

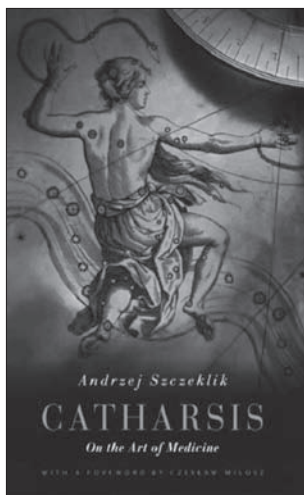
Whether experiencing life as the patient or the caregiver, I agree with Bronnie's declaration, "What may appear as tragic situations to others were also great opportunities for growth and learning for the person involved" (p. 145). Like most people, I haven't been left out of the proving ground of trials. Like Bronnie, I have chosen to grow and learn and have fought and found victory over sadness and bitterness. As Bronnie concludes and I agree, "So the best way to make the most out of life is to appreciate the gift of it, and choose not to be a victim" (p. 81).

If you have stayed with this review thus far, you are likely hoping for disclosure of the top five regrets of the dying. Hopefully, you have begun to ponder your own list and will find these affirming. 1) "I wish I'd had the courage to live a life true to myself, not the life others expected of me." 2) "I wish I hadn't worked so hard." 3) "I wish I'd had the courage to express my feelings." 4) "I wish I had stayed in touch with my friends." 5) "I wish I had let myself be happier" (p. v).

This short work is in the self-help category. It certainly packs a lot of thought-provoking direction into an easy to read and entertaining format. If you read it, be prepared to have your thinking tinkered with.

Bronnie also has a website, www.bronnie.com, which is a nice companion to her book. The website features a blog, gift shop, and information about her other professional activities.

The reviewer, **Beverlee Warren, MA, MS**, is senior medical librarian of the Baylor Heart and Vascular Institute at Baylor University Medical Center at Dallas.



***Catharsis: On the Art of Medicine* by Andrzej Szczeklik, MD**

Chicago, IL: University of Chicago Press, 2005.
Hardcover, 172 pp., \$20.00.

Reviewed by **Joseph K. Perloff, MD**

Katharsis (Greek) is defined as *purgation or purification* (Oxford English Dictionary) and refers to the Greek chorus that employed music, dance, poetry, and song to purify the soul. The nocturnal acts of healing in the

temples of Asclepius employed purification to heal the sick.

Andrzej Szczeklik is a distinguished Polish cardiologist, clinician, research scientist, and chairman of the Department of Medicine at Jagiellonian University, Krakow, founded in 1364. In an enlightening foreword, Czeslaw Milosz, the Lithuanian-born Nobel Laureate in Literature (1980), praised Szczeklik as a learned physician with profound knowledge of the humanities and with a sensitivity to the moral limits that constrain the biomedical sciences. The boundaries of scientific knowledge are fluid, but boundaries do exist beyond which there are worlds inaccessible to science—the worlds of individual values, art,

and faith. Plato, through poetic metaphors, captured truths inaccessible to empiricist research.

Szczeklik's aim is to break down traditional boundaries. Medicine, he argues, is a skill derived from magic in which art and science are inseparably woven into a seamless humanistic, scientific, and cultural fabric that includes the biomedical and physical sciences, ancient mythic history especially Greek, music, morals, and ethics. *Catharsis* provides a unique picture of the eclectic but interrelated origins of the medical profession and the pivotal role it plays between life and death.

Major professions harbor fundamental features that reveal an inner core. In medicine, that feature is an encounter between two people—the patient and the doctor. The patient tells a story while the doctor listens. For the patient who does the telling, the story (case history) is of utmost importance. The doctor doing the listening is well aware that one day the roles may be reversed.

The doctor's conversation with the patient is an interview designed to gather information—information about illness—a process that has been referred to as *anamnesis*, a Platonic reference to the vital means of gaining knowledge. Before doctors consider what might be wrong, they listen to a story from the past, a story about which they must be genuinely curious so the patient feels that someone, maybe for the first time, is truly interested. The doctor must talk the same language as the patient, *must enter the patient's world* with its intimate hidden content. To diagnose illness, doctors rely on clinical manifestations, not causes. As the saying goes, "If you hear the sound of hooves, think of horses, not zebras." Making a correct diagnosis is a skill that eludes rational expression.

But then, as Szczeklik points out, *medicine and art* originate from the same root—*magic*. Incantations were used to break spells and ward off illness. Hippocrates considered medicine an art, and Paracelsus argued that the universe was a living thing with man as a microcosmos built on the same principles as the macrocosmos.

When Alexander the Great was seriously ill, doctors did not dare treat him for fear of losing their lives if he were to die. And when Alexander consulted the Delphic oracle, she made no reply. On the island of Cos, Hippocrates didn't consult the oracle, but instead analyzed his patients. Paracelsus believed that fate was determined by the stars that were overhead at the time of birth. Our fate, however, is not in our stars but in our genes—our magic genes—that serve as a Pythian oracle for prerecorded information.

Coronis was unfaithful to Apollo, her husband, while pregnant with his child. Apollo persuaded his sister Artemis to kill his faithless lover with an arrow from her trusty bow, but as Coronis lay dying, she whispered to Apollo that by killing her, he was killing his unborn son. As the flames of the funeral pyre engulfed Coronis, Apollo tore the child from her womb. Szczeklik reminds us that thus came into the world Asclepius, the health-giver, the patron god of medicine.

Asclepius' skill as a healer emboldened him to restore the dead to life, but by resurrecting the dead, he overstepped the limits of human existence, a transgression for which Zeus struck him dead with a thunderbolt. How might Asclepius have

reacted to the practice of resuscitating the dead by restoring life to victims of sudden cardiac death?

The 20th century added about 25 years to the human life span. Here the doctor and patient share the same primeval dream—the search for a “youth gene,” an elixir of life. Life without end? *Intolerable!* Eternal life must be combined with eternal youth lest we confront the fate of the Cumaean Sybil, shriveled and shrunken but still alive. What makes life bearable is the thought that one can leave it. “What is your desire, O Sybil?” “I want to die,” she answered.

Alchemy was regarded as a sacred science whose irresistible attraction captivated Sir Isaac Newton. Substances shed their sacred attributes. Chemistry came into its own. Ancient therapies such as ritual reenactments of the creation allowed patients to be born anew, to start life over again. The snake caught man in its spell, and man took snakes into his world of charms. Pharaohs wore a snake on their foreheads. Snakes were coiled in every corner of the Temples of Asclepius in which the sick fell into prophetic dreams amid the silence and gloom of the sanctuary. Each night, the priest-doctor, dressed as Asclepius and attended by a snake and a retinue of servants, went from patient to patient in a procession remarkably like our time-honored ward rounds. By casting off its skin, the snake symbolized regeneration and has been associated with Asclepius ever since, winding around his stick as the symbol of the medical profession.

The act of healing was a ritual performed by symbolic laying on of the hands. After the nocturnal visit, the patient awakened free of illness, having undergone *katharsis*. By ritual purification, the sick were regenerated and freed of illness.

Children were also brought into the temples. The infant Cassandra and her brother Helenus were left in a sanctuary overnight. The next morning they were found entangled in coils of serpents who were licking their eyes and ears, thus endowing the siblings with second sight and second hearing, and the power to look into the future.

Szczeklik reminds us that the combination of serpent and stick had an expression in the Bible. The Lord said unto Moses, “What is that in your hand?” Moses said, “A staff.” And the Lord said, “Throw it on the ground.” He threw it on the ground, and it became a serpent. Moses ran from it. But the Lord said unto Moses, “Put out your hand and catch it by the tail.” So Moses put out his hand and caught it by the tail, and it became a staff in his hand.

Since time immemorial, the stick has been associated with magic. Magical powers were ascribed to the caduceus, which changed everything it touched to gold. Prospero belonged to the higher order of magicians. Whosoever held Prospero’s magic stick was the ruler. So why shouldn’t a stick be found in the hand of Asclepius, the patron god of a profession rooted in magic? The stick of Asclepius is entwined by one snake. The stick of Hermes (Mercury), herald of the gods, is entwined by two snakes topped by a pair of wings.

It was not until the Book of Genesis that snake and man were separated. Thousands of years elapsed before snakes made a comeback. It was known that benzene consisted of six carbon atoms linked with six hydrogen atoms, but the structure of the

benzene molecule puzzled organic chemists for over a century after its discovery in 1825. August Kekule, a German organic chemist, proposed that benzene wasn’t a chain but a ring with one hydrogen atom attached to each carbon atom. The idea came to him in 1865 as he dozed by a fire and dreamed of the benzene molecule as a snake-like ring formed as each snake grabbed its tail in its mouth, thus closing the benzene chain to form a ring. The snake famously found its way into genetics as the serpentine spiral—the double helix—that contains the secret of life’s regeneration hidden in the nucleus of every one of the billions of cells in our bodies with instructions on how to create its successor.

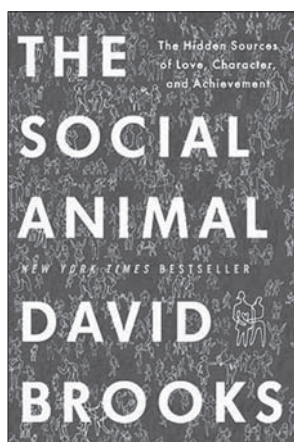
Early efforts were made to discover what lies hidden inside man, to plumb the depth of illness, to admit a ray of light into the darkness locked within the human body. In third-century BCE Alexandria, corpses were routinely dissected. Criminals were handed over to learned doctors for vivisection. Galen of Pergamon (129–216 AD) dissected all sorts of animals every day for most of his life, getting to know the innermost secrets of the body, but he never touched a human corpse because it was against the law to do so.

The great anatomist, Andreas Vesalius of Padua, revealed the world inside us in his monumental work *De Humani Corporis Fabrica*, seven volumes beautifully illustrated by renaissance masters. Vesalius performed the dissections himself, fighting off savage dogs while stealing corpses from graveyards. He kept in his bedroom bodies taken from graves or given to him after public execution. He encouraged students to familiarize themselves with patients and seize their bodies soon after death. Hans Holbein used as his model a corpse borrowed from the city guard in order to render the remarkable life-size rendition of Christ lying on his back tortured to death. Holbein returned the corpse at daybreak after spending all night painting. Dostoevsky was mesmerized by the Holbein painting.

In his chapter “Rhythm and the Heart,” Szczeklik reminds us that the world is overflowing with rhythms. Among primitive peoples, rhythm was associated with the beginning of life. We come into contact with rhythms from the moment we are born. Neutron stars send into the universe radio waves of great intensity and perfect regularity. The centers from which the waves originate are called pulsars. The first pulse that stirred man to life may have been a response to pulsars of the universe. *Circadian rhythm*, the biologic clock located in the hypothalamus, is characterized by rhythmicity and is common to all species from fruit fly to man. However, of the many rhythms inside us, the *heartbeat* is the one we most care about because it has been considered the hallmark of life. One of the most distinctive features about the heart is autonomy—the independence of its rhythm. The unflinching necessity of the heartbeat is one of the few dogmas that enjoy equal popularity among both cardiovascular physiologists and the lay public. Interestingly, recent data from developmental biology have called into question this most established of physiological and cultural dogmas. The embryonic heart begins to beat 18 to 21 days after conception. At this stage, the heart is non-functional, i.e., it pumps no blood, but if the beat stops, the embryo dies.

In *Catharsis*, Andrzej Szczeklik foregrounds medicine as a skill derived from magic. Art and science are woven into a seamless fabric that dissolves traditional boundaries. The book provides contemporary physicians with access to humanistic sources that are the wellspring of their profession, and provides humanists with biomedical sources to which they have unwittingly but materially contributed.

The reviewer, **Joseph K. Perloff, MD**, is a cardiologist in the Ahmanson/UCLA Congenital Heart Disease Center, Los Angeles, California.



***The Social Animal: The Hidden Sources of Love, Character, and Achievement* by David Brooks**

New York: Random House, 2011.
Hardcover, 424 pages, \$27.00.

Reviewed by Fran Roberts Willard

Over the last few decades, groundbreaking research by geneticists, neuroscientists, psychologists, sociologists, behavioral economists, and others has

yielded new insights into the inner workings of the human mind. *New York Times* columnist and bestselling author David Brooks has synthesized this great wealth of data in his book, *The Social Animal*, in which he offers us a new and uplifting view of human nature.

Brooks asserts it is not our rational conscious mind that determines how successful and fulfilled we are in life, but rather it is our unconscious mind, that murky realm of passions, perceptions, social cues, genetic predispositions, drives, and character traits. While our conscious mind might yearn for wealth, status, and applause, that surface definition of success, it is actually our unconscious mind that holds the most sway in determining our character and our ability to build healthy, loving relationships and to achieve our dreams. In a way, we are the outcome of what is happening within us below our own level of awareness.

The good news is our unconscious mind is quite smart. Brooks pictures the conscious mind “as a general atop a platform, who sees the world from a distance and analyzes things linearly and linguistically,” whereas the unconscious mind “is like a million little scouts.” The job of these scouts is to be immersed in the landscape and to send back a constant flow of signals and generate instant responses. It’s from these scouts that we place value on things, that we feel a wave of affection when we see an old friend or outrage when we perceive a situation as unfair. They can save us from danger when we experience fear and lead us towards greater fulfillment. These signals help us interpret our world and guide us. Not surprisingly, people lacking in emotion tend not to lead well-organized lives and often fall into self-destructive or dangerous behavior.

If our emotions are the very foundation of reason, the conscious mind still has the ability to influence them; the two are intertwined. For example, our conscious mind might decide what to order on a menu, but our unconscious mind determines what food we like. Sometimes we have to consciously teach ourselves to like a certain food. It is by being aware of and educating our emotions that we are able to gain wisdom.

Contrary to popular thought, we are not primarily self-contained individuals, but rather we emerge out of our relationships. None of us are self-made. We are deeply interpenetrated with one another. We are social animals from birth. Brook writes:

The truth is, starting even from birth, we inherit a great river of knowledge, a great flow of patterns coming from many ages and sources. The information that comes from deep in the evolutionary past, we call genetics. The information revealed thousands of years ago, we call religion. The information passed along from hundreds of years ago, we call culture. The information passed along from decades ago, we call family, and the information offered years, months, days or hours ago, we call education and advice.

Brooks provides countless sources to back up his points, and this book could have been a dry, scientific read if not for a creative device he adopted from Rousseau to share information and occasionally add a touch of humor. He has created two characters, Harold and Erica, and has told their life stories—their formative years, their falling in love and marrying, their separate careers, their challenges, up until Harold’s death. This allows Brooks to explore the themes of attachment, parenting, education, love, relationships, culture, achievement, politics, morality, aging, death, and more. This is an ambitious book, to say the least.

Harold and Erica are not vivid, fleshed-out characters, but are meant to serve as concrete examples of what the research shows. Both characters come to possess strong noncognitive skills, which are often hard to measure but help determine character. Such skills inform some of the most important decisions we make in life, such as whom to marry and whom to befriend, what our likes or dislikes will be, and how we attain the drive to excel or the ability to delay gratification. As a parent of three young children, I was most interested in learning how we can build up those noncognitive muscles in our young.

Brooks emphasizes the importance of the mother-child bond. Even as a fetus, Harold was already listening to and memorizing the tone of his mother’s voice. At birth the bonding between them needs to begin in earnest, a rather rhythmic “conversation” using touch, tears, looks, smell, and laughter. Babies are born to interpenetrate with their mothers, to learn from them and to begin to build models in their heads of how to understand reality and to relate to others. With strong attachment with his mother or primary caregiver, the child will soon feel safe enough to begin to explore the world around him. Brook writes:

The delightful thing about Harold at this stage was that he was both a psychology major and physics major. His two main vocations were figuring out how to learn from his mother and figuring out how stuff falls. He’d look at her frequently to