remarkable contribution to philosophy and science by developing original and diverse views of the universe, nature, and the principles of human behavior. Their views laid a strong foundation for the further development of global psychological knowledge. There are at least five major areas of influence: the study of the soul, the teachings about the mechanisms of human cognition, the suggestions about the biological foundations of mental activities, the initial inquiry in the fields of clinical psychology, and 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

Early Views of Health and Social Psychology

The Greeks made interesting observations about other aspects of human experiences and behavior. Thales commented on the importance of having a healthy body, which 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 friendship. Psychological sources of moral actions interested many philosophers and particularly Socrates (469–399 BCE). He believed that if people knew the good, they would always do the good. A person goes astray because he or she does 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 knowledge in them. This debate continues today (Prinz, 2008).

Epicurus 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 that happen to us. Another kind involves chance. Here, again, people have little control over such events. The third kind of events is manageable. People should know about such circumstances and learn how to deal with them. Contemporary studies in social psychology and social sciences continue to address the issue of rational and irrational choices in our daily decision making (Caplan, 2008).

CHECK YOUR KNOWLEDGE

Compared to logic and reasoning, how did the Greeks generally view emotions?
What was the anatomical center of mental activities according to Aristotle?
How did the Greeks understand melancholy?

Evaluating the Impact of the Greeks
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 a powerful set of ideas equating perception with reception, the view that became dominant for some time in science-oriented psychology. 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 failures. 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 is 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 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 historic period but in different parts of the vast Eurasian continent. Historians maintain that there was very little or no scientific interaction among their respective cultures (Cooper, 2003). You may be surprised, however, to read how similar their psychological observations frequently were.

**Early Psychological Views in India**

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 increased by 500 BCE, many settlements along the Ganga became centers of social life.

As was the case in ancient Greece, in India, philosophers made the earliest observations about human psychology. 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 schools of philosophy is the extraordinary attention they 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 educations and experiences. Indian philosophies traditionally include six different schools, in addition to Buddhism and Jainism. A comprehensive analysis of these schools is not our goal. We focus instead on the contributions of Indian philosophers to the development of psychological knowledge.

Life Circle. Indian philosophers shared the belief that all living creatures undergo a cycle of rebirth and their souls transmigrate from one body to another. 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. Another significant unifying assumption of different branches of early Indian thought was that reflections of reality, such as perceptions, feelings, and desires, are largely distorted. People tend to misunderstand their own place in the scheme of things. 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 state of security at peace with the self. Similar assumptions about human cognition and how incomplete it is, as you remember, were also made by the philosophers of the Greek civilization. However, cognitive aspects of human psychology attracted only some attention from Greek philosophers, with the exception of Epicurus and a few others. For most Indian philosophers, conversely, cognition was the fundamental case of their teachings.

Cognition. Like the Greeks, Indian philosophers proposed atomic theories. Gautama and Kanada (both about 400 BCE), originators of the Nyaya tradition, expressed an atomist and materialist view according to which the natural world consists of various substances, including objects, space, and time, and that nature is independent of thought and perception. They also expressed a belief that there is the immaterial soul responsible for consciousness and feelings. The biggest challenge for the philosophers of this tradition was the formulation of the criteria for valid, true knowledge. Why do people need true knowledge? Because it brings supreme happiness to individuals.

According to the Sankhya tradition, the roots of which are found in texts and ritual hymns called Vedas (dated 1500 BCE and earlier and further developed in the oral teachings or Upanishads, fundamental and sacred texts of Hinduism), the world is composed of a number of elementary particles. All these elements belong to a single dynamic substance, which has two forms. The first form is the elements composing the external world including material objects. The other form develops into the three entities: (1) senses responsible for perception such as vision and hearing; (2) senses responsible for motivation such as desire and will; and (3) senses responsible for thinking, which puts in order the data received by the senses. Perception, memory, and motivation are
material and different from each other only because of different states of matter involved in them. This view echoes not only basic and similar assumptions of the Greeks but also many contemporary interpretations of mental processes as special forms of physiological processes in the brain.

This philosophical tradition, however, contained elements of idealism because it recognized the existence of separate, nonmaterial consciousness. Animals can have perception and desires. However, although animals respond to stimuli because the creatures have sensory systems, they do not possess consciousness, an entity that is outside of nature. Overall, because mental processes are not conscious, they require supervision and direction from consciousness.

Rooted in ancient oral teaching, the Advaita tradition appears the most controversial to the contemporary observer. According to this view, what we ordinarily perceive as “real” objects are, in fact, only appearances or illusions. Belief in the existence of the real, material world is caused by ignorance. Liberation from the state of ignorance is possible if a person understands the existence of pure consciousness. This idealist kind of Indian philosophy suggested that there is only one substance—the ideal—and the material world is just a reflection of the ideal (Isaeva, 1995). The Advaita tradition, with its analysis of the material and the ideal, shares similar ideas of Plato.

According to the Hindu tradition, illness is likely to originate from a misbalance 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. This religious concept, in fact, is a fertile ground for modern scientific theories underlying the importance of the patient’s own positive attitudes in the course of therapeutic treatment (Rao, 2000).

These and other philosophical traditions represent the teachings of classic Hinduism, a fundamental religious system with more than 700 million followers today. Another religious system, Buddhism, also was originated in India and has roots in Hinduism as well. Buddhism is a system of knowledge and values based on the belief that liberation from the world of suffering is possible. Liberation of human beings occurs when they are able to accept the right point of view of the world—a view that is often distorted. The founder of Buddhism was Siddarata Gautama (480–400 BCE), who by his life and deeds influenced the minds of millions of followers. He is regarded as the Supreme Buddha, the enlightened one. A branch called Theravada Buddhism contains the earliest surviving record of the Buddha’s teachings. Most thinkers within this tradition adopted an atomist viewpoint: the external world is real and consists of elementary particles. Complex and visible things are constructed out of these elements. However, the Mahayana school of Buddhism accepts a different position, which is anti-atomist. According to Mahayana teachings, the external world is the reflection of the mind itself. Long before the appearance of teachings of George Berkeley in England (discussed in Chapter 3), it was already postulated that no other forms of evidence exist besides the one that exists in our perceptions.

In addition to studies of cognition, Indian philosophers also created a comprehensive set of views about basic mechanisms of thinking, moral and immoral behavior, choice, and duty. They provided detailed descriptions of different types of people
(which we call personality types today), the complexity of emotions, and the impact of emotions on behavior. They also described symptoms called today hallucinations, anxiety, and various depressive manifestations. Significant attention was paid to cognition and inner psychological processes, including meditation, concentration, deep self-consciousness, and ability to understand the inner self.

**CHECK YOUR KNOWLEDGE**

What is the life circle in teachings of Indian philosophers?
Describe psychological views found in the Advaita tradition.

**Early 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. Remember that in Greece, for instance, the teachings of several philosophers were preserved in a similar way.

**Confucianism.** Confucian teachings appear as moral prescriptions and can be compared to 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 become a virtuous person. The key to success was a person’s commitment to improve. No matter how successful one becomes, there must be motivation to be better. There are no limits to self-perfection. A person is good as long as a genuine effort is made even though the actual achievement may be small.

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 neighbors and especially members of their families. 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).

The difficult question about whether or not humans possess moral goodness becomes an important topic of discussions. A great Chinese philosopher and follower of Confucius, Mencius (c. 372–289 BCE), taught that being a good person is natural. People act in moral ways because they are unselfish. For Mencius, the difference between people and animals lay in people’s capacity to reason and ability for moral actions. However, not all Chinese philosophers shared the idea about the “good nature” of people. For instance, another prominent follower of Confucius, Hsun Tzu (298–238 BCE), proclaimed that human nature is 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. Confucius also advocated that all people should be educated, irrespective of their abilities (Higgins & Zheng, 2002).

Many original ideas introduced by Confucius and his followers were gradually incorporated into Chinese customs and law. The ideas of Confucianism were also gradually recognized as the official philosophy of the government. Leading scholars were even summoned by government officials (for example in 79 CE) to clarify the true meaning of certain Confucian ideas. In China, as in many other places, scientists were frequently summoned to aid the government (Fairbank & Reischauer, 1989).

Holism. 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 famous historic Chinese concepts—yin and yang—the entities that are opposed to one another and yet also are 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 in 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.

**Taoism.** China did not have a powerful institutionalized religion like Christianity, Islam, or Judaism. However, there was an influential system of views called Taoism, a system 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, as it frequently noted, “the other way” (as an opposing way to Confucianism), but it did not threaten the social structure of Chinese society (Welch, 1957).

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**CHECK YOUR KNOWLEDGE**

What is the ideal person in Confucius teachings?

Explain holism.

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Like the Greek tradition, both Indian and Chinese ancient traditions developed an extremely sophisticated view of behavior, emotions, thought, and other mental activities. In contrast to Indian thinkers, who were focusing primarily on the complexities of 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 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 compare the traditions.
Psychological Knowledge at the Turn of the First Millennium

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 exceptionality and mission gave the Roman elites intellectual ammunition to justify slavery, violence, and oppression against 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 an individual’s ability to control the outcomes of his own decisions.

Medical Foundations. One of the most notable figures of science and medicine in Rome was Galen (c. 129–200), 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 principle and force of life, according to Galen, was pneumā, which exists in three forms. The first kind is located in the brain and is responsible for imagination, reason, and memory. The second, vital pneumā, with its center in the heart, regulates the flow of blood. The third kind of pneumā 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 pneumā from the heart, which is mixed into the sanguine humor (blood). The brain then extracts the pneumā and stores it in the ventricles, from where it is distributed throughout the body via the nerves. This mechanism of circulating pneumā controls muscles, organs, and all of the body’s activities. The heart is responsible for the desires; the heart is responsible for the emotions, and the brain controls reason.

Galen described the nervous system like a tree. Nervous paths, like branches, are filled with the substance similar to one in the brain, which is pneumā. 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 pneumā; that is, the eye has a kind of visionary pneumā and the ear contains a kind of auditory pneumā. People do not recognize what is happening in the sensory organs. Only pneumā that is in the brain allows individuals to perceive (Scarborough, 1988). Galen also distinguished two kinds of activities of the body. 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 the functions that were later called reflexes.

The Roman philosophical and medical tradition was primarily rooted in earlier Greek studies, which contained the principal ideas about bodily fluids, their misbalances, 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. For instance, 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 were 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–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 everything that happens in it. Those individuals 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 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 and 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 to sensations and emotions. Scientists of ancient Rome made a significant contribution to anatomy and physiology. Like the Greeks and Chinese did in their traditions of thought, the Romans emphasized the importance of balancing of 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 the developing psychological knowledge. To understand the initial impact of religion on psychology, we turn to the Scholastic tradition.

**The Early Christian Tradition**

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, started to circulate widely around the Mediterranean. Early in the third century, the New Testament was translated from Greek to Latin, thus allowing Christianity to find millions of new followers. In the fourth century, Christianity became Rome’s official religion and later an integral part of the European culture. The influence of the religion grew in social institutions including 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 religious doctrines. Scholastics often referred to Aristotle and his later reviewers.

**Immortality of the Soul.** An early founder of the Christian tradition, Plotinus (204–270), 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 experience.

The central concept of his teaching 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 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. He explains beauty 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, a person appears ugly when she is 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). Yet there was another area that also relates to contemporary psychology: the study of psychological foundations of guilt.

**Psychological Foundations of Guilt and Sin.** A long-lasting contribution to philosophy and psychology was made by Augustine (354–430). 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 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 signified 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 build
his optimism. He proposed a psychological solution to people’s problems. It was Augustine from whom Christianity will later inherit its position on guilt, sin, and sex—the view embedded in many cultural traditions and values.

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 was preoccupied with the search for explanations about human sin. Augustine became convinced that a single motivational force could explain all the sins that people commit. This force was will. Roman Christians had commonly applied this term to human deeds. It was a common view that human beings have free will—that is, people are responsible for their own decisions. If this is true, why do people commit sinful acts knowingly? Augustine looked for his own answers.

**The Dual Nature of the Will.** Augustine formulated the principle of two wills. There is a carnal will that is responsible for sinful behavior. But there is also a spiritual will responsible for ethical actions, self-restraint, and virtue. The carnal will, which he called *cupiditas*, stands for excessive desire, violence, and greed. The spiritual will, called *caritas*, stands for good intentions. 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 could not bring spiritual salvation to a person. Only spiritual will could. To accept the spiritual will is to be on the way to God. Unfortunately, the power of the carnal will continuously 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 work he should do, he was distracted by the lazy desires of the carnal self (Hooker, 1982).

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. 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 examine in Chapters 6 and 8.

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 think critically. For instance, many of us have a tendency to accept blame for misfortunes beyond our control—a seeming paradox in light of many people’s tendency to
deny personal wrongdoing. However, there is logic in such assumption about self-blame. 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. Furthermore, by accepting the biblical belief about the original sin by Adam and Eve, Christians also accept in theory the idea that all human beings are innately predisposed to sin. This may help some people to 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 a person’s awareness of his or her own guilt in cases of perceived wrongdoing can be used as a therapeutic tool to help avoid serious anxiety-related and other difficult emotional problems. Guilt according to contemporary research appears as a powerful resource to explain and regulate behavior.

For Augustine, plants and animals also have souls. This was a common view rooted in earlier Greek teachings, and 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 our own thoughts, emotions, and states. This idea has reappeared later in studies involving introspection, a popular psychological method of the 19th century (see Table 2.5).

<table>
<thead>
<tr>
<th>Psychological Phenomena</th>
<th>Sources of Knowledge</th>
<th>Major Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavior and its causes</td>
<td>Religious scholarship, observation and generalizations, mythology, medical research</td>
<td>Humans can exercise rational behavior; moderation is the most desirable behavior.</td>
</tr>
<tr>
<td>Cognition</td>
<td>Religious scholarship, observation and generalizations, mythology, research of the sensory organs</td>
<td>The existence of the soul is acknowledged as nonmaterial entity.</td>
</tr>
<tr>
<td>Emotion</td>
<td>Religious scholarship, observation, and generalizations</td>
<td>Emotions regulate behavior but often become disturbing.</td>
</tr>
<tr>
<td>Specific knowledge</td>
<td>Religious scholarship, observation and generalizations, mythology, medical research</td>
<td>Specific facts about human behavior and experience are accumulated.</td>
</tr>
</tbody>
</table>
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 talented thinkers who left a rich written account in the areas of philosophy and theology. One of these individuals was Thomas Aquinas.

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 tradition started by Aristotle: 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 is the motor faculty responsible for movement. The fourth is appetitive faculty, which is involved in motivation and will. Finally, the fifth faculty is the intellectual faculty, 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

CHECK YOUR KNOWLEDGE

How did Galen explain the nervous system?
What were the Roman Stoics’ views of human emotions?
Describe Augustine’s views of sin and guilt.

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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 the major points of his theory of cognition. Thomas believed in exactly the opposite and 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 seventh 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, 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 to 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 brilliant philosophical tractates. A prominent Arab philosopher, Basran al-Kindi (c. 865 CE), 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 to 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. There were many Hellenists—supporters of the Greek tradition of thought—in the Middle East who attempted to describe 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, 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 ninth century and later) promoted the doctrine of free will, rationalism, and Aristotle’s logic in 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 to 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 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 psychological 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 building it, the idea about this chair existed before the chair was created. That means that material objects can come out of ideal concepts.

Avicenna followed Galen’s teachings in physiology and psychology and offered a remarkable 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, an important question was, Is it good enough to consider yourself a moral individual, or is it imperative to help people? 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 to become free from oppression?

Similar to 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 keep 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 in other parts of the world.
There are also many literary sources from the Middle East about the individual’s personality and social behavior. One of the most popular forms of art in the Middle East, Iran, and Central Asia 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 years ago.

Overall, Arabic, Middle Eastern, and Central Asian scholars played a crucial role in preserving knowledge originated in the 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. This stimulated the development of European sciences and philosophy. Moreover, 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 guides of human behavior.

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

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

Throughout 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?

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 separate the material and spiritual; similarly, scholars in India and China did not put the body and mind “back” together. Idealism and materialism are neither Eastern nor Western intellectual accomplishments exclusively.

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. A similar view was shared by scholars in India and the Middle East. The holistic view of the individual was, in fact, a major accomplishment of those scholars. This view allowed them to understand 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 psychology. Although their views were inaccurate 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. In Rome and Medina, scholars emphasized the importance of a healthy lifestyle, rationality, and moderation—the key foundations of today’s health psychology.

It is also inaccurate to perceive all knowledge developed within religious traditions as dogmatic, noncreative. It is true that organized religion, be it Islam or Christianity, sets limits on what can be research. We will later see how religious institutions opposed experimental research in psychology. Religion often requires putting faith before experience. 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, Christopher, & 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 on 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.

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. Some critics 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 critics continue, the systematic knowledge was primarily preoccupied with the cognitive aspects of human psychology: 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 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 interesting but incomplete. Knowledge developed within major scholarly traditions was very much comprehensive. Cognition was studied in India and by Greek philosophers. Studies of happiness 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 specific psychological observations. For example, scholars of the past emphasized almost unanimously that honesty and hard work were desirable behaviors, while drunkenness and carefree lifestyles were not good choices.

There were many differences, 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) people should follow the rules, be loyal to society, and accept their fate.

On social-psychological 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 local affairs. Slavery was viewed as part of life, an inevitable component of social stratification. Astrology was also popular as a way to predict future and to protect 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 had been already 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 an extremely sophisticated view of behavior, emotions, thought, and other mental activities. 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 originated in the ancient Greece. Moreover, scholars working within the Islamic tradition produced an 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**

Atomism  
Caritas and cupiditas  
Emanation theory  
Epistemology  
Holism  
Hylomorphism  
Idealism  
Material monism  
Materialism  
Melancholy (often melancholia)  
Scholasticism  
Subjective culture  
Theology