

CHAPTER

1

---

# Demythologizing the Ancients' Spirits

Current theories and known facts about personality and behavior are the product of a long and continuing history of human curiosity and achievement (Millon, 1969). Although dependence on the past is always appropriate, progress also occurs because dissatisfaction with the “truths” of yesterday stimulates our search for better answers today. Such perspectives on the historical development of our current thinking enable us to decide which achievements are worthy of acceptance and which require further investigation.

This and subsequent chapters look back over the long history of the mind and mental science studies, exposing patterns of progress and regress and brilliant leaps that have alternated with foolish pursuits and blind stumbling. Significant discoveries often were made by capitalizing on accidental observations; at other times, progress required the clearing away of deeply entrenched, erroneous beliefs. Despite these erratic pathways to knowledge, philosophers, physicians, and scientists have returned time and again to certain central themes. What are the causes of human behavior? How can we best classify the varieties of psychic pathology? Do just a few basic elements or processes underlie all forms

of personal functioning and pathological behavior? What are the best treatment methods for alleviating disorders of the mind?

It is to answer such questions that we have written this book. We must begin at the beginning, however, with ideas that characterized the ancients, those who lived and wrote in the first millennium, B.C. Here we first encounter the sacred notion of primitive societies, which slowly gave way to the early sophisticated and naturalistic thoughts of philosophers and physicians in the Orient, Greece, Rome, and the Middle East.

### *The Philosophical Story: I*

Before undertaking a systematic analysis of the diverse traditions of study and treatment of mental disorders, we must probe their historical origins and evolution. Efforts to understand and resolve problems of the mind can be traced through many centuries in which solutions have taken unanticipated turns. They have become enmeshed in obscure beliefs and entangled alliances that unfolded without the care and watchful eye of scientific methods. We remain today, a relatively young science; however, many techniques and theories of our time have long histories that connect current thinking to preexisting beliefs and systems of thought. Many of these connections are intertwined in chance associations, primitive customs, and quasi-tribal quests. The path to the present is anything but a simple and straight line; it has come to its current state through values and customs of which we may be only partly aware. Many are the product of historical accidents and erroneous beliefs that occurred centuries ago when mysticism and charlatanism flourished.

The movements and traditions of today are not tight systems of thought in the strict sense of scientific theories; they certainly are neither closed nor completed constructions of ideas that have been worked out in their final detail. They are instead products of obscure lines of historical development, often subject to the confusions and misunderstandings of our remote past when disaffection with complexities typified life. Nevertheless, interest in ourselves, in our foibles as well as our achievements, has always been central to humans' curiosity. The origins of interest in the workings of the mind were connected in their earliest form to studies of astronomy and spiritual unknowns. Even before any record of human thought had been drafted in written form, people asked fundamental questions such as why we behave, think, act, and feel as we do. Although primitive in their ideas, ancient people were always open to the tragic sources in their lives. Earliest answers, however, were invariably associated with metaphysical spirits and magical spells. Only slowly did people formulate more sophisticated and scientific ideas.

It was not until the sixth century B.C. that humans attributed their actions, thoughts, and feelings to natural forces, that is, to sources within

themselves. Philosophers and scientists began to speculate intelligently about a wide range of psychological processes, and many of their ideas turned out to be remarkably farsighted. Much of this early imaginative and empirical work was forgotten through the centuries, slowly stumbled on, and rediscovered time and again through careful or serendipitous efforts. In the seventeenth century, John Locke described a clinical procedure for overcoming unusual fears; the procedure he set forth is similar to the systematic desensitization method developed this past century by Joseph Wolpe. Similarly, Gustav Fechner, founder of psychophysics in the mid-nineteenth century, recognized that the human brain was divided into two parallel hemispheres that were linked by a thin band of connecting fibers, what we now term the *corpus collosum*. According to his speculations, if the brain was subdivided, it would create two independent realms of consciousness, a speculation confirmed and elaborated in the latter part of this past century by Roger Sperry, in what has been referred to as *split-brain* research.

The earliest conceptions of the mind and its disorders started with a sequence of three prescientific paradigms that may broadly be considered *sacred*: the animistic, the mythological, and the demonological. These prehistoric phases of history slowly came to an end with the emergence of philosophically sophisticated and medically logical approaches. Certain beliefs dominated every historical period ultimately winning out over previously existing conceptions while retaining elements of the old.

As the study of mental science progressed, different and frequently insular traditions evolved to answer questions posed by earlier philosophers, physicians, and psychologists. Separate disciplines with specialized training procedures developed. Today, divergent professional groups are involved in the study of the mind (e.g., the neuroscientifically oriented psychiatrist with a clear-eyed focus on biological and physiological processes; the psychoanalytic psychiatrist with an austere, yet sensitive attention to unconscious or intrapsychic processes; the personological psychologist with the tools and techniques for appraising, measuring, and integrating the mind; and the academic psychologist with a penchant for empirically investigating the basic processes of behavior and cognition). Each has studied the complex questions generated by mental disorders with a different focus and emphasis. Yet the central issues remain the same. By tracing the history of each of these and other conceptual traditions, we can learn how different modes of thought today have their roots in chance events, cultural ideologies, and accidental discoveries, as well as in brilliant and creative innovations.

It seems likely that future developments in the field will reflect recent efforts to encompass and integrate biological, psychological, and sociocultural approaches. No longer will any single and restricted point of view be prominent; each approach will enrich all others as one component of a synergistic whole. Integrating the disparate parts of a clinical science—theory, nosology,

diagnosis, and treatment—is the latest phase in the great chain of history that exhibits an evolution in mental science professions from ancient times to the new millennium. Intervening developments, whether successful or unsuccessful, were genuine efforts to answer humankind’s ceaseless efforts to understand more fully who we are and why we behave the way in that we do. The complexity of human functioning makes the desire to know who we are an unending challenge. New concepts come to the fore each decade, and questions about established principles are constantly raised. Perhaps in this century, we will bridge the varied aspects of our poignant, yet scientific understanding of mental diagnosis and therapy, as well as bring the diverse traditions of the past together to form a single, overarching synthesis.

### *Unfolding of Key Ideas*

Primitive man and ancient civilizations alike viewed the unusual and strange within a magical and mythological frame of reference. They attributed behavior that they could not understand to animistic spirits. Although both good and evil spirits were conjectured, the bizarre and often frightening behavior of the mentally disordered led to a prevailing belief that demon spirits must inhabit them. The possession of evil spirits was viewed as a punishment for failing to obey the teachings of the gods and priests. Fears that demons might spread to afflict others often led to cruel and barbaric tortures. These primitive therapies of shock, starvation, and surgery have parallels in recent history, although the ancients based them on the more grossly naive conception of demonology.

If, by chance, the disordered behavior was viewed to signify mystical powers (as was epilepsy among the early Greeks), patients were thought to be possessed by sacred spirits with which the gods had honored them. This favorable view of mental affliction, although still based on a demonic mythology, evolved into a more uniformly sympathetic approach to the ill. Egyptians and Greeks erected temples in which physician priests augmented prayers and incantations with kindness, advice, recreation, and herbs. In the haven of the Egyptian hospice, priests interpreted dreams and suggested solutions both to earthly and heavenly problems. The Grecian Asclepiad temples of the sixth century B.C., were located in remote regions away from family, trade, war, and stress. Here the sick were comforted, fed well, bathed and massaged, given calmativ drugs, and surrounded by harmonious music. Despite these promising interludes, the notion of demon possession persisted and those unable to benefit from humane treatment were cast among the evil to be flogged and chained.

Psychological treatment was first recorded in the temple practices of early Greeks and Egyptians in the eighth century B.C. During the fifth century B.C., Hippocrates suggested that exercise and physical tranquillity should supplant the more prevalent practices of exorcism and punishment. Asclepiades, a Roman in the first century B.C., devised measures to relax patients and openly

condemned harsh therapeutic methods such as bloodletting and mechanical restraints. The influential practitioner Soranus (A.D. 120) suggested methods to exercise the mind by having patients enlist memorable images and participate in discussions with philosophers who could aid them in banishing their fears and sorrows. Although doubting the value of love and sympathy as therapeutic vehicles, Soranus denounced the common practices of keeping patients in fetters and darkness and depleting their strength by bleeding and fasting. The philosophical discussions espoused by Soranus may be viewed as a forerunner of many contemporary psychological therapies.

Humane approaches to the treatment of the mentally ill were largely abandoned during medieval and postmedieval times when witchcraft and other cruel and regressive acts were employed as therapy. In the early years of the Renaissance, medical scientists were preoccupied with the study of the body and its workings and paid little attention to matters of the mind or the care of the mentally ill. Institutions for the insane were prevalent throughout Europe, but they served to incarcerate and isolate the deranged, not to provide medical or humane care.

### *Primitive Sacred Notions*

What has been called the sacred approach in primitive times may be differentiated into three models, according to Roccatagliata (1973): animistic, mythological, demonological. These divergent paradigms shared one point of view, that mental processes and disorders were the expression of transcendent magical action caused by external forces. The *animistic* model was based on prelogical and emotional reasoning derived from the deep connection between primitive beings and the mysterious forces of nature. From this viewpoint, events happen because the world is peopled by animated entities driven by obscure and ineffable forces that act on one's mind and soul. The second phase, characterized by *mythological* beliefs, transformed the animistic conception so that indistinct and indefinable forces were materialized into myths. Every fact of life was imbued with the powers of a particular entity, and every symptom of disorder was caused by a deity that could, if appropriately implored, benevolently cure it. In the third, or *demonological* phase, the transcendent mythological deities were placed into a formal theological system such as the Judeo-Christian. In this latter model, two competing forces struggled for superiority. One was creative and positive, represented by a good father or God; the other was destructive and negative, represented by the willful negation of good in the form of demonic forces of evil. These three conceptions followed each other historically, but they overlapped with elements of one appearing in the others at times.

It was about 100,000 years ago when Paleolithic man wandered the earth during an early glacial period. Even then, humans tried to explore treatments for those who suffered psychic pain or behaved peculiarly (e.g., the surgery

known as *trepining*, boring a hole through the skull to clean out bone fragments or to relieve head pressure, dates back to the Stone Age). Sundry amulets were employed to drive away demons that purportedly possessed the mentally distressed (e.g., the vertebrae of snakes and the teeth of animals have been found in pouches carried by medicine men).

Magic and supernatural concepts helped early humans make sense out of the many unfathomable and unpredictable aspects of prehistoric life. Weighted with life's painful realities and burdensome responsibilities, these beliefs gave order and pseudologic to fears of the unknown, a repository of unfalsifiable assumptions in which the supernatural filled in answers for what they could not understand. Ultimately, supernaturalism became the dominant worldview for objectifying and comprehending the mysterious experiences of life. Priests and wizards became powerful by capitalizing on the fears and peculiarities of the populace to undo spells, "heal" the physically ill, and "purify" the mentally distressed. To them, the eccentric or irrational were assuredly touched by spirits who possessed superhuman powers to induce psychic pathology. Almost all groups permitted healing to fall into the hands of priests and magicians, a situation that exists today in some societies. Living in a world populated with imaginary beings, these spiritual forces could often calm man's worst anxieties and expunge the ever-present terrors of life. Despite extensive archeological analyses, knowledge of primitive times is no more than fragmentary. Nevertheless, we may assume that primitive humans saw a world populated with spirits that were essentially illusions created by their own anguish and perplexity.

Healers in primitive times had more active and extensive community roles than physicians do today. Not only did they address the current health and welfare of their people, but they also were fully acquainted with the mystical history and customs of the tribe. Patients placed their hopes more in the person of the healer than in his techniques or medications; thus the healer's personality was the principal agent of any cure that might have occurred. Some healers employed rational methods that reflected their knowledge or skill. Others were magicians whose effects stemmed from their persuasiveness or prestige. A third group was religious in orientation, assuming the role of saviors who energized patients into self-healing behavior. The training of primitive healers was passed down through families from ancestors who possessed a body of secret knowledge and traditions. Healing events were mostly collective affairs in which patients were accompanied by relatives who sat nearby during treatment procedures; occasionally a ceremony took place with a larger but select group of participants. The distinction between body and mind in primitive times was not in any sense clear-cut. Most healing methods were essentially psychological, given the fact that "medications" were biologically inert and mystical in power.

Treatment was dedicated to ridding the patient of metaphysical uncertainty and undecipherable fear, instead of dealing directly with realistic problems. Practical solutions to emotional and mental difficulties were also achieved by

empirically based, but simplistic deductions. For example, mental irrationalities were relieved by lying in a bath of cold water, or by rubbing one's head with warm mud, or by sucking snake venom to poison infectious spirits. Initial attempts to explain mental illness were equally simplistic and empirical. All disorders were derived from sources outside the patient, usually ascribed to the malignant influences of mysterious supernatural phenomena that were best treated with magic or sorcery. The casting out of evil spirits was attempted initially through prayer, incantation, sharp noises, foul odors, and bitter concoctions. If these failed, the body of the afflicted was made unwelcome for the spirits by flogging and starving it. These primitive therapies of shock, starvation, and surgery are paralleled in recent history (e.g., electroconvulsive therapy, lobotomy), although the ancients based them on grossly naive conceptions of demonology.

### *Nascent Asian and Middle-Eastern Notions*

The historical development of treatment and diagnosis in ancient times was not as focused as in later periods. The earliest records concerning the treatment of mental illness in *China* show that magic and sorcery were practiced in the twelfth century B.C. Throughout its feudal period, which lasted for more than 25 centuries for most of China, the courts guided folk-intuitive medical practices. This court-centered system established a socially oriented outlook for Chinese science and medicine.

The first written records of mental illness in Chinese literature were discovered on bones dating back to the fourteenth century B.C. Carvings on the bones asserted headaches and other head disorders reflected malevolent agencies in the wind. These so-called diseases of the wind persisted for centuries; the belief led to the establishment within the Imperial College of Medicine in the eleventh century A.D. of a department devoted specifically to the study of wind disorders.

In the eighth century B.C., the *Kuan Tzu* recorded that "there are institutions where the deaf, blind, dumb, lame, paralyzed, deformed and insane are received when they are ill so as to be cared for until they recover." The Chinese favored a broad social welfare policy that grouped all dysfunctions and disorders that required custodial care and treatment. Not until the arrival of Western medical missionaries in the nineteenth century were specific psychiatric institutions established in China. The *Nei Ching* and *Cha I Ching*, among the earliest works in Chinese medical literature, included brief descriptions of epilepsy, hallucinations, amnesia, and irrational crying and laughing, each of which was presumably a consequence of an overabundance of angry emotions; all were subjected to systematic acupuncture therapies. In the fourth century B.C., the *Shan Hai Ching* listed 20 or so drugs that could be used for diminishing anger and emotions such as fear and jealousy. Also recorded was the need for balance between



the so-called vital elements of life. For example, attitudes of social optimism and moderation in thought and behavior could foster an “even distribution of mood”; a calmness of mind would ostensibly ensure the preservation of health.

Acupuncture treatments for psychiatric problems were employed with some success in the Ming dynasty of the fourteenth and fifteenth centuries A.D. Etiology was attributed to dysfunctions in Yin and Yang and Confucius’s “Five Elements.” During this later period, the *Shen Cher Men* (“Approach to the Mind”), described insanity as follows:

The insane person is somewhat violent, sometimes stupid, singing and laughing or sad and weeping. He gets no better even after months and years. The name for this impairment is “wind in the mind.” Others are boisterous, raving, stubborn and violent, abusing everyone indiscriminately. These persons may attach themselves to any eminence, sing at the top of his voice, take off his clothes, run wildly, climbing over walls or roofs in ways that no normal person could. Some persons are subject to fits, become dizzy or cannot recognize people they have known. They may fall to the ground, have convulsions and suffer from jerky behaviors over which they have no control.

Whereas Western traditions focus on the individual, Chinese culture is historically “situation-centered.” The social context assumed predominance over individual wishes. For several millennia, China was governed by an all-powerful court bureaucracy established by merit and examination. Philosophical traditions stressed harmony as the natural order of life. Laws served to establish homeostatic patterns and social balance, and any disturbance—behavioral, mental, or physical—called for resolutions designed to preserve and establish harmony. Each individual was given a role and place, a purpose, and a feeling of continuity within Chinese history and its contemporary culture. Traditions and cultural institutions dealt with personal relationships and set boundaries of acceptable and unacceptable behavior, circumscribing the outer limits for interpersonal disturbances and abnormal thoughts.

Five archetypal Confucian elements established a framework for much of Chinese philosophical, ethical, social, and medical thought: Those of relationships encompassed ruler to subject, father to son, husband to wife, brother to brother, and neighbor to neighbor. Social responsibilities and proper behaviors were clearly defined in terms of one’s place in the social web. In fact, ancient Chinese philosophies were dominated by ideas tied to the number five. Somewhat akin to Hippocrates and Empedocles in Greece, the Chinese believed that the universe was composed of five basic elements: wood, metal, fire, earth, and water. In parallel form, they concluded there were five basic sense organs: the eye, the ear, the nose, the mouth, and the body. Corresponding to these five organs were the sensations of vision, hearing, smell, taste, and touch. Once again, using the model of five variants, there ostensibly were five tastes: salt, sour, bitter, sweet, and acidic. Basic colors also comprised five elements: green, red, yellow, black, and white. As for psychological processes, the



earliest Chinese classification categorized the basic emotions as sorrow, fear, anger, desire, and joy.

Among the more distinguished Chinese philosophers of this early period, we find *Hsun Tzu (298–212 B.C.)*. In a manner similar to Aristotle, Tzu was oriented to natural phenomena and sought to identify patterns of regularity and orderliness in nature. In contrast to most philosophers of his time, he argued that rational thought and empirical procedures were more significant than superstitious beliefs. In contrast, many Chinese ideas were tied to the concepts of *yin* and *yang*, viewed initially as opposing cosmic forces; they were seen in later times as complementary as well. Balance or equilibrium between *yin* and *yang* was viewed as essential to psychological well-being and to proper social functioning.

Although it is problematic to find a clear beginning to *Hindu* medical writings, there are reasons to believe that Indian medicine was an original system that developed independently of other cultures and times. It may very well be that Hindu thought, preceding those of Persia, Greece, and Rome—and in many ways innovative and potent—traveled over several centuries across the Asian continent to the Middle East and into Europe. There are numerous similarities between Hindu and Greek writings, but as Zilboorg and Henry (1941) have stated, “Some coincidences would appear rather to be that of observers of the same facts, than of borrowers from the same books” (p. 31). Mental disorders, in the Hindu system, remained essentially within the domain and responsibility of priests and their metaphysics.

Many contributions of the Hindus are associated with the name *Susruta* who lived 100 years before Hippocrates. His works follow the traditional beliefs of his day about possible demoniacal possession. However, *Susruta* suggested that the passions and strong emotions of the mentally disordered may also bring about certain physical ailments that call for psychological help. Anticipating the significance of temperament or innate dispositions, Hindu medicine proposed that three such inclinations existed: wise and enlightened goodness, with its seat in the brain; impetuous passions, the source of pleasure and pain sensations, with its seat in the chest; and blind crudity of ignorance, the basis of animalistic instincts, with its seat in the abdomen.

In the Middle East, the ancient civilization of *Babylonia* was not only a vast geographic expanse, but the foundation of philosophical thought for most nations in the Mediterranean region. Many of the traditions discussed among the Greeks and Romans can be traced to ideas generated initially in the Babylonian Empire. Babylonians were oriented toward astronomical events; superstitions regarding the stars produced numerous gods, a result largely of their intellectual leaders' fertile imaginations. They sought help from the gods through magical rites, incantations, prayers, and the special powers of physicians or priests. The Babylonians assigned a demon to each disease; insanity, for example, was caused by the demon *Idta*. Each was to be exorcised through special medicines (primarily herbs and plants), confessions,

and other methods to help restore a balance between conflicting supernatural forces. As the Babylonians saw it, invariable tensions existed among the gods but, more importantly, between a more-or-less rational, as opposed to a superstitious, explanation of psychic ailments.

There is evidence that in *Egypt*, as in other early civilizations, the heart was thought to be the center of mental activity. Egyptians also had difficulty in separating prevailing supernatural beliefs from that which they could observe and modify in nature. Astronomical phenomena were the primary objects of worship. The mystical powers of the gods were usually favored over natural qualities. Over the course of a century or two, Egyptian philosophers and physicians began studying the brain, ultimately recognizing it as the primary source of mental activity. Egyptians recognized that emotional disorders could be described in line with explanations proposed by the Greeks. Thus *hysteria* was the Greek term for *uterus*, and as the Egyptians saw it, the word denoted a wandering uterus that had drifted from its normal resting location; the task of the physician was to bring the uterus back to its normal setting. This explanation for hysteria continued until the late Middle Ages.

The *Persian Empire* was established about 900 B.C. and flourished until about 600 B.C. Aligned with most primitive civilizations of that time, Persians considered all physical diseases and mental disorders to be the work of the devil. Moreover, they felt that treatment should be based on a supernatural point of view that employed incantations and exorcism, as well as magical and religious rites. To them, humans were creatures in which the forces of good and evil were struggling for the future of mankind. The rigid religious system and illiteracy of the common person together limited reflective growth in both Persia's philosophy and science.

### *The Generative Character of Greek Philosophy*

Among advances in thought between 700 B.C. and 400 B.C. were the speculations of a number of philosopher-physicians, most notably Thales, Pythagoras, Aesculapius, Alcmaeon, and Empedocles. These forerunners laid the groundwork for the great Greek physician Hippocrates and the great Greek philosophers Socrates, Plato, and Aristotle.

In the earliest periods of Greek civilization, insanity was considered to be a divine punishment, a sign of guilt for minor or major transgressions. Therapy sought to combat madness by various expiatory rites that removed impurities, the cause of the psychic disorder. Priests mediated the ill person's prayers to the gods to assure his or her cure. Thus, with divine help, the person's heart could be purified of its evil.

Albeit slowly, Greek scholars realized that little of a rational nature characterized their thinking about mental pathology. To them, external, but unseen, agents could no longer serve as a logical basis for a genuine understanding of mentally troublesome phenomena. A fundamental shift began to take place,

not merely in describing different types of mental disorder, but in providing a sounder basis for thinking about ways to alter these aberrant behaviors. To treat mental disorders, they began to recognize the necessity of understanding how and why mental disorders were expressed in the natural world: Only then could they successfully deal therapeutically with the tangible symptoms of everyday mental life. Instead of leaving the treatment of mental disorders to the supernatural and mystical, a more concretely oriented perspective began to emerge. This transition was led by imaginative thinkers in the fifth and sixth centuries B.C.

A central intellectual effort of Greek philosophers was the desire to reduce the vastness of the universe to its fundamental elements. Most proposed that complexities could be degraded to one element—be it water, air, or fire. Their task was to identify the unit that composed all aspects of the universe. Among the first philosopher-scientists to tackle this task was **Thales (652–588 B.C.)**, born in the seventh century B.C. What little we know of Thales comes largely from the writings of later Greek philosophers, notably Aristotle, Plato, and the historian Herodotus. This nimble-witted Greek believed that the fundamental unit of the universe was a tangible and identifiable substance—water. Some philosophers disagreed with the notion that the universe was composed of a simple and permanent element. **Heraclitus (530–470 B.C.)**, for example, proposed that fire was the component that constitutes all nature. He asserted, however, that the universe was composed of no lasting substance: nothing stable, solid, or enduring. Things real and tangible inevitably vanish, change their form, even become their very opposites.

In a similar manner, **Anaxagoras (500–428 B.C.)** asserted that a reduction to the basic elements could not explain the universe. He differed from Heraclitus in that he did not believe the universe lacked an enduring substance. He asserted that there was an endless number of qualitatively different elements. It was the organization or arrangement of these diverse elements that was central to the structure of the universe. Anaxagoras's novel belief that the character of these constituents could not be explained except through the action of human thought is similar to the view of the *phenomenologists* and the *gestaltists*. Some centuries later, they claimed that the structure of objective matter was largely in the interpretive eye of the perceiver.

Later, the philosopher **Democritus (460–362 B.C.)**, following **Leucippus (ca. 445 B.C.)**, proposed that the universe was made of variously shaped atoms. These small particles of matter were in constant motion, differing in size and form, but always moving and combining into the many complex components that composed the universe. This innovative speculation endures to the present time. Extending the theme proposed a century earlier by Anaxagoras, Democritus stressed that all truths are relative and subjective. As noted, he asserted that matter consisted of invisible particles called atoms, a term coined by Leucippus, who had proposed the concept some half-century earlier. Each atom was composed of different shapes that combined and were linked in numerous ways.

This purely speculative idea remains essentially correct to this day. The physical thesis of contemporary times known as the *Heisenberg principle* finds its origins in the surmise of Democritus.

Returning to Thales for the moment, it should be noted that though he was not the prime forerunner of a modern understanding of mental processes, he was a radical thinker. He redirected attention away from mysticism, recognizing that psychic disorders were natural events that should be approached from a scientific perspective. As a pivotal figure in his time, he ushered in an alternative to earlier supernatural beliefs. Equally significant was Thales's view that scientific thinkers should try to uncover the underlying principles on which overt phenomena were based. Oriented to find these principles in physical studies and "geometric proportions," he turned to "magnetic" phenomena, convinced that the essential element of all life was its animating properties. To Thales, action and movement, based on balanced or disarrayed magnetic forces, was what distinguished human frailty. He further derogated the view that external supernatural forces intruded on the psyche; instead, the source of pathology was inherent within persons themselves.

Paralleling the views of Thales, **Pythagoras (582–510 B.C.)** reasserted the importance of identifying the underlying scientific principles that may account for all forms of behavior. He differed from Thales in that he retrogressively used ethics and religion as the basis for deriving his scientific principles. More progressively, however, he was the first philosopher to claim that the brain was the organ of the human intellect, as well as the source of mental disturbances. He adopted an early notion of biological humors, or naturally occurring bodily liquids, as well as positing the concept of emotional temperament to aid in decoding the origins of aberrant passions and behavior. The mathematical principles of balance and ratio served to account for variations in human characterological styles (e.g., degrees of moisture or dryness, the proportion of cold or hot). Balances and imbalances among humoral fundamentals would account for whether health or disease would be present. Possessing a deep regard for his "universal principles," he applied his ideas to numerous human, ethical, and religious phenomena. Though he believed in immortality and the transmigration of souls, this did not deter Pythagoras from making a serious effort to articulate the inner equilibrium of human anatomy and health.

Pythagoras considered mental life as reflecting a harmony between antithetical forces: good-bad, love-hate, single-plural, limited-unlimited. Life was regulated according to his conception of opposing rhythmic movements (e.g., sleep-wakefulness, inspiring-expiring). Mental disorders reflected a disequilibrium of these basic harmonies, producing psychic impairment. To him, the soul could rise or descend from and to the body. The more the soul was healthy, in balance, and without psychic symptoms, the more it resembled solar energy. Pythagoras spoke of the soul as composed of three parts: *reason*, which reflected truth; *intelligence*, which synthesized sensory perceptions; and *impulse*,

which derived from bodily energies. The rational part of the soul was centered in the brain; the irrational one, in the heart. Incidentally, Pythagoras coined the term *philosophy*, putting together the words *philo* meaning “love” and *sophia* meaning “wisdom.”

Ostensibly through his father, the god Apollo, **Aesculapius (ca. 550 B.C.)** gained his understanding of mental disorders by the divination of dreams, which he then transmitted to his sons, Machaon and Podaleirius. A series of descendents, called Asclepiadeans, established long-enduring “medical temples” and a distinguished cult. It is unclear historically whether Aesculapius existed in fact or whether his ideas should properly have been attributed to Pythagoras. As the Aesculapian cult spread throughout the Greek empire, numerous temples were erected in the main cities of the Mediterranean basin, including Rome on the Tiber Island in 300 B.C.

What may be best known about Aesculapiad temples today is the *symbol* of medical knowledge they employed: a serpent wrapped around a rod. Medicine gradually evolved into a branch of philosophy in the sixth and seventh century B.C. No one of that early period achieved the mythic stature of Aesculapius—the presumed founder of temple-based hospitals. They were designed to execute the healing traditions in which he believed, notably a rest from life’s stressors with opportunities for positive mental growth. Located in peaceful and attractive settings, these temples encouraged patients to believe that there were good reasons to want to recover. Included among the treatment techniques were a balanced diet, a daily massage, quiet sleep, priestly suggestions, and warm baths, all of which were thought to comfort and soothe patients.

Also of value also during this early period was the work of **Alcmaeon (557–491 B.C.)**, possibly the son or favorite student of Pythagoras, carried out in the fifth century B.C. Alcmaeon, a philosopher-physiologist, asserted that the central nervous system was the physical source of mental activity and that cerebral metabolism was based on the stability of “the humoral fluxes.” If imbalanced or unstable, the humors would create shifts in cerebral tissue functioning, leading then to various mental disorders. Metabolic fluxes were caused by a disequilibrium between the nervous system’s qualities of dry-moist and hot-cold.

Most notable were Alcmaeon’s efforts to track the sensory nerves as they ascended to the brain. He articulated, as perhaps no one else before him had done, the structural anatomy of the body through careful dissection. No less significant was his conviction that the brain, rather than the heart, was the organ of thought. Like Aesculapius, he also anticipated the work of Empedocles and Hippocrates in believing that health called for a balance among the essential components of life—coolness versus warmth, wetness versus dryness, and so on. The notion of fundamental elements in balance became a central theme in the work of Aesculapius and Alcmaeon; it also served to guide the views of their disciples. Alcmaeon’s biological model, based on the concept of metabolic harmony called *isonomy*, took the place of early mythological theology in

Greece and was an extension of the growing secular and democratic spirit in its sixth century B.C. culture.

**Empedocles (495–435 B.C.)** adopted the homeostatic model generated in the work of Pythagoras, Aesculapius, and Alcmaeon. Most significant was his proposal that the basic elements of life (fire, earth, air, and water) interacted with two other principles (love versus strife). Empedocles stressed that a balance among the four elements could be complicated if they combined in either a complementary or a counteractive way. Love and strife represented human expression of more elementary magnetic processes such as attraction or repulsion. All the elements/humors could be combined, but Empedocles wondered what the consequences would be if they were organized in different ways. He set out to weave the several threads of his theory and concluded that the force of attraction (love) would likely bring forth a harmonic unity, whereas repulsion (strife) would set the stage for a personal breakdown or social disintegration.

To Empedocles, blood was a perfect representation of an equal mix of water, earth, air, and fire. He therefore suggested that persons with problematic temperaments and mental disorders would exhibit imbalances within their blood. Among his other contributions, Empedocles posited a rudimentary model of an evolutionary theory that anticipated Darwin's by 2,000 years. As he phrased it, "Creatures that survive are those whose blood elements are accidentally compounded in a suitable way," whereas a problematic compounding will produce "creatures that will perish and die." To him, nature created a wide variety of healthful and perishing blood configurations, that is, different combinations of the four elements.

A contemporary of Democritus—born the same year—became the great philosopher-physician who set the groundwork for sophisticated clinical medicine for the ensuing centuries. The fertility of this wondrous period of Grecian thought cannot be overestimated, ranging from the brilliant ideas of Democritus and Socrates to the creative foundations of scientific medicine by Hippocrates.

**Hippocrates (460–367 B.C.)** was born on the island of Cos, the center of an ancient medical school. He was the son of an Aesculapian priest from whom he acquired his first medical lessons and whose philosophy he would follow in his own future therapeutic efforts. In Hippocrates, who was the inheritor of his father's tradition and the humoral concepts of Pythagoras and Empedocles, mental disorders progressed from the magical and mythical realm, and the demonological and superstitious therapeutic approaches of an earlier era, to one of careful clinical observation and inductive theorizing. He synthesized the practical and sympathetic elements of the Aesculapian cult with the more biological proposals of Pythagoras, blending these elements to elevate mental processes and disequilibria into a clinical science.

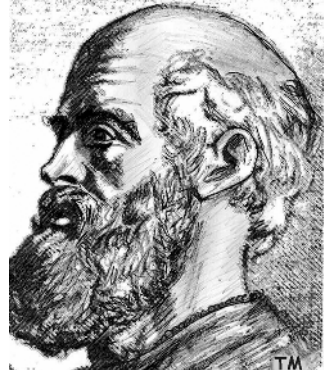
Thus in the fifth century B.C. truly radical advances supplanted the superstitions of temple medicine. The astuteness and prodigious work of Hippocrates highlighted the naturalistic view that the source of all disorders, mental and physical alike, should be sought within the patient and not within spiritual



phenomena. For example, the introductory notes to the Hippocratic book on epilepsy state:

It seems to me to be no more divine and no more sacred than other diseases, but like other affections, it springs from natural causes. . . . Those who first connected this illness with demons and described it as sacred seem to me no different from the conjurers, purificators, mountebanks and charlatans of our day. Such persons are merely concealing, under the cloak of godliness, their perplexity and their inability to afford any assistance. . . . It is not a god which injures the body, but disease.

Like many of his progenitors, Hippocrates emphasized that the brain was the primary center of thought, intelligence, and emotions. It is only from within the brain, he asserted, that pleasures and joys and laughter arise, as well as sorrows, grief, and tears. It is, he elaborated, this very same source that makes us mad or delirious, inspires us with dread and fear, and brings sleeplessness, inopportune mistakes, aimless anxieties, absentmindedness, and other acts contrary to the person's habitual ways. All of these stem from the brain when it is not healthy (i.e., when an imbalance exists between hot and cold or moist and dry).



Hippocrates

The approach of Hippocrates was essentially empirical, despite the growing eminence of philosophical thought that characterized his time. He was a practical biologist stressing the role of the humors of the body, focusing on physical treatments, notably diet, massage, and music. Remedies stressed the value of sleep and rest. Central to the medical practices of Hippocrates and his followers was the crucial role of keen observation and fact gathering. Contrary to the thesis of his younger contemporary Plato, which addressed abstract hypotheses and so-called self-evident truths, Hippocrates focused his attention on observable symptoms, their treatments, and their eventual outcomes. In this regard, Hippocrates served as a model for Aristotle's empirical orientation, emphasizing facts, not abstractions.

Like many of his forebears, Hippocrates was convinced that dreams could serve as indicators of health or illness. Mental pathology stemmed from a disparity between the content of dreams and of reality. Hippocrates outlined his awareness of the character of dreams in the following:

Dreams as represent at night a man's actions through the day, and exhibit them in the manner in which they occur, namely, as performed and justly deliberated, these are good to a man, and prognosticate health, inasmuch as the soul perseveres in its diurnal cogitations, and is not weighed down by any repletion,



evacuation, or any other external accident. But when the dreams are the very opposite to the actions of the day, and when there is a conflict between them—when this happens, I say, it indicates a disorder in the body; when the contrast is great, the evil is great, and when the one is small the other is small also.

Dream symbolism, as seen by Hippocrates, led him to anticipate later hypotheses concerning the operation of “unconscious forces.” Hippocrates also established the tradition of carefully recording personal case histories, detailing the course and outcome of the disorders he observed. Through these histories, we have surprisingly accurate descriptions of such varied disorders as depression, phobias, convulsions, and migraine.

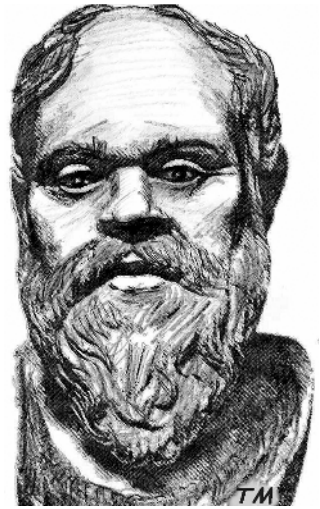
A major contribution of Hippocrates and his associates at the Cos College of Medicine in Athens was their classification of aberrant behaviors. Here, they provided a logic for differentiating the various mental ailments, not only among those we now label the *DSM-IV-TR* (*Diagnostic and Statistical Manual of Mental Disorders*) Axis I syndromes, but also Axis II personality types, the latter construed as abnormalities of temperament. Temperament was associated with the four humors model, which transformed earth, fire, water, and air into their parallel bodily elements. Individuals were characterized in terms of which one of the four elements predominated. For example, lethargic or apathetic individuals ostensibly reflected the predominance of phlegm, a dominance of water; the melancholic propensity for sadness and depression reflected excesses of black bile, a dominance of earth. Among other clinical syndromes differentiated were delirium, phobia, hysteria, and mania. Lacking precise observations of bodily structure and prevented by taboo from performing dissections, Hippocratic physicians proposed hypothetical explanations of disease. They adhered closely, however, to the first nonsupernatural schema that specified temperament dimensions in accord with the doctrine of bodily humors. Interestingly, history has come full circle in that much of contemporary psychiatry seeks answers with reference to inner biochemical and endocrinological processes.

Hippocrates identified four basic temperaments, the *choleric*, the *melancholic*, the *sanguine*, and the *phlegmatic*; as noted, these corresponded, respectively, to excesses in yellow bile, black bile, blood, and phlegm. Elaborated by the Roman, Galen, centuries later, the choleric temperament was associated with a tendency toward irascibility; the sanguine temperament prompted the individual toward optimism; the melancholic temperament was characterized by an inclination toward sadness; and the phlegmatic temperament was conceived as an apathetic disposition. Although the doctrine of humors has long been abandoned, giving way to contemporary studies on topics such as neurohormone chemistry, its archaic terminology still persists in modern expressions such as persons being *sanguine* or *good-humored*.

Hippocrates and his Cos associates were among the first to stress the need for a relationship between diagnosis and treatment. The mere description of a

clinical disturbance was insufficient unless there was a clear indication as to the course that therapy should follow. Again, Hippocrates anticipated that physicians could waste much effort in specifying diagnosis, unless they followed it with a consideration of its utility for therapeutic decisions. Although naive in conception and execution, Hippocrates' approach to therapy followed logically from his view that disorders were of natural origin. To supplant the prevalent practices of exorcism and punishment, he recommended such varied prescriptions as exercise, tranquillity, diet, even marriage and, where necessary, venesection or bloodletting. Systematic in a contemporaneous sense, Hippocrates and his colleagues devised a series of therapeutic regimens to reestablish the humoral balance that he thought underlaid most diseases; he also employed surgical techniques such as trephining to relieve purported pressure on the brain.

The Hippocratic proposals of biological causation and naturalistic treatment, together with his theory that temperamental types were exaggerations of normality were profound advances over earlier notions. With but minor revisions, their influence extended over the next 1,000 years. What must be stressed about Hippocrates' contribution was the role he played in divorcing clinical medicine from religious beliefs and superstition. Not only did he assert that diseases had natural causes instead of being the work of spiritual forces, but he did this without the foundations of biological laboratories, scientific methodologies, or experimental evidence.



Socrates

Innumerable tales have been told about **Socrates (470–399 B.C.)**; he was variously described as degenerate, brilliant, courageous, grotesque, and derailed. He was a pivotal figure in Greek thought, so much so that philosophy before him is referred to as pre-Socratic. Born approximately in 470 B.C. in Athens, he lived for 70 years before meeting his well-known death by drinking the poison hemlock. Socrates differed strongly from Protagoras, who posited that knowledge should be based on subjectivity. In contrast, Socrates claimed that one could obtain true knowledge only by analyzing concepts, that is, through principles and theories with high generalizability—even if they did not correspond directly with subjective experience. Socrates promoted the power of reason, believing that it is only through rational processes that one can discern that which is both objective and universal.

Socrates was far from handsome. Along with his bald head, his large round face, deep-set and staring eyes, he had a broad and flowery nose that hardly

suggested he was a famous philosopher. From miscellaneous descriptions, we can imagine his ungainly figure, clad each day in the same rumpled tunic, walking leisurely through the Agora, blithely indifferent to the surrounding political bedlam. He would gather the young and the inquisitive around him, lead them into a shady nook of the temple porticos, and ask them to question their assumptions or to define their terms. The youths who flocked to him were a motley crew, curious about the meaning of life or the problems that agitated the society of their day. There were endless debates within this small band of intense thinkers and talkers who felt, as did their teacher, that a life without thoughtful discourse would be unworthy of a man. Every school of social, scientific, and political thought of later centuries was generated first in these dialogues, which were perhaps the source of many later philosophical movements as well.

As Durant (1953) asked: Why did his pupils reverence him so? It may have been because he was a man as well as a philosopher, modest in his bearing and his wisdom, seeking to know and to question as a deeply loving participant in their shared dialogues. As he said time and again, philosophy begins when one learns to doubt, particularly to doubt one's cherished beliefs, dogmas, and axioms. Socrates pried into all facets of human existence, uncovering man's assumptions and questioning certainties. He asked: What do you mean by those abstract words with which you judge the problems of life? What do you mean by notions such as honor, virtue, morality, or patriotism? Many who suffered Socrates' insistence on clear thinking and accurate definitions would often object that he asked more than he answered and left men's minds frequently confused and puzzled instead of settled and sure. Socrates questioned every assumption concerning nature's phenomena as well as the beliefs of the common man, doubting what appeared to be obvious, turning his talents to ridicule cant and political arrogance. He took no fees for his lectures and attracted the loyalty and devotion of the most able young minds of his day.

Socrates was considered by those in power as intentionally offensive and disdainful, and was ultimately convicted of heresy and the corruption of Greek youth. To the very end, he argued the meaning of justice and the need for law, no less the rule of reason over power and wealth. He lived his last years in a tumultuous time during which the Athenian empire was reduced to shame and shambles. Bureaucrats and political connivers rose to power, devaluing and imprisoning the insubordinate and intellectual, and launched into an early witch hunt. Socrates became the most famous of those to suffer in this period of rapid decline and social deterioration.

It is notable that Socrates wrote down nothing tangible by himself; his thoughts and ideas come to us through recorded dialogues written by Plato, many of which likely represent Plato's own thinking in articulate and dramatic form. Satisfied to live materially poor and shabby, often barefoot and unkempt, Socrates preferred a life of thought and conversation to the physical

comforts that others sought. He was not an ascetic, however, often joining those of greater wealth in many of the pleasures of a good life. Nevertheless, he was a man of moderation and control, contending that he was not wise or all-knowing, as others claimed him to be, but rather a “midwife of thought,” who knew little but sought to aid others in giving birth to their own ideas. Socrates did not rely on formal lectures; he posed questions that led his students step-by-step to observe and discover ideas for themselves. To Socrates, knowledge already existed within his students; it merely needed to be brought forth through careful provocation and reasoning.

Despite the profundity of his thinking, Socrates began with the idea that human beings must take care of their souls and must purify themselves from the evil influences of their bodies. A deep believer in intelligence and reason, he asserted that a person, though moved by inner demons, could be guided through purification by self-knowledge. To him, a person with a pure soul was healthy and wise, and a person with a corporal soul was ill and ignorant. Mental symptoms arose when the originally divine soul submitted to the forces of the body: “Raving, fear, disorderly passions, folly, are due to the body.” To have a pure soul required a long process of self-analysis because truth and folly were mutually exclusive: Folly must be fought with words so that the passions may be made impossible by knowledge. When man is driven by physical passions, he may seem happy, but self-analysis would convince him that his belief was far from truth. According to Socrates, ignorance was not a consequence of a lack of technical knowledge, but of a lack of knowledge about one’s inner mental life. “Know thyself” was a guiding principle, and knowing that one knows was an even higher principle.

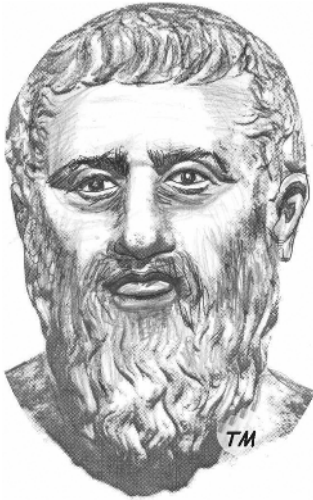
Known as **Plato (429–347 B.C.)** (meaning *broad* in Greek), a designation given him as a young wrestler, he was born in Athens to an aristocratic family of wealth and accomplishment. By happenstance, he heard Socrates speaking at a public forum and was captivated by the subtlety and range of Socrates’ ideas, as well as by the philosopher’s calm serenity and manner. He immediately cast aside his aspiration to be a poet, becoming instead a dedicated student of philosophy, serious in manner, ultimately drafting much of Socrates’ discourse and colloquies from which others could learn.

Although Socrates was the master teacher, ambling from one marketplace and assembly hall in Athens to another, stirring the “unwashed” and conscienceless masses in a self-deprecatory manner that Socrates himself referred to as being a “gadfly,” Plato originally knew him in childhood as a friend of his family. Some spoke of the young Plato as little more than a stenographer with a highly attuned memory, given that Plato had transcribed in his *dialogues* much of Socrates’ words. In time, however, it became clear that Plato was a genius of the first order and an innovative thinker in his own right.

Following Socrates’ death, Plato, age 28, abruptly left Athens to avoid a concurrent and serious political upheaval, traveling to study with other philosophers

throughout the Mediterranean. On his return to Athens years later at the age of 40, authorities quickly seized him as a threat to the dictator then controlling the city. Ultimately freed through a generous ransom payment, he set out to establish a teaching academy in 387 B.C.; for over 40 years he headed this distinguished intellectual center of Grecian philosophy.

Despite undoubted brilliance, many have difficulty in understanding some of Plato's writings owing to his dexterous mix of philosophical ideas and poetic drama. One cannot always tell in which mode Plato is speaking, whether literally or metaphorically, whether addressing a topic in earnest or in jest. This blend of style and mode can leave readers baffled, for Plato was often circuitous and spoke in parables. Many passages in his writings are playful and allegorical, at times relevant only to the circumstances of his society or to fanciful representations of complex ideas.



Plato

Plato spoke of the human characteristics of those engaged in political events as flowing from three main sources: desire, emotion, and knowledge. As he phrased it, desire is centered in the loins: It is a fundamentally sexual reservoir of bursting energy. Emotion is centered in the heart: It comprises the resonance of experience as expressed in the flow and the force of blood. Knowledge is centered in the head: It serves as the pilot and eye of the soul. In characterizing the behavior of men, he spoke of some as the embodiment of desire: restless and acquisitive souls, absorbed in material quarrels and quests; they are the men who manipulate and dominate industry. Those driven by emotion possess the temple of courage: They are pugnacious rather than acquisitive, achieving pride in power instead of possession. Those who delight in knowledge and understanding yearn not for goods, nor

for victory. They seek the haven of a quiet clarity in secluded thought and truth; they are persons of wisdom who often stand aside and are unused by the world of action, power, and industry.

Plato argued for a humane approach to the mentally ill and emphasized the role of sociocultural factors in creating them. However, and despite his admiration for Socrates, he failed to transcend the dominant spiritual mythologies of his time and promulgated the view that many disorders were best attributed to and treated by divine intervention. Plato did emulate Socrates in asking his students to look beneath the surface of things, to ferret out their inner essences, not their surface expressions. To Plato, the world of sensations was a world of flickering shadows, of momentary impressions instead of the undergirding fundamentals he considered essential to true understanding. Central

also to this thesis was the view that knowledge would increase, not only by the depth of reasoning, but also by the use of measurement gauges and quantification. Toward this end, he sought to use mathematical principles to characterize the objective world. What was crucial to both him and Socrates was *not* that which can be immediately seen, but the elements that underlie these manifestations.

Both Socrates and Plato asserted that the manifest symptomatic picture (e.g., Axis I) of a disorder should be differentiated from the personologic system that undergirds it (e.g., Axis II). Perhaps influenced by his older contemporary Hippocrates, Plato cautioned the physician against a tendency to address only the “diseased part” instead of the patient as a whole, foreshadowing the modern approach of treating the whole patient. He stated this view as follows:

I dare say that you have heard eminent physicians say to a patient who comes to them with bad eyes, that they cannot cure his eyes by themselves, but that if his eyes are to be cured, his head must be treated; and then again they say that to think of curing the head alone, and not the rest of the body also, is the height of folly. And arguing in this way, they apply their methods to the whole body, and try to treat and heal the whole and the part together.

Several themes relevant to the mind and its difficulties characterize Plato’s work: (1) Powerful emotional forces come to the foreground and overwhelm the everyday behavior that typifies a person’s life; (2) conflicts exist between different components of the psyche, recognizing thereby the personal discord that often arises between an individual’s rational side, that which is desired, and the surge of emotional feelings; (3) mental disorders do not result from simple ignorance, but from irrational superstitions and erroneous beliefs. To Plato, all humans were partly animal-like; hence, all humans acted irrationally at times, some more, some less. Evidence for these conclusions could be seen, according to Plato, in dreams where bizarre events invariably occur and unnatural connections among thoughts and images are dominant.

Not to be overlooked was his contention that therapeutic efforts could modify any and all forms of mental illness. For Plato, educational procedures could dispel ignorance and uncover truth through the application of fundamental principles. No less important in therapy was Plato’s use of a dialectical model to change a patient’s cognitions and belief systems. In this way, Plato’s philosophy provided a methodology for engaging in therapy, essentially the application of rational discussions to modify faulty cognitions (shades of contemporary cognitive therapies!).

Plato had many distinguished students; the most eminent of them was **Aristotle (384–322 B.C.)**. Though his student for over 20 years, Aristotle turned sharply away from Plato and toward matters more realistic and tangible than abstract and idealistic. Some would say that Aristotle provided history’s first integrated and systematic account, not only of psychological



matters, but of astronomy, physics, religion, and politics. This last of the great philosophers of the fourth century B.C., Aristotle was more scientist than philosopher. He gave special attention to the need for experimental verification and sensory-based observable data.

Although questions have arisen concerning his participation in Plato's Academy, there is evidence that he entered the school at 17, and remained there until his late 30s. These are likely to have been very happy years, brilliant pupils guided by an incomparable teacher walking in the gardens of philosophy. Though Aristotle and Plato were many years apart in age, they both were geniuses in their time. And, like many geniuses who have sought to enlighten each other, their interactions were not as harmonious as one might wish or think. Plato recognized the greatness of his new pupil from the "barbarian North" and spoke of him to many at the Academy as intelligence personified. What funds Aristotle had, he spent lavishly in collecting numerous manuscripts in a vast personal library that served as a foundation for scholarship by many others of his day.

Actually, little is known of Aristotle during his years at the Academy. In personal bearing he was seen as a handsome, bearded man inclined toward elegant dress and manners. Spoken of as kindly and warm, he was a person of great popularity among his peers. Distressed that he was passed over as the successor to Plato on his death, Aristotle left Athens and wandered for years, serving as a tutor and advisor to many of the leaders of the Mediterranean nations. At 53, he returned to Athens but was again denied the leadership of the Academy, at which point he established a rival institution, which he designated as the Lyceum.

In contrast to Plato's Academy, where he obtained his own training, the Lyceum focused on biology and the natural sciences instead of on mathematics and political philosophy. To provide a foundation for his own speculative ideas, Aristotle drew on the immense botanical and zoological material that Alexander the Great had earlier instructed his hunters, gamekeepers, gardeners, and fishermen to bring to Greece from every region he had conquered. This vast collection provided Aristotle with the resources from which he built the biological sciences.

Aristotle was the first of the major philosophers to take an inductive and empirical approach in his writings. He was interested in the concrete observables of experience as registered through the senses. Although he admired the abstract rationalism of Plato, he was much more disposed to deal with the tangible world than with high-order abstractions or broad principles. To him, data should be grounded in empirical observables to minimize the risk of subjective misinterpretations. Despite these reservations, Aristotle believed that thought transcended the sensory realm. As he saw it, imagination could create thoughts of a higher order of abstraction than could sensations themselves.

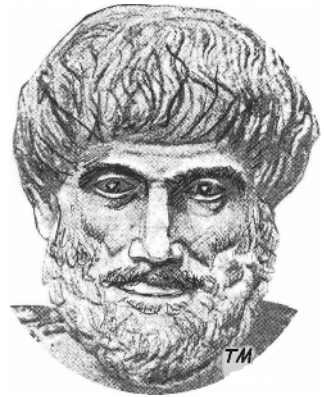
Yet, Aristotle was not successful in bringing all matters within his purview. Despite growing evidence that the brain was the center of thought and emotion,



Aristotle retained the erroneous belief that the heart served as the seat of these psychological experiences. He made keen and significant observations, however, in recognizing the psychological significance of cognitive processes, dreams, and emotional catharses. It was Aristotle who said that events, objects, and people were linked by their relative similarity or their relative difference from one another. To Aristotle, things became associated if they occurred together; in this he was a forerunner of the associationist school of the eighteenth and nineteenth centuries. Aristotle viewed dreams to be afterimages of the activities of the preceding day. Although he recognized that dreams might fulfill a biological function, he judged the content of dreams to be ideal gauges of potential pathology. He had a specific interest in how physical diagnoses could be deduced from dream content.

As just noted, and unlike Plato, who emphasized the key role of the brain in mental life, Aristotle did not attribute any psychological function to this key organ. As he stated: "The brain is a residue lacking any sensitive faculty." The organ of mental life, according to Aristotle, was the heart, where all bodily sensations ultimately arrived. To him, the heart varied in its "natural heat" and served as the nucleus of the soul and of the *sensus communis*, the organ that integrated all perceptions. Aristotle asserted that heat provided the energy for the soul, and the *sensus communis* was its instrument. Sensory events that altered the level of natural heat could set off a mental reflex and produce a disordered symptom. Modifications in heat were the core source of Aristotle's view of psychic pathology. Wine, mandrake, and poppy juice could bring on heated blood, resulting in mental confusion; similarly, if the heart became excessively cool, torpor or melancholy ensued. The brain could play a minor or secondary role in psychic life by facilitating heat homeostasis around the heart.

Aristotle's scope was exceptionally broad and inventive. It was he who wrote most perceptively of the intellectual and motivational features of the mind from the viewpoint of a natural scientist. Thus, in what might be termed a psychobiological theory, he outlined the basics of human perception and rational thought, stressing the importance and validity of sense impressions for an objective form of experimental study. Along the same lines, Aristotle articulated a series of proposals about the nature of learning, a model based on the principles of association and reinforced by what we have come to term the pleasure principle. Similarly, he emphasized the importance that early experience and education played in acquiring skills, and the role of habit and practice in forming psychological attitudes. To him, the processes of development were key themes in understanding human behavior.



Aristotle

When Aristotle left Athens in the year 322 B.C., following the death of Alexander the Great, he arranged to have his associate *Theophrastus* (371–286 B.C.) succeed him as head of the Lyceum. Shortly thereafter, Aristotle, alone and despondent over the turn of political events in Athens, died in exile. Theophrastus was only a decade younger than Aristotle and had come to Athens to study with Plato. He and Aristotle had been friends, joined together in their travels and in their study of nature. Theophrastus remained head of the Lyceum for some 30 years. Perhaps most significant is the attention Theophrastus paid to the study of botany, establishing him as the true founder of that science, just as Aristotle's works established the field of zoology.

Theophrastus made Aristotle's ideas more comprehensive and widespread. In matters of psychic pathology, he wrote on what became known in the nineteenth century as *neurasthenia*, which he characterized as a morbid group of symptoms composed of "unpleasant sensations in the body, tiredness, and depression with a chronic course." Among his botanical discoveries, he identified an herb ostensibly successful in stimulating "erotic potency." A lover of animals, he strongly condemned vivisection and the use of animals as sacrificial gifts to the gods. As did Aristotle, he anticipated the physiognomic ideas of later centuries, suggesting that correlations could be found between human facial features and the emotional dispositions of similarly appearing animals.

A prolific and sophisticated thinker, Theophrastus wrote no less than 220 treatises on different topics. Although this diversity of work was substantial, he became best known for a secondary aspect of his career, the writing of personality sketches he called "characters." Each of these portrayals emphasized one or another psychological trait, providing a vignette of various personality types (e.g., the flatterers, the garrulous, the penurious, the tactless, the boors, the surly).

Whether these portrayals were penetrating or poignant, Theophrastus (as well as later novelists) was free to write about his subject without the constraints of psychological or scientific caution. Lively and spirited characterizations most assuredly captured the interest of many, but they often misled the reader about the true complexities of natural personality patterns. That the facile wordplay of "literary characterology" is frequently insubstantial may be seen in the following comment by Gordon Allport in the 1930s:

One of his characters may have "menial blood in his veins," another "a weak chin." A hand may possess "a wonderfully cruel greed" and a blond head "radiate fickleness." Such undisciplined metaphors give cadence and inspire a kind of bland credulity, but for science they are mere idle phrases. (1937, p. 62)

It is of great interest to recognize that writers of antiquity, born ages and oceans apart, describe persons frequently found in modern societies; the very portrayals sketched by Theophrastus and others can be identified as akin to

those seen in everyday twenty-first century America. Nevertheless, portrayals of Theophrastus fail to encompass many variations of character seen today. Moreover, innumerable styles and disorders may be formulated on the basis of sound scientific and theoretical grounds (Millon & Davis, 1996).

Theophrastus was successful in the first 20 years of his leadership of the Lyceum, but his work was associated with a gradual erosion and deterioration in Greek philosophy. This appears to have been a consequence of the emphasis the Lyceum brought to solve practical rather than fundamental matters. The Lyceum stressed issues such as how to make life more joyful or how to enhance one's personal gains in commerce, reducing interest in the pursuit of knowledge for its own sake.

### *Emerging Roman Medicine*

Although the beginning and ending of the Roman period cannot be sharply demarcated, it basically spanned twelve centuries, from the seventh century B.C. to the fifth century A.D., when the last of the major Roman emperors was deposed. As a formal organization, the Roman Republic dates from the fifth century B.C. to the third century A.D. In its greatest period of power and influence, the empire included all the countries bordering on the Mediterranean Sea, extending to western portions of Spain and as far east as the Persian Gulf. Northward, it included much of present-day England; its southern sphere encompassed the countries of North Africa, extending eastward to Egypt.

Romans were intensely practical, having little interest in the theoretical issues that had enticed the Greeks. Their intellectual leaders were primarily engineers and architects, who covered the hills of Rome and its surroundings with impressive buildings, roads, and aqueducts. The Romans did have a particular interest in law for the maintenance of social order and for military conquests. Although many were acquainted with the ideas of Greek science, few advanced it or explored its philosophical principles. What little there was of Roman philosophy—as represented by Stoicism and Epicurism—was oriented toward providing a way for its subjects to avoid the evils of the everyday world. Nevertheless, a small number of physician-philosophers brought forward ideas the Greeks had developed some centuries earlier. As stated by Bertrand Russell (1945), “The Romans invented no art forms, constructed no original system of philosophy, and made no scientific discoveries. They made good roads, systematic legal codes, and efficient armies; for the rest, they looked to Greece” (p. 278). For example, the prevalent belief in animistic spirits and divine interventions was gradually replaced by the distinctly naturalistic views of Hippocrates.

The more cultured classes of Rome were determined to eliminate magic and superstition in considering psychic processes. A mechanistic conception of mental disorders came to the foreground; it was fundamentally materialistic

and opposed to all transcendental mythologies, which were regarded as superstitious beliefs that originated from fear and ignorance. Mental disorders were caused not by the action of mysterious forces, nor were they a product of biohumoral movements or conflicts, but by the periodic enlargement or excessive tightening of the pores in the brain. In this corpuscular hypothesis, a derivative of the atomistic notions of Democritus of Greece, the task of the mental healer was to confirm and normalize the diameter of the pores. In certain cases, the mentally ill were seen as apathetic, fearful, and in a depressed mood, by what was called a *laxum* state. Others presented an excited, delirious, and aggressive appearance; they were in a *strictum* state. If both sets of these symptoms occurred, there was a *mixtum* state.

Although the first major Roman physician/theorist, *Asclepiades (171–110 B.C.)*, was of Greek extraction, he was unable initially to practice in Rome because of the prejudice against Greek doctors. Hailed, however, after discovering that a corpse was revivable, he was permitted to practice and soon became known as a miracle physician. Despite his Greek origins, he rejected the humoral concepts of Hippocrates, but vigorously espoused the wisdom of naturalistic diagnosis and humane treatment. Further, Asclepiades stressed environmental influences and is credited as being the first to distinguish among hallucinations, delusions, and illusions, as well as to subdivide disorders into acute and chronic. Not only was he ingenious in devising methods of relaxing his patients, but his observations of the effects of bloodletting, mechanical restraints, and dungeons led him to openly and emphatically oppose them.

Asclepiades brought order and logic to the atomistic or corpuscular theory of his day, uniting its incidental fragments and forming a systematic methodology for curing the mentally disabled with an optimistic and daring approach. Based on meticulous clinical observation, he sought to achieve therapies that were joyful and were carried out quickly and well. To him, the symptoms of mental disorder stemmed from organic processes connected exclusively with the corpuscles which, when clogged and irritating to the brain, could produce severe psychic aberrations. The *canalicula* of the nervous system could be tightened or dilated by such emotions as anger and fear, or by such toxic agents as alcohol and opium. Some foreign substances could obstruct the nerves because they tightened the ducts; others dilated them. If the canaliculas was enlarged, the corpuscles could separate and spread to diffuse throughout the body, producing mental diseases. Convinced of the rationality of his corpuscular thesis, Asclepiades outlined two major disease entities: *phrenitis* and *catatonia*. Phrenitis stemmed from a *strictura* of the meninges producing a turbulent insanity displayed in delirium, agitation, and hallucinations. The rigid variant, catatonia, was evident in muscle contraction and motor negativism derived from a stricture of all the body's atoms.

Asclepiades objected intensely to physical bleeding, a common mental treatment during the early Roman period. To him, it was a form of strangulation

that he said may have been appropriate for the Greeks of Athens, but would be destructive in Rome because Romans were already devastated as a result of their degenerate lifestyles. From a humanistic perspective, he considered cells and dungeons for the mentally disabled to be an abomination. These dark and terror-producing environments were scandalous, and he argued vigorously for having patients live in settings that were well-lit, pleasing, and comfortable. Although Asclepiades was certainly an innovator in the humane treatment of patients, he was also one of the first investigators to argue that biological and chemically based treatments could be exceptionally beneficial, a position that came to pass some two thousand years later.

Although a Roman, **Cicero (103–43 B.C.)** had been deeply immersed in Greek learning and believed that the Greeks provided true insight into the nature of mental disorders, especially in what we call psychopathic or antisocial personalities. He described these persons as possessing such features as being “readily carried away by gain and pleasurable lust.” Notable in Cicero’s writings was the recommendation that each patient draw strength from within himself; in effect, to become his own physician. Unlike many who preceded him, Cicero concluded that the senses did not distort life’s perceptions, but that inner psychic forces interpreted these sensations in either a problematic or a helpful way.

Of special interest was Cicero’s observation that physical illnesses often result from intense or conflicting emotions. He anticipated by over 2,000 years what has become known as the *psychosomatic* conception of bodily ailments. Cicero’s approach to therapy emphasized controlling emotions by reasoning and relaxation. In accord with our current popular cognitive viewpoint, he sought to eradicate errors in thinking through instruction and thereby initiate more accurate thoughts.

It was **Celsus (15 B.C.–A.D. 30)** who reorganized the basic concepts of Hippocrates into distinct groups of disease entities. Among his original contributions to Hippocratic theory was the view that mental disorders pervaded all of an individual’s functioning, not just one organ. His regressive therapeutic suggestions, however—starvation, intimidation, and bloodletting—overshadowed this enlightened contribution.

Celsus was the first Roman scholar to detail a philological translation between Greek and Latin medical terms. His writing style was guided toward practical considerations and informed by common sense. He sought to synthesize the practical orientation of Rome with the theoretical tradition of the Hellenistic schools of thought. He carried out this effort in six large volumes that presented alternative philosophies of medicine in a clear, thorough way. Commenting on the culture of his time, he spoke of the more civilized segment of his society as being more readily subject to illness and disease owing to their indolence and lust. He stated that the peasant and agricultural elements of society did not need a complex medical science because their daily activities

were harmonious with nature's laws. City life and mercantile society pulled men away from natural biological homeostasis and toward activities that were the natural enemies of the body and soul.

**Aretaeus (30–90)** was a follower of the vitalist school of thought that adopted the concept of *pneuma*, the natural or animal spirit, the physical embodiment of the soul. He was little known in his time and rarely quoted by fellow Roman scholars, probably because his works were written in the Ionic dialect instead of in Latin or Greek. Further, his vitalistic philosophy based on the fluidity of the soul's nature, and adopted by Galen a century later, rivaled the more atomistic or solidistic corpuscular theory of his contemporary Roman thinkers. Scarcely familiar with the Greek language and its medical philosophies, Aretaeus was a born clinician who was retained as a physician for the ruling Roman classes.

According to Aretaeus, the vicissitudes of the soul served as the basis of psychic disturbances. The interconnecting linkages between solid organs, the humors, and the *pneuma* generated all forms of mental aberration. Anger and rage stirred the yellow bile, thereby warming the *pneuma* and increasing brain temperature, which resulted in irritability and excitability. Conversely, fear and oppression stirred black bile, augmenting its concentration in the blood, leading to a cold *pneuma* and a consequent melancholy.

Disturbances of consciousness usually resulted from the sudden diminishing of *pneuma*'s strength around the heart. His descriptions of epilepsy were notably impressive. Aretaeus spoke of its premonitory symptoms such as vertigo and nausea, the perception of sparks and colors, as well as of harsh noises or nauseating smells. Aretaeus described the origins and characteristics of fanaticism and formulated a primitive psychosomatic hypothesis in stating that emotions could produce problematic effects on humoral metabolism, noting, "The black bile may be stirred by dismay and immoderate anger." Similarly, he formulated what we speak of as cyclothymia in describing the alternation of depression with phases of mania. He stated, "Some patients after being melancholic have fits of mania . . . so that mania is like a variety of melancholy." In discussing the intermittent character of mania, he recognized its several variants, speaking of one type as arising in subjects "whose personality is characterized by gayness, activity, superficiality, and childishness." Other types of mania were more expansive in which the patient "feels great and inspired. Still others become insensitive . . . and spend their lives like brutes."

Perceptive observations by Aretaeus strengthened the notion that mental disorders were exaggerated normal processes. He asserted that a direct connection existed between an individual's normal characteristics of personality and the expression of the symptom disorder he displayed when afflicted. His insightful differentiation of disorders according to symptom constellations (i.e., syndromes) was a striking achievement for his day.

Although Hippocrates may have been the first to provide a medical description of depression, it was Aretaeus who presented a complete and modern

portrayal of the disorder. Moreover, Aretaeus proposed that melancholia was best attributed to psychological causes having nothing to do with bile or other bodily humors. He may have been the first to recognize the covariation between manic behaviors and depressive moods, antedating the views of many clinical observers in the sixteenth and seventeenth centuries. Aretaeus wrote:

The characteristic appearances, then, are not obscure; for the patients are dull or stern, dejected or unreasonably torpid, without any manifest cause: such is the commencement of melancholy. And they also become peevish, dispirited, sleepless and start up from a disturbed sleep. . . . But if the illness becomes more urgent, hatred, avoidance of the haunts of men, vain lamentations are seen; they complain of life and desire to die.

Aretaeus was also a major contributor to the humanistic school of thought in early Rome. Most notably, he introduced long-term follow-up studies of patients. He tracked their lifetime course, their periodic disease manifestations, and their return to a more normal pattern of behavior, thereby anticipating the authoritative writings of Emil Kraepelin, who recognized that the course of an illness is a key factor in discriminating a specific disorder from others of comparable appearance. Aretaeus seriously studied the sequence and descriptive characteristics of his patients, contending that a clear demarcation could be made between the basic personality disposition of a patient and the form in which a symptomatic and transient disorder manifested itself periodically.

No less important was Aretaeus's specification of the premorbid condition of patients, viewing them as a form of vulnerability or susceptibility to several clinical syndromes. As Aretaeus phrased this, he found that persons disposed to mania are characteristically "irritable, violent, easily given to joy, and have a spirit for pleasantries or childish things." By contrast, those prone to depression and melancholia were characteristically "gloomy and sad often realistic yet prone to unhappiness." In this matter, Aretaeus elaborated those essentially normal traits that make an individual susceptible to a clinical state. As Zilboorg and Henry (1941) have noted, the melancholia of Aretaeus is still observed in our time, although under different psychiatric labels. Owing to his observation of patients over extended periods, Aretaeus proposed a series of predictions as to the general outcome of different mental conditions. More than other physicians of his day, Aretaeus not only described psychological conditions with keen sensitivity and humane understanding but, in a spirit more akin to contemporary scientific work, sought to compare clinical syndromes and illuminate ways in which they could be differentiated.

The influential practitioner **Soranus (98–135)** based much of his teachings in accord with those of Celsus and Aretaeus. Melancholia was viewed as an excess of black bile; hysteria was a disorder of the uterus; phrenitis was a feverish disease related to that part of mind located in the diaphragm (*phren*); hypochondriasis was attributed to the hypochondrium.



As with Aretaeus, he espoused a humanitarian point of view, a position held by few Roman philosopher/physicians of his day. In many ways, he laid the groundwork for ideas carried out some 15 centuries later by Pinel, Tuke, and Dix. Most significant in Soranus's writings was his critical review of the harsh and mean-spirited behavioral controls that his fellow Romans employed. The abuse of the mentally disordered aroused great sorrow and discontent in Soranus. As an alternative, he outlined a convincing number of techniques noted by therapeutic kindness and generosity. He asked his peers to remember who was ill; physicians should not view their patients as disagreeable persons who offended their self-image. Soranus went into extraordinary detail regarding the treatment of the mentally ill. To him, no effort was to be spared in ministering to their comfort and well-being. Although he recognized that restraints might be called for, he implored his medical colleagues to use bands that are "soft and of delicate texture" so that the body's joints would be carefully protected against physical harm.

In accord with his adherence to the corpuscular theory of his day, Soranus believed that the mind's functioning was based on the harmonious equilibrium of *leptomeres*, or organic atoms, and the corresponding diameter of the canalicula in which they moved. When the speed of the corpuscles or the diameter of the pores increased or decreased, it created depression, hysteria, or delirium.

Soranus was among the very first who considered culture as a factor in both instigating and treating mental patients. For example, he spelled out in detail what these patients should read during their stay in the hospitals of the day; thus, a laborer should be engaged in discussions about field cultivation and a sailor might be involved in discussions of navigational issues. Though few scientific notions characterized the contributions of Soranus, his deep and genuine humanitarian outlook led him to encourage his fellow physicians to take a caring and sympathetic attitude toward those whose mental plight was deeply painful. This attitude provided a new and generous note in Roman care.



Claudius Galenus Galen

**Claudius Galenus [Galen] (131–201)** was the last major contributor to adopt a psychological perspective in Rome. He preserved much of earlier medical knowledge, yet generated significant new themes of his own. Galen lived more than 600 years after the birth of Hippocrates. A Greek subject of the Roman Empire, he was born in Asia Minor about 131 A.D. During his mature years, numerous radical political and cultural changes took place in Rome.

Concurrent with the Patristic period, to be described later, as the church fathers sought to integrate pagan philosophies and barbarian rituals into Christian teaching, Galen and his medical associates set out to synthesize primitive

conceptions of disease with then-modern methods of curing the sick. Following the ideas of Hippocrates, he stressed the importance of observation and the systematic evaluation of medical procedures, arguing against untested primitive and philosophical hypotheses in favor of those based on empirical test. As a follower of Aristotle, as well as Hippocrates, Galen emphasized the data of experience instead of logical hypotheses that were devoid of factual evidence. He doubted that environmental and psychological factors could affect the course of human disease. Although Galen avoided philosophical themes concerning the nature of illness, he nevertheless proposed a principle termed *spiritus anima*, in which he asserted that humans possessed an extra-physical life-giving force, a thesis based on his efforts to distinguish organic from inorganic matter.

Galen was viewed as the most cultivated and intelligent scholar of Roman medicine. Expert in medicine, neurology, and mental illness, Galen left a vast body of original works in anatomy and neurophysiology as well. He sought to construct a unified model of all theoretical, clinical, and experimental data from a broad global perspective. Galen's father, Nicon, was an influential senator in the Roman kingdom, considered to be "a calm and just character." By contrast, his mother was an irritable and depressive woman. He was encouraged by his father to study the natural sciences, as well as medicine and philosophy. At 16, he began his medical studies, performing highly technical anatomical research. He went overseas to study neurophysiology and experimental neurology. An impulsive man, highly intelligent but a polemicist, he pursued a wide range of interests from the philosophical and historical to the moral and neurological. He also sought to systematically arrange the pharmacology of his time. Arriving in Rome at the age of 31, he soon became the family physician of the emperor and the cultivated upper classes.

Galen was a relatively free spirit, uncontrolled by the doctrines of various religio-theological viewpoints of his period. He thought of himself as a creative and courageous person; in fact, his colleagues viewed him as impetuous and frequently querulous, a man of tremendous ambition who was known for his excess rhetorical habits. Nevertheless, he reconciled disparate viewpoints concerning mental disorders. He accumulated and coordinated all the medical knowledge that his many Greek and Roman predecessors had proposed. His keen observations and astute interpretations enriched this information.

Galen's conception of psychic pathology was based on the physiology of the central nervous system. He viewed clinical symptoms to be a sign of dysfunctioning neurological structures and characterized mental diseases as "a con-course of symptoms," among which a specifically pathognomonic one could be isolated. According to his organic-functional approach, mental symptoms originated from the pathogenic action of a toxic, humoral, vaporous, febrile, or emotional factor that impacted the brain from the body and then altered certain of its psychic functions. Consonant with the beliefs of his time, Galen believed that the activities of the mind were prompted by animal spirits that

carried out both voluntary and involuntary actions. Galen divided these animalistic spirits (pneuma) into two groups: those that controlled sensory perceptions and motility, whose damaging effects would cause neurological symptoms; and those that had a more directive function such as coordinating and organizing imagination, reason, and memory. To him, most psychiatric symptomatology stemmed from alterations of the second group of functions.

Broadly eclectic in his rationale, Galen encompassed a taxonomy that included most contemporary psychiatric disorders. He spoke of what we would call dysthymic syndromes based on humoral grounds; for example, black bile generated melancholia, yellow bile caused mania. He wrote of melancholy as:

An unnatural dread . . . which is not born from a fault of the heart or from habit . . . but rather from an intemperance of the brain . . . intoxicated by the black bile . . . a humour which is thus the efficient cause of this illness . . . (feeling) as though he were carrying the whole world over his shoulders like Atlas.

Sensitive to the very forms in which melancholy was displayed, he wrote:

Some melancholics want to die . . . others are afraid of death . . . some think they are hated by the gods . . . others are convinced that they have been turned into animals . . . others into glass objects . . . some love solitude . . . others yet have thousands of ideas and they are afraid even of being touched.

He spoke of the many types of depression, from the anxious to the delirious to the obsessive to those with depersonalization and feelings of guilt. The melancholic was abulic, lacking in vitality, especially in the morning; he woke up “not rested and refreshed” but was, without reason, “tired and lazy.”

In describing catatonic psychosis, Galen suggested a paralysis of the animal spirits in which the imaginative faculty was “blocked or incomplete.” As far as the syndrome of hysteria was concerned, he differed strongly with Hippocrates’ uterocentric view. Galen asserted that hysteria, on the basis of his own clinical examinations, could not be a disease that reflected the uterus “wandering agitated in the body.” As he saw it, the toxic action of vapors that formed in the normal uterus and vagina provoked hysterical symptoms; the toxicity arose from the stagnation of semen owing to a lack of sufficient sexual intercourse. The disease therefore signified a lack of sexual hygiene.

Galen’s stature grew over the next millennium, so much so that his views were thought to be sacrosanct. His writings were summarized and commented on by many lesser physicians, most of whom were recognized as being wrong-headed, such that their books were often referred to as “wretched treatises.” Some of these post-Galen compilations were not based on his work at all, but dishonestly carried his name for its ability to promote the sale of untenable or alien ideas. Although many of his notions were diluted by the passage of time, or refuted by empirical knowledge, his vast contributions must be considered

significant in that no other figure in history was destined to exercise so extended an influence on the course of medicine.

Preceding St. Augustine and following Galen, *Aurelianus* (255–320) sought to extend the Hippocratic system; he translated his work into Latin and it remained in circulation, along with compilations by Galen, for centuries thereafter. Although dormant through the oppressive period of medieval demonology, humoral concepts of Hippocrates were revived anew with the Renaissance.

The concepts of Aurelianus, developed in eight well-regarded books, were a model of the atomistic proposals of Leucippus and Democritus. Democritus posited that the corporal components of the organism were composed of infinitesimal atomic structures. This view contrasted with those of the humors, the more fluid elements of the body formulated by Empedocles and employed by Hippocrates in his clinical formulations. The atomistic view also differed from the pneumatic model of vitalistic spirits with its concept of animistic vapors diffused throughout the body, a formulation also used by Galen in his conceptions of mental disorders.

Psychic symptoms for Aurelianus were based on problematic mechanical structurings instead of imbalances of fluid humors or vaporous animal spirits. Rekindling an earlier interest in the disorder catatonia, Aurelianus spoke of the body's tendency to assume unusual rigid positions as stemming from the tightening of the cerebral canalicula which led, in turn, to the suffocation of psychic life. Opposite that of catatonia were the manias, spoken of as *constrictio spiriti*. For catatonias, Aurelianus recommended therapies such as rubdowns and the wearing of warm woolen clothes as well as periodic enemas and force-feedings. For the manias, treatment included relaxing walks, and cucuritis (warm mud-laden towels) placed on the head to "re-corporize the atoms."

The atomists did not use the drugs of the time because they judged that diets, massages, and baths better influenced the pathological structures of the mind. Rubdowns with cold oils, the inhalation of vile substances such as vinegar, bloodletting, and other purgatives were intended to reestablish a harmonious order of the atomic corpuscles.

Aurelianus's suggestions reflected a regressive transition from the humanism that had come to characterize early Greece and Galen's Rome. A strong effort was made to revive a supernatural belief system for understanding life's matters. This was consistent with the spirit of the time and demonstrated how much psychological medicine was diluted during the early Patristic period. Aurelianus even warned others against placing their fate in a philosophical approach to the cure of madness; he stated that too much thought might itself be a cause of madness. Specifying the causes of mental disorder, Aurelianus suggested head trauma; exposure to bright sunlight; the abuse of wine; and too much love for philosophy, glory, or money.

*Formative Christian Thought*

Later in Roman history, there emerged an organized church theology known as Christianity, including faith healing, magic, and superstition. Referred to as the Patristic period, the Church of Rome's early doctrine became the dominant approach to thought, medicine, and mental healing in the Western world until the seventeenth century. Most of the populace remained illiterate during this period. Education was religious, otherwise inchoate and of dubious value. The idea of a scientific basis for understanding mental disorders barely appeared on the scene. Faith was the all-powerful guide.

As the Roman Empire declined in its course of decay, diminution, and debauchery in the early centuries of the first millennium, two opposing solutions to life emerged. The first reflected a general mood of stoic resignation, indifference, and withdrawal. The second was represented by the rise of Christianity; the emergence of religious philosophies; and the belief, especially for the poor and weary peasantry, that there was a life eternal, a heavenly future that would transcend the miseries of daily life. A simple and undogmatic series of principles asserting that there was one God, that man was made to serve Him and, thereby, to live eternally in His blessed light drew the attention and strengthened the hopes of "plain folk." In its brief and simple declarations, the founders of the Roman Church provided an alternative to stoic resignation and skeptical indifference, a sinister world dominated by dreadful tyrants and abhorrent overseers. In its stead, Christianity offered believers brotherhood and an eternal life—no longer to suffer hunger, plague, and warfare, no longer to grovel in oppression and exile—faith would provide ultimate and secure redemption.

Under the leadership of the Roman Church, faith became a ubiquitous force, a rationale for how people became mentally disturbed and what should be done to cure them. For these purposes, the Church exacted a price of firm if not absolute obedience. Though Church leaders may have believed in the wisdom of faith to guide and influence the population, less reputable others took advantage of religious authority and status.

During the first two to three centuries A.D., a separation was made between psychologically normal individuals, who may have doubted the dogma of the Roman Church's ideology, and those whose peculiar beliefs arose, not out of opposition, but out of a mental affliction. Nevertheless, both groups were considered guilty of heresy and subjected to punishment. In a similarly irrational twist, others' implausible or nonsensical behavior ostensibly demonstrated their fervent adherence to religious authorities and their dogma. Such persons were venerated. The works of Aristotle and other Greek philosophers soon were condemned.

In the third century, Christianity led physicians such as Aurelianus to assume a moralistic and judgmental approach to psychic pathology. Unable to escape the growing spirit of superstition, he proposed that mental cases were definitely the product of mystical events that could not be understood in the

natural world. More seriously, he adopted the ancient belief that demons often appear under the guise of confused men, and it was the job of physicians to identify and to eliminate them. In this and other similar matters, he laid the groundwork with St. Augustine for a return to the age of supernaturalism and superstitions. Along with Augustine, he was nevertheless admired until the close of the seventeenth century.

**Aurelius Augustine (354–430)** was a key figure in the transition from early Roman thought to the Middle Ages. Better known as St. Augustine, we can see in his readings an effort to synthesize the Greek and the new Christian perspective on mental maladies. Perhaps the most influential philosopher of his time, Augustine set the foundation and tone of Christian intellectual life for centuries to come. To him, all knowledge was based on the belief that only God can provide the ultimate truth, and that to know God is the ultimate goal. To think otherwise, as Augustine averred, would not only be vain, but would assuredly lead to error and corruption. Individuals, as children of God, would in their faith begin to understand the very nature of life, and thereby would be able to lead a life of grace and honor. These beliefs were religious rather than philosophical or medical, because a failure to assert them not only would lead to unhappiness, but would be a sin that called for retribution.

During Augustine's early education, he was enthralled with the ideas of Plato and sought to incorporate much of the great philosopher's ideas into Christian doctrine. Eager to learn and widely read, he sought out the views of numerous pagan philosophers. These readings stirred him deeply and generated increasing feelings of guilt over his wasteful lifestyle while awakening his awareness of the deterioration of the world in which he lived. Wandering in Africa, pursuing a life of celibacy and poverty, he gradually turned to the priesthood and to a quiet and withdrawn life of study and reflection. Owing to his genuine convictions and high intelligence, he was seduced into becoming a bishop at a time when Rome was overrun by anti-Christian vagabonds and warriors. Nevertheless, Augustine became a leading authority on doctrinal matters within the Catholic Church. His writings on science, however, were unsystematic, dissonant, and conflicting; on some points they were insightful, on others, confusing. Essentially, he viewed all works of science favorably when they served his religious purposes but considered them questionable when they failed to support his theological beliefs.

The early Catholic Church took over numerous practices from former established religions, such as prayers, pilgrimages, and the practice of having confessions bound by absolute secrecy. The practice of confessions exerted a major influence in St. Augustine's important book entitled *Confessions*. It may also have helped develop later therapeutic procedures, such as those employed in psychoanalysis. Priests acquired clinical psychological knowledge and systematized it to some degree in their books on moral theology. However, the very nature of the priestly secret of confession camouflaged that knowledge into abstract and impersonal forms. Centuries later, Protestant reformers

abolished compulsory confession, and in its stead established a new practice intended to “cure the soul.” Ministers endowed with spiritual gifts obtained voluntary confessions of disturbing secrets from distressed congregants who felt the need to share and expunge their personal anguish. These clerics, however, maintained the tradition of secrecy.

Notable were two prime sources of information that Augustine believed would enable one to understand truth. “Revelations” from supernatural sources provided the first source; the second source was accurate reflection on one’s inner experiences. He asserted that freedom of the will was the key factor in enriching one’s existence. To him, *willfulness* was the dominant function of the mind, a force that undergirds and transcends all other psychological functions. The mind was also composed of self-consciousness; as he phrased it, “The mind knows that it is itself.” Self-perception, however, could not provide the new knowledge; for one can know directly only the experience of one’s own inner world, not that which exists beyond oneself. Augustine did allow that several components of the reflective mind can be differentiated, such as will, memory, reason, and imagination; in this regard, he formulated perhaps the first notions of what later came to be known as *faculty psychology*. Though he regarded these components as part of a unitary mind, the manner in which he spoke of each suggested that he considered them to be independent entities.

Augustine’s influence was the most authoritative voice of the church for the next eight centuries. Despite his seemingly disinterested search for truth, his assertions and influence induced fear and psychic constraint, personal hesitations, and self-deprecation, all antithetical to freedom, independence, imagination, and creativity. His Patristic declarations helped rescue fifth-century Rome from nihilism and skepticism, but it led to a world of fear and trembling that ultimately brought forth a period of darkness that diminished the value of life in the here-and-now. Slowly, but implacably, Christian clerical powers grew stronger and more vengeful with predictable ferocity and condemnations. The common person of this period was faced with an ever-present struggle to follow the commands of an earthly king or those of an intangible God. Patristics forced their religious requirements into every sphere of life, reducing day-to-day experiences into acts of insignificance and triviality. Virulent anti-intellectualism grew, and the political authority of the church rendered all aspects of life not controlled by them as either suspect or invalid, leading step-by-step to the eventual abominations of the medieval period.

St. Augustine’s work had a far-reaching and long-lasting impact on psychological thought prior to the Dark Ages some 800 years after his death. Despite the regressiveness of many of his proposals, the accuracy with which he articulated his findings as well as his conviction of the value of the introspective approach to mental problems indicates his key role in orienting thoughts that reached their zenith in the dreadful and egregious medieval times.

As we know through history, the great empire of Rome not only declined, but was ravaged and sacked repeatedly in the several centuries following



Augustine's death. Few people stayed on in the great city of Rome; most fled its burning ruins and rubble to distant and fortified villages. Much of what had been learned of science was lost; and the laws, manners, architecture, and art of the empire were undone or destroyed. Wandering thieves ransacked what little remained of the great Roman period; invading armies from the north and east joined in its final destruction. Several centuries passed until a new order was established. In time, the Catholic Church regained its power and rights to define and establish the laws of the land. Finally, the Inquisition, established by Pope Gregory IX in the thirteenth century, sharply curtailed all forms of dissent. Timely or not, the Great Plague ensued shortly thereafter. The massive devastation of the plague killed a large proportion of the European population. The Inquisition reached its zenith in the mid-fifteenth century; Christianity became evermore vicious and condemnatory. In the next chapter, we turn to this history, and to the horrors of the medieval era.

### *Luminous Muslim and Judaic Physicians*

Four major medical figures from the Muslim and Judaic world of the Middle East, around the end of the first millennium B.C., are worthy of note. Each proposed helpful ideas that came to represent a fresh and innovative point of view concerning mental illness: Rhazes, Unhammad, Avicenna, and Maimonides.

**Rhazes (860–930)** lived during the late ninth and early tenth centuries and wrote textbooks dealing with medical, psychological, philosophical, and religious subjects. In contrast to the predominant religious orientation of Baghdad, Rhazes strongly argued against the notion of a demonological concept of disease and arbitrary authority to determine what is scientific and what is not. He attacked the superstitious religious beliefs of his contemporaries and strongly favored building a rational schema for understanding all disorders. Empirically oriented, he nonetheless subscribed to the four elements originally developed by Empedocles and Hippocrates. Especially talented in discerning the characteristics of many diseases, as well as how they might be differentiated, he also recognized the relationship between good physical hygiene and the prevalence of various diseases. Among his areas of special competence was the science of chemistry and the relationship of chemical factors to several medical conditions. He also had great interest in psychological subjects, writing on the power of social influence for undergirding therapeutic effectiveness. He also offered explanations for why people eagerly allowed quacks to seduce them instead of seeking legitimate healers. Rhazes knew that legitimate healing is often a very slow process, with few visible results evident to the public. As with the Greeks before him, he stressed how important it was to distract those with mental disorders by playing music, having them reside in beautiful environments, and providing healthful nutrition. In a hospital that he oversaw during the early ninth century, Rhazes

created a separate section for the mentally ill to demonstrate that theirs was a special kind of ailment that called for a more humane sensibility than other disorders might require.

**Unhammad (870–925)**, a contemporary of Rhazes, provided intelligent descriptions of various mental diseases. The observations he compiled of his patients resulted in a nosology that was the most complete classification of mental disorders in its day. Unhammad described nine major categories of mental disorders, which, as he saw it, included 30 different diseases. Among the categories was an excellent description of anxious and ruminative states of doubt, which correspond in our thinking today with compulsions and obsessions. Other categories of mental disease were judged by Unhammad to be degenerative; a few were associated with the involitional period of a man's life. The term used by the Greeks for mania was borrowed to describe states of abnormal excitement. According to Unhammad, another category, most closely associated with grandiose and paranoid delusions, manifested itself by the mind's tendency to magnify all matters of personal significance, often leading to actions that prove outrageous to society.

A most significant and influential philosopher and physician of the Moslem world was **Avicenna (980–1037)**, often referred to as the "Galen of Islam," largely as a consequence of his vast and encyclopedic works called the *Canon of Medicine*. The Canon became the medical textbook chosen throughout European universities from the tenth through the fifteenth centuries. However, Avicenna was not a highly original writer, but rather was a systematizer who encompassed all knowledge from the past that related to medical events. Like Galen, Avicenna noted the important connection between intense emotions and various medical and physiological states, although he fully accepted Hippocrates' humoral explanations of temperament and mental disorder. To his credit as a sophisticated scholar of the brain, Avicenna speculated that intellectual dysfunctions were in large part a result of deficits in the brain's middle ventricle, and he asserted that the frontal areas of the brain mediated common sense and reasoning. As with many philosopher-physicians of the day, Avicenna made a serious effort to preserve Aristotelian thinking regarding the soul, and sought to integrate these with Islamic rules and law.

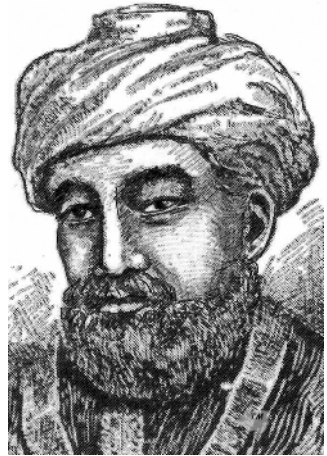
Perhaps the greatest philosopher-physician in the Middle Ages was a Jew by the name of Rabbi Moses Den Maimuni, also known simply as **Maimonides (1135–1204)**. Central to Maimonides' philosophical writings were efforts to reconcile faith and reason, a theme that many an earlier philosopher (e.g., Aristotle) had struggled to resolve. Although under pressure from Islamic leaders to convert to Islam, Maimonides preferred to avoid the constraints of religious bigotry, leaving first for Morocco and subsequently Palestine, Alexandria, and finally Cairo. Throughout, he wrote commentaries on Jewish laws and traditions, outlining a systematic treatise on the rationale of Jewish religious beliefs. His

best-known work was *A Guide to the Perplexed*, a book highly admired yet intensely attacked in Christian, Jewish, and Muslim quarters. He designed the guide for sophisticated Jews who were trapped by the intellectual tensions they experienced between the rationalism of the Greeks and the religious traditions of Jewish and Islamic law, the latter two based essentially on authority and revelation. Thus, Maimonides' work reflected his effort to legitimize reason and to show that there were alternative ways of thinking about religious convictions.

Notable among Maimonides' insights was his argument in favor of moderation between the extremes of passion versus denial:

Good deeds are such as are equibalanced, maintaining the mean between two equally bad extremes, the too much and the too little. Virtues are psychic conditions and dispositions which are mid-way between two reprehensible extremes, one of which is characterized by an exaggeration, the other by a deficiency. Good deeds are the product of these dispositions. To illustrate, abstemiousness is a disposition which adopts a mid-course between inordinate passion and total insensibility to pleasure. Abstemiousness, then, is a proper rule of conduct, and the psychic disposition which gives rise to it is an ethical quality; but inordinate passion, the extreme of excess, and total insensibility to enjoyment, the extreme of deficiency, are both absolutely pernicious.

Maimonides was a prodigious scholar and thinker; he divided his time equally between the study and writing of his many books, the active life of a physician and advisor, and as a rabbi and intellectual leader of the Jewish community. It was as a religious philosopher and exponent of rationalism that Maimonides most profoundly influenced not only Judaism, but Islam and Christianity as well. He believed deeply in the rationality of all forms of law. From his Aristotelian frame of reference, he could not believe that God would enact irrational laws. He felt it was only the human mind that at times was too limited and, hence, could not perceive God's deeper rationality. His faith in the rational powers of the human mind led him to state that seeming inconsistencies or contradictory statements in the Bible could be explained in an allegorical, instead of a literal way. From his view, revelation accommodated to reason, and not vice versa. Despite his Jewish origins and leadership, Maimonides' views were judged by some to be more Aristotelian than Mosaic in their orientation. Many saw his *Guide* as dangerous and heretical; Jews, Christians, and Muslims alike dismissed the book.



Maimonides

*Comments and Reflections*

What patterns, trends, and directions can we extract from this early history? For one, it is likely that the reactions of any group of naive individuals faced with mental disorder in their midst would follow a parallel course to the one recorded here. At first, such a group would react with perplexity and fear, followed shortly by efforts to avoid or eliminate the disturbing behavior. Because of their lack of knowledge, their crude efforts would fail, leading to frustration and, in turn, to anger, punitive action, and hostility. In due course, the obvious helplessness and innocence of the ill would evoke protests against harshness and cruelty. A new compassion and sympathy would arise and awaken a search for methods of humane treatment. But goodwill alone would not be sufficient to deal with the illness. Proper treatment requires knowledge, and knowledge can be derived best from systematic study and research. And so, in its course of progress, this imaginary group would move step-by-step from perplexity, fear, and cruelty, to scientific analysis and humane treatment. It is at this point that we stand in our study of mental illness today. Despite periodic regressions and fads, progress toward humanism, naturalism, and scientific empiricism has continued.

The formal structures of most early ideas of the mind and mental illness were haphazard and unsystematic; concepts were vague, and procedures for deriving empirical consequences were tenuous. Instead of presenting an orderly arrangement of ideas and propositions for deriving hypotheses, most inventive clinicians of the ancient past presented a loose connection of speculative opinions and analogies. Gifted as many of these speculations may have been, they often left their followers dazzled rather than illuminated. Ambiguous proposals in archaic and mysterious theories made it impossible to derive systematic and testable hypotheses. Many early observations and ideas were brilliant and insightful, but few could be attributed to the clarity of their principles, the precision of their concepts, or their methods of hypothesis derivation.

Despite exegetic brilliance, the Talmudic habit of intricate and abstruse argument within the early philosophical community drew us into recondite intellectual territories that only tangentially explored the impact of the many psychological and social forces generative of mental illness. Splendid though their contributions were to philosophy, many of the Greek writers we have touched on in this chapter rarely digressed to speculate about the problems of how the mind worked and why mental illness occurred. Though less labyrinthine and tortuous, the ideas of the Roman physicians were usually only descriptive and of limited therapeutic utility.

Beginning in the early twentieth century, professional philosophers became increasingly involved in issues related to what has come to be called the *philosophy of science*. However, this interest has been centered primarily on questions associated with physical science advances and not with developments in

sciences concerned with human behavior. In part, this reflects that there are no broad-based and generally accepted theories in the psychosocial disciplines. As is evident throughout this book, the focus of the human sciences is highly fragmented and much too complicated and varied to lend itself to a single systematic philosophical analysis. As such, only a few philosophers of science in this past century have occupied themselves seriously with the substantive study of mental illness, nor have they contributed in any significant way to clarifying the logic of psychological and psychiatric inquiries.

To raise questions about either the validity or adequacy of one or another aspect of early philosophical approaches is not to take issue with all aspects of their formulations. Much of what was proposed concerning the nature and character of mental illness had both substantive merit and heuristic value. We should be entirely sympathetic to the creative contributions of those we have just critically examined. Much of what followed in later periods has proven to be more of an addendum than a supplantum.