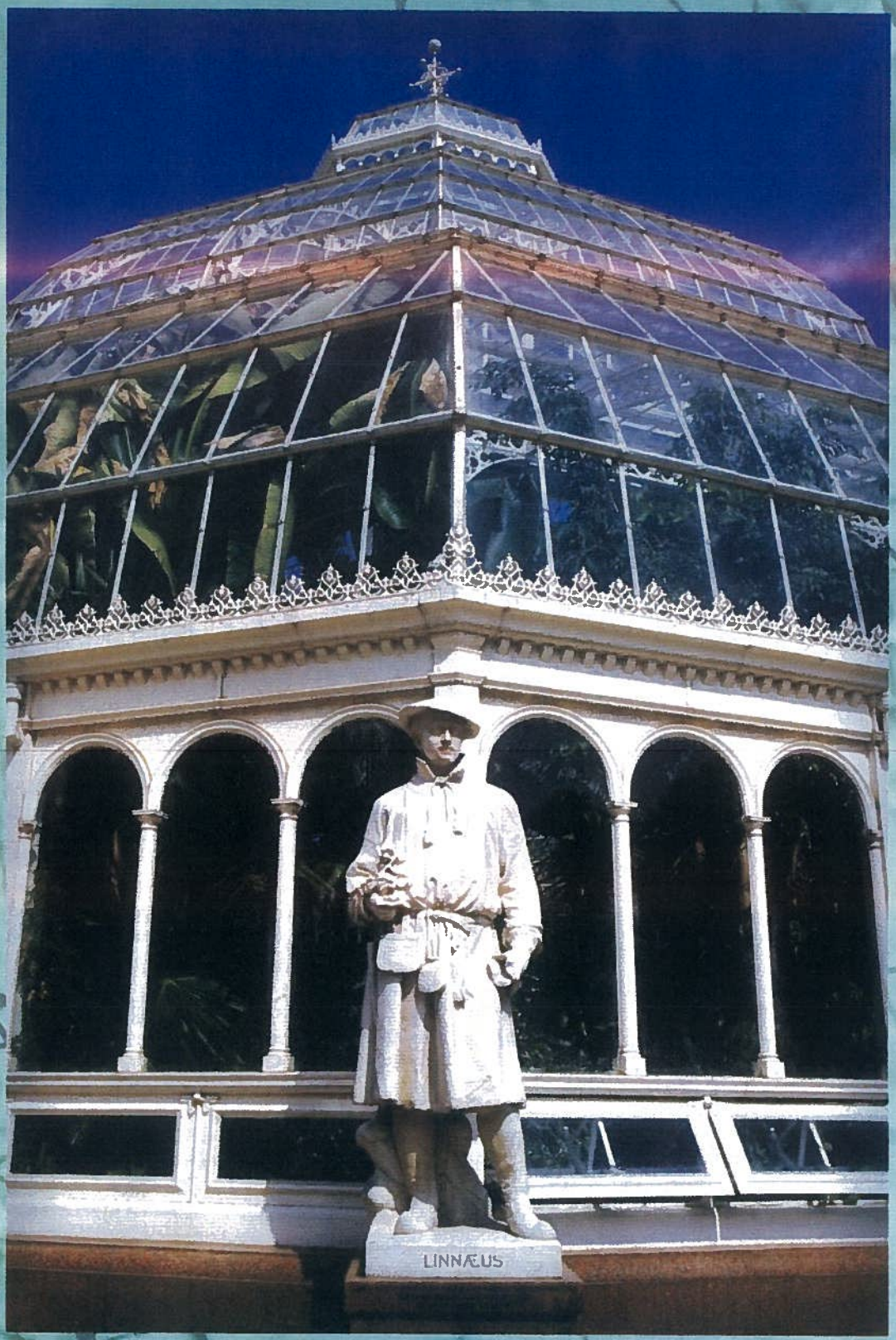
THE PHAROS

OF ALPHA OMEGA ALPHA HONOR MEDICAL SOCIETY

SPRING 2010



Editorial

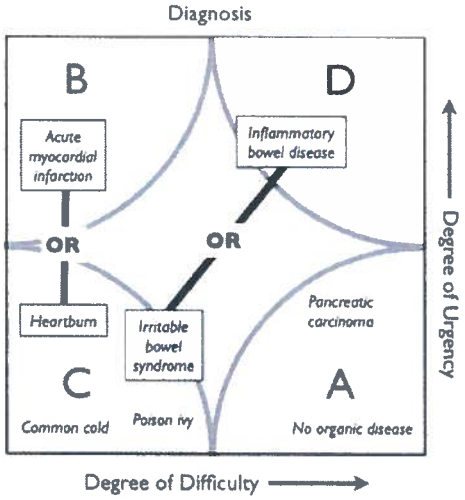
Existentialism, the physician's philosophy

Edward D. Harris, Jr., MD

In his essay on achieving eudaimonia (pp. 26-33), Andrew Radu takes on the challenge of identifying the most appropriate personal philosophy for a physician to embrace. The state of eudaimonia is being in an all encompassing state of happiness, a goal difficult to attain when one is sick and in pain. Thus, it is both the physician's philosophy and his or her patients' view of their place in the world that matter.

The alternative philosophies of Epicureanism and Stoicism are available to pursue, of course. Both were founded in ancient Greece in Athens. Epicureanism advocated restrained hedonism, achieving mental pleasure free from anxiety or free of death. In contrast, to be a true Stoic one had to endure pain and hardship without displaying emotion or complaint. Virtue, the highest good, was based on knowledge. For a patient, being hedonistic is easier to grasp than being stoic, but neither is appropriate for a caregiver. As emphasized by Mr. Radu, a doctor who advocates being stoic in face of illness would seem to lack compassion, whereas extolling hedonism is shallow, superficial, and not sustaining.

The existentialist, in contrast, perceives each individual as a free and responsible agent who can determine his or her life's direction by utilizing an innate free will.



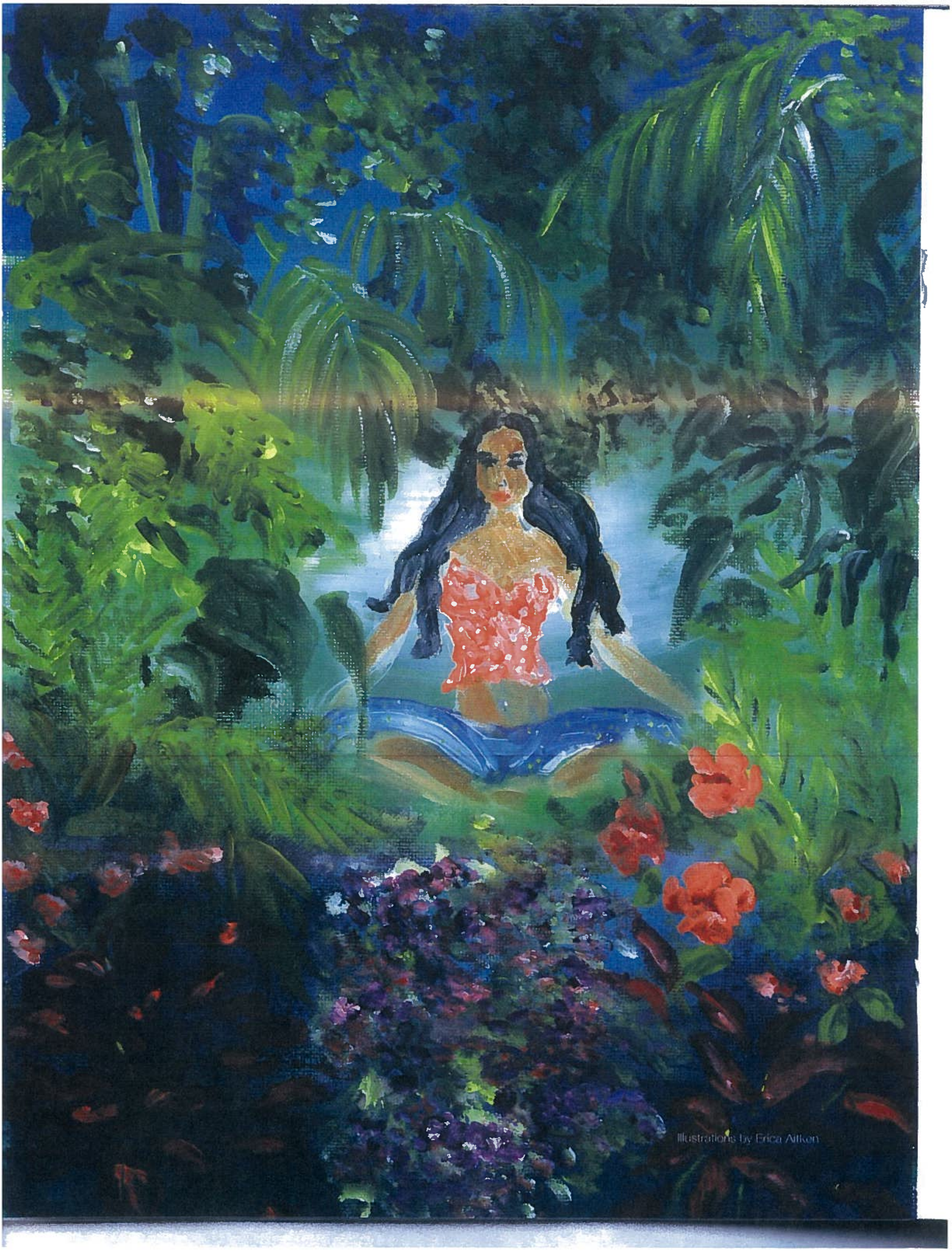
There seems to be little alternative for a physician. He or she must take an existentialist view into the office, combining it with multiple variables of diagnosis, treatment, and the patients' views of their illnesses into a simultaneous equation. Examples abound. A useful classification system is to consider diagnoses as a function of Difficulty and Urgency (see figure), a constantly shifting balance of existentialism. The less demanding for diagnosis are those in group B, relatively easy to diagnose but in need of urgent care. An example would include an acute anterior myocardial infarction with classic ST elevations on the EKG, high troponin, and CK elevation. Off to the cath lab before or after TPA, and hope for the best, and then deal with the emotional needs of the patient and family.

More difficult are those diagnoses that, once made with surety from sound suspicions, carry a grave prognosis. Such would be the patient with upper abdominal pain, mild jaundice, anorexia, and a CT virtually diagnostic of pancreatic carcinoma. Here there is rarely urgency for immediate treatment, but expect a high degree of difficulty (Group A) in management of the patient's expectations, fears of death or disability, hopes for survival, and extent of readiness to hear the truth. This situation demands deep insight into that patient's existence and self-awareness at that very moment in time.

Group C includes those diagnoses that make the doctor's day easy. A mild upper respiratory infection or poison ivy are examples. Group D includes those unclear diagnoses, the problem cases that present with symptoms that are consistent with complex, unremitting, and progressive illness as one possibility (e.g., lower abdominal cramping with intermittent bloody diarrhea that could be inflammatory bowel disease), as opposed to a less worrisome diagnosis (e.g., irritable bowel syndrome) that would ease the concern to Group C. Understandably, the importance here of making the correct diagnosis is the major concern of the physician, and parallels emphases on the patient's own deep and frequently changing concerns.

Ironically, there is another group of patients whom we all see. By all indices they have no severe disease but will not accept that possibility. Consider the 45-year-old director of marketing at a Silicon Valley start-up referred for evaluation of a constellation of symptoms labeled by different physicians as SLE, chronic fatigue syndrome, menopausal symptoms, and reflex sympathetic dystrophy. It was immediately obvious that superceding even her desire to be well was her deep need to have a diagnosis. A careful review of her voluminous records and a thorough examination in the office revealed no new insight. I told her what she did not want to hear: " I cannot give you a specific diagnosis, but I assure you that you do not have any serious organic disease." She left the office unconvinced.

Patients such as she must have a sound personal philosophy, mirrored by that of her physicians. Stoicism is a defeating tactic, while Epicureanism offers symptomatic relief but no firm foundation. The existential approach, accepting reality but knowing that she, and she alone, can dictate the trajectory of her life, is the only logical approach for her to achieve eudaimonia.


Illustrations by Erica Aitken

Eudaimonia, existentialism, and the practice of medicine

Andrew Radu, MD

The author is a graduate of Jefferson Medical College and a student at the University of Pennsylvania masters program in Bioethics. This essay won second prize in the 2009 Helen H. Glaser Student Essay competition.

The idea of *eudaimonia*, or human flourishing, is essential to the practice of medicine. Eudaimonia is an all-encompassing concept about health, happiness, and our general quality of life. The profession of medicine, which aims for the improvement of health and the elimination of suffering, must be concerned with the greater goal of human flourishing. From a twenty-first-century perspective, human flourishing is all too often seen as a checklist of attainable ends: good physical health, love, material possessions, and success. However, the ancient Greek philosophers who coined the term eudaimonia would disagree with this perception. In their opinion, all an individual needed to attain eudaimonia was a good, consistent life philosophy. What sort of philosophy can lead one to a good life? The Stoics, the Epicureans, and the followers of Socrates had widely divergent opinions, yet they all agreed that eudaimonia was the ultimate goal of a human life.

How can a doctor promote eudaimonia in a patient? Despite the many excellent interventions modern medicine offers, the human body eventually gives out, while social and educational disparities between doctors and patients present a challenge to good communication. A doctor treats patients from all walks of life, and misunderstandings can sabotage the therapeutic relationship. Even a doctor who is receptive and attentive to a patient's concerns cannot simply prescribe a sense of well-being.

Existential philosophy can bring greater understanding of the place of eudaimonia in the doctor-patient relationship. It is concerned with the inevitability of suffering in our lives, and how we should approach it. A major goal of existential thought is to connect our inner experiences with our interactions in the social realm. Unlike Greek philosophy, which was fundamentally concerned with abstract ideals, existentialism advises us to reach mutual understanding through our different personal approaches and to draw deeply from our subjective experiences. A good doctor knows that patients' subjective complaints are as important as the objective findings of disease, and that true empathy comes only with holistic understanding of the patient.

Highest quality of all aspects of life

The ancient Greek philosopher Aristotle described eudaimonia as the "best, the finest, the most pleasurable thing of all."[1p19] Eudaimonia concerns the quality of the whole life of a person, rather than separate aspects like love, health, and work. Ancient Greek philosophers agreed about this one point, although they seldom agreed on the specifics. Each individual's path towards eudaimonia is unique, and eudaimonia was seen as an essential quality that a person can possess.[2p15] Eudaimonia was believed to be attainable only by those with a robust personal philosophy, and there was much debate about what sort of personal philosophy would be the most durable when dealing with the hardships of life. The life of Socrates, as depicted in the *Dialogues of Plato*, is a fine example of the attainment of eudaimonia. It shows how having a good

Close-up of a bas-relief carving of Socrates and several other men, dated 469 - 399 BC. Photo: Mansell/Time & Life Pictures/Getty Images

philosophy is therapeutic and can allow one to successfully cope with psychic distress and physical pain.

Socrates, who lived in Athens from 469 to 399 BC, is considered to be one of the founders of Western philosophy. He referred to himself as the "gadfly" of the gods, primarily because he saw himself as a righteous pest upon men of Athens whose egos were greater than their wisdom.[3p35] Using a method of persistent questioning, Socrates sought to help others gain valuable insight into the nature of the virtues they held so dear, such as love, justice, and piety. When Socrates was pronounced the wisest man in Athens by the famous Oracle of Delphi, he was surprised but remained humble. He wondered how he could be the wisest man when, in fact, he knew nothing. He concluded that he was only the wisest man *because* he knew that he knew nothing.[3p28]

Socrates wondered what justice, piety, and love mean

Socrates was an active citizen and a hero of many wars, but was persecuted as a threat to the state. He was considered to have set a bad example by inspiring many young men to question the dogmatic beliefs of their leaders. At his trial, Socrates incensed his persecutors by using their logic against them as he refuted all charges. The citizens of Athens found him guilty and demanded that he pay a fine. Socrates responded that they should be the ones giving him money for being a model citizen.[3p40] His belief in the soundness of his actions would not let him budge, and he was sentenced to death.

Surely, such unfairness would lead most people to feel sadness and resentment. Socrates, however, reasoned that as a citizen of Athens, he was to blame for his own fate—if he disagreed with the laws of Athens, he could have fought harder to correct their injustices or left for another state. When his friend Crito offered to help him escape prison, he calmly refused, explaining that such an act would be hypocritical. He had followed the laws when he had found them favorable; he was now obligated to die by them.[3p54] Socrates spent his final moments of life not in self-pity, but in deep discussion on the nature of the soul and the afterlife, seeking a deeper understanding of life's meaning. At the last moment, he drank hemlock with no fear and died with little suffering.

Socrates died still unsure of what exactly the concepts of justice, piety, and love meant, and more than two thousand years later philosophers still argue about the meanings of these ideas. Socrates believed that the eternal truths he sought could be discovered after his death. His personal philosophy was closely tied into his attainment of eudaimonia. He went to his death gracefully, still following the same guiding principle he had lived his life by: "The unexamined life is not worth living."[3p41]

Several other schools of philosophy sought to explain the secret to eudaimonia. In the ancient Greek world, two rival schools, Epicureanism and Stoicism, sprang up with the same goal: providing a life philosophy through which anyone could attain eudaimonia. Epicurus believed philosophy "has no value unless it helps men to attain happiness."[4p21] Happiness was measured in terms of pleasure, and pleasure was defined as "freedom from pain in the body and from disturbance in the mind."[5p65] The Epicurean considered correct choices those that did not lead to painful states in the future. Stoicism, on the other hand, explained unhappiness as a state in which hopes and desires are undermined. Since we cannot control fate, we must control our desires, and since we will lose everything we have at some point in the future, we should not become attached to anything.

While these competing philosophies claimed to lead their followers to eudaimonia, they both overlook important aspects of reality. Epicureanism prescribes avoiding pain, but sometimes pain is unavoidable. When faced with a debilitating

disease and painful therapy, a true Epicurean would opt to go out in a blaze of hedonism rather than to endure the pain of fighting illness, ignoring the fact that a life racked with pain can still be worth living. Stoicism advises us to be temperate and dispassionate, but this can bring about apathy. Because life often involves attaching ourselves to others and suffering when we lose them, the Stoic misses the valuable lessons and profound knowledge that can be gained only through attachment and loss.

Physicians must understand and alleviate suffering

Medicine is most often concerned with the treatment of physical rather than spiritual illness. How can a concept as abstract as eudaimonia be the concern of a field as scientific and pragmatic as twenty-first-century medicine?

An assembly of physicians, public health experts, and social scientists in Prague in 1994 enumerated four goals for physicians:

- The prevention of disease and injury, and the promotion and maintenance of health
- The relief of pain and suffering caused by illness
- The cure of those with illness, and the care of those who cannot be cured
- The avoidance of premature death and the pursuit of a peaceful death.[5]

If physicians are to bring about eudaimonia in our patients, we must begin by recognizing and treating their suffering—both physical and mental. What can be done to understand all the different types of suffering and to alleviate it?

Soren Kierkegaard, the father of existentialism, believed that there is no such thing as existence without risk, and that existence at its very core must be experienced as anguish or dread by every sensitive soul.[6] The ancient Greeks agreed that the use of good reason was the key to relieving suffering, although they disagreed about what good reason might entail. Kierkegaard abandoned this framework by denying rational thought its place at the top of all human faculties.

It is fitting that Kierkegaard's favorite philosopher was Socrates. Both were critics of the dogmatism that pervaded their respective societies, and both used irony to convey their messages and to force the student to second guess what he thought he knew. Socrates claimed that he knew nothing, but his didactic methods humbled all those who claimed to possess great wisdom. Kierkegaard took his scrutiny of widely held beliefs into a subjective realm by communicating his message indirectly, through writing in someone else's voice and occasionally through outright satire. He was fond of confusing readers by speaking as several different characters, each with a very different point of view. By depicting their personal biases and leading his characters to eventual fear and unhappiness, Kierkegaard showed how *not* to think. Socrates used his didactic approach to help others reach objective truths that were universal. In contrast, Kierkegaard proclaimed that "truth is subjectivity," and that no objective truths can exist independent of our personal experiences.[6p34]

By and about Andrew Radu

I am a 2009 graduate of Jefferson Medical College, currently a student at the University of Pennsylvania's master's program in Bioethics. I was a member of the University of Pennsylvania Fencing Team from 2000 to 2004 and was a 2004 NCAA All-American in the sport, as well as the MVP of the 2003 Ivy League Championship team. I have remained involved with the team as a volunteer assistant coach for the past five years and I was thrilled when the Penn Men's Fencing team finished undefeated in their 2009 campaign. My professional interests include clinical neuroethics and psychosomatic medicine. My hobbies include philosophy, boxing, and listening to bands like the Velvet Underground, the Clash, and Spoon.

Only existence is tangible

As a general term, *existentialism* is used to describe the writings of a number of nineteenth- and twentieth-century philosophers who took human beings and the conditions of their existence as the starting point for all philosophical speculation. In an existentialist worldview, true knowledge is always abstract. Only existence is tangible. For example, we consider as objective truth facts like *force equals mass times acceleration*, and *Caesar crossed the Rubicon in 49 BC*. However, if either of these is untrue our experience living today would probably not be affected.[6p35] Existential truths are concerned with the tenuousness and the uncertainty of life, and existentialists feel that the over-utilization of rational thought is an impediment towards gaining knowledge. This is because the reliance on objective facts removes one's focus from the visceral experience of living, where all true discoveries are made. To illustrate this, Kierkegaard proclaims in his masterwork, *Either/Or*: "If you reach the point that is the moment of decision, throw this book down!"[6p46]

Twentieth-century existentialist Jean-Paul Sartre described Kierkegaard's writings: "This non-conceptual work is an invitation to understand myself as the source of all concepts."[6p29] Kierkegaard's key contribution to Western philosophy was the idea that a work of speculative thought does not stand on its own as dispassionate wisdom, but is always experienced by a reader with unique faculties in a distinct setting. Existentialism seeks to show that people are free to construct their own life narratives in a rapidly changing world that can be apathetic to their needs and desires.

Existentialism applied

How does existentialism help us to understand the doctor-patient relationship? Existentialism is both universal in its scope, and user-specific in its application. We all share the basic problems of human existence. Since each of us characterizes this existence in his or her own terms, no single method can be applied. While the technical aspect of practicing medicine requires that physicians be objective and impersonal, the humanistic aspect requires subjectivity and the extremely personal. This problem was illuminated by Francis Peabody, MD, in his landmark 1927 paper *The Care of the Patient*. Dr. Peabody explained that a physician must be cognizant of each patient's life situation—whether he is rich or poor, happily married or divorced—and must treat the patient according to the patient's own beliefs and goals.[8p814] Existentialism informs Dr. Peabody's humanistic approach to medicine, and a basic understanding of existentialism can give doctors a starting point for understanding their patients. While advanced medical training leads doctors to characterize the human body in terms of pathology of discrete organ systems, illness should be understood as something that occurs in the life of a *whole person*. As Viktor Frankl, the founder of existential psychiatry explains:

Søren Kierkegaard in later years
Woodcut by H. P. Hansen

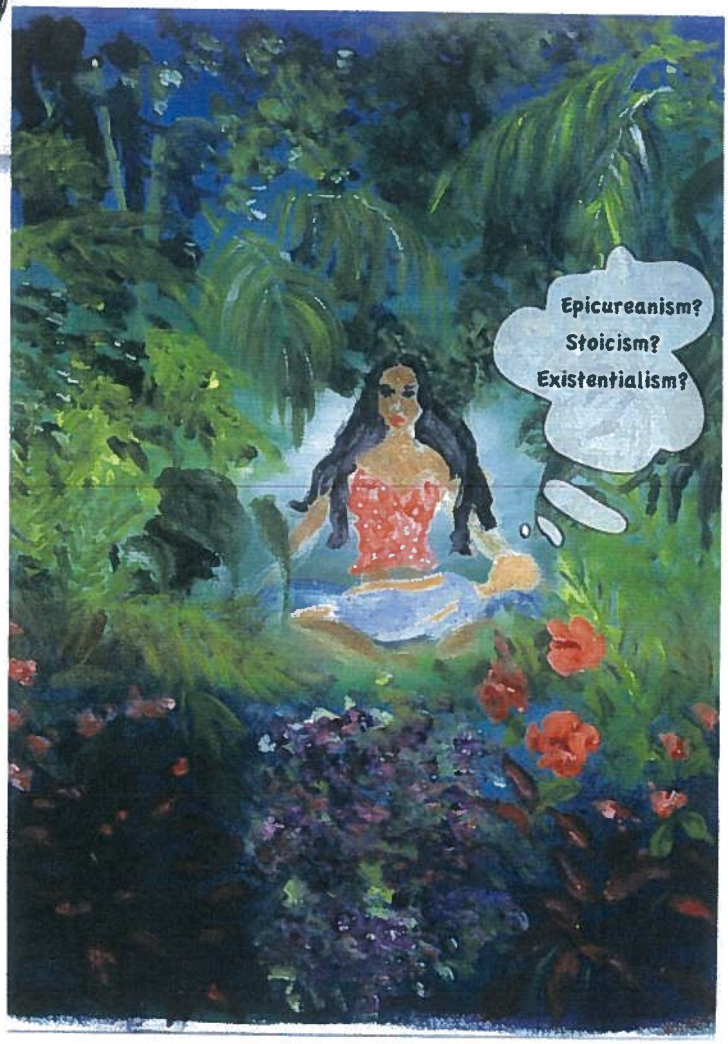
Soren Kierkegard in later years. Woodcut by H. P. Hansen. Undated. © Bettmann/CORBIS

> A doctor, however, who would still interpret his role mainly as that of a technician would confess that he sees in his patient nothing more than a machine, instead of seeing the human being behind the disease.
>
> A human being is not one thing among others; *things* determine each other, but *man* is ultimately self-determining. What he becomes—within the limits of endowment and environment—he has made out of himself.[8pp133–34]

Tragic optimism—say "yes" to life in face of suffering

Frankl's important insight is that a patient's existence cannot be reduced to a diagnosis—it encompasses much more than the technical, medical aspects of the illness. Even though being diagnosed with metastatic cancer and being given three months to live seems a very dire circumstance, existential philosophy sees great freedom in any situation. Even in the face of imminent death, we have the ability to reevaluate life. A crucial concept held by many existentialist philosophers is that of *heroic living*. All humans have the ultimate freedom to live boldly in the face of tragedy. Living with this concept makes attaining a goal of eudaimonia less important than simply striving to do so. Patients with terminal cancer can stop thinking about the futures they will miss, and can begin to appreciate the life they have been given a chance to live. Frankl approached such situations with a belief in "tragic optimism." Even in the worst predicaments, everyone has powerful emotional faculties and the ability to devise a meaningful narrative. The concept of tragic optimism proposes that in a life that can be circumscribed by pain, guilt, and death, one should say "yes to life in spite of everything."[8p137]

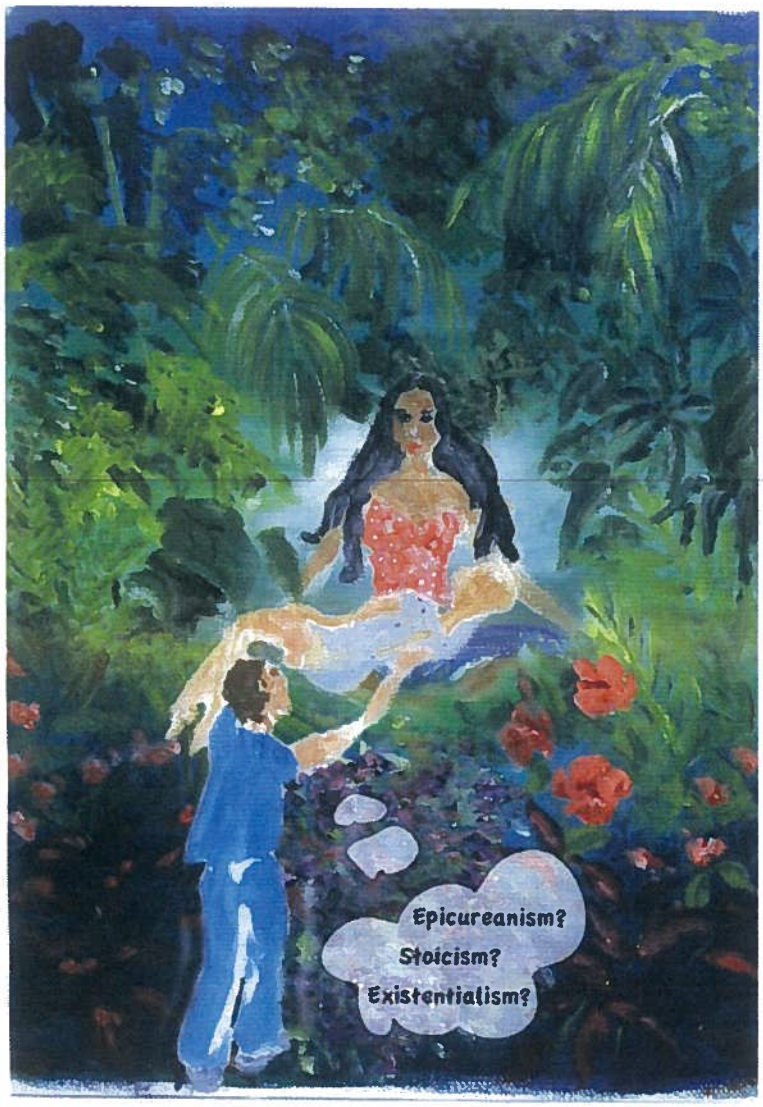
Existentialism is often viewed as bleak, yet the emphasis on hope and heroic living makes it a useful philosphy for patients in difficult situations. The onset of



new debilitating illness causes significant loss of hope in many patients, and those living with physical pain and disability often complain that they did not ever imagine that they would end up in such a predicament. They are understandably distressed at their loss of control, and they are fearful of a future of pain and progressive helplessness. As Eric Cassell explains:

> Every person has a perceived future. Events that one expects to come to pass vary from expectations for one's children, to a belief in one's creative ability. Intense unhappiness results from a loss of that future—the future of the individual person, of children, and of other loved ones. It is in this dimension of existence that hope dwells. Hope is a necessary trait of the successful life.[2pp42-43]

Existentialism posits the ultimate source of hope to be the flexibility of the self. A universal human trait observed by both doctors and existentialists is the capacity for transcendence.



Frankl asserts that "even the helpless victim of a hopeless situation, facing a fate he cannot change, may rise above himself, may grow beyond himself, and by so doing change himself."[8p146] For Frankl and other existentialists, the potential for transcendence resides within each and every human, as a concealed but intrinsic faculty.

The physician must be objective, ignoring personal bias and prejudice

It is important that all physicians take into account the patient's personal narrative as a tool for facilitating therapeutic change. As we try to understand our patients, we rely on our own subjective experiences. Our biases about the patient's age, gender, sexual preference, or history of substance abuse, can interfere with the therapeutic relationship. Physicians, for example, sometimes focus on a patient's faulty decision-making or perceived moral vices to rationalize the occurrence of disease. We do this because, as Eric Cassell states: "It is more tolerable for a terrible thing to happen because of something one has done . . . than that it be simply a stroke of fate; a random, chance event."[9p45] When we explain to patients the findings of biological disease, we are telling them a new story that may be far removed from their own chosen narrative. We must therefore convey the findings and implications of treatment with great consideration towards the patient's hopes, fears, aspirations, and expectations.

A physician's main focus is necessarily on diagnosis and treatment of major, life-threatening illness, and we tend to spend less time managing those with non-life threatening illnesses. A patient's subjective distress may not be adequately addressed because it is considered secondary to treatment of the disease. However, much patient suffering stems from a perceived loss of control and a lack of understanding about what is happening. Providing patients with comprehensible information about their conditions is critical to preventing anxiety and mental suffering.[9p242] ER doctors, for example, see many patients with Acute Panic Disorder complaining of symptoms of chest pain, sweats, and palpitations. If the EKG and laboratory findings are normal, a physician will discharge a patient only somewhat aware of his or her psychiatric condition. That patient may later return or present elsewhere with the same complaints. Even though a negative cardiac enzyme panel is reassuring, a physician's work is not done until patients are properly educated and set up with appropriate follow-up care.

A patient's illness is modulated by the social and emotional aspects of life, and physicians can gain key insights for diagnosis and treatment by listening to the patient. During my Internal Medicine rotation, I followed a patient with recurrent viral meningitis who had been readmitted to my service after being discharged from the hospital three days earlier. During his first visit, the patient was delirious and febrile. A diagnostic lumbar puncture revealed evidence of central nervous

The Village Surgeon painted by David Ryckaert III (1612 - 1661)
Photo credit Bildarchiv Preussischer kulturbesitz/Art Resource, NY. Gemaeldegalerie, Staatliche Museen, Berlin Germany

system infection, for which he was successfully treated. When he presented to the ER the second time, he seemed much different; he was lucid and in no apparent distress, but was very anxious and insisted that he needed to be hospitalized for headaches and extreme physical weakness. He agreed to a second lumbar puncture, which revealed an increased white blood cell count, likely due to his prior episode of meningitis. We were obliged to admit him for treatment. Although his blood work returned to normal over the next several days, he was very agitated and asked for sedatives around the clock. A psychiatric consult was eventually ordered. The psychiatrist told me that during their discussion, the patient admitted that he had been kicked out of his home by his wife and that he was not allowed to see his children. He was extremely upset and had not been eating or sleeping before returning to the ER.

The suffering experienced by this patient was not caused by any discrete etiology, and the residents following him were incensed. The junior resident confronted him about faking his illness, and he was promptly discharged from care. Nevertheless, I do not think there was any conscious attempt to mislead us. Unlike his physicians, the patient did not differentiate between the medically legitimate headache and weakness caused by meningitis and the "illegitimate" headache and weakness brought on by poor personal habits during a period of turmoil and uncertainty. While patients integrate their emotional and physical suffering into a unified experience of illness, physicians often treat somatic disease, while overlooking emotional suffering. As Eric Cassell explains:

> as long as the mind-body dichotomy is accepted, suffering is either subjective and thus not truly "real"—not within medicine's domain—or identified exclusively with bodily pain. Not only is the identification of suffering with bodily pain misleading and distorting, for it depersonalizes the sick patient, but it is itself a source of suffering.[9p34]

Physicians should make every effort to treat their patients' suffering holistically. A holistic approach has been at the heart of traditional Chinese medicine for the last two millennia. Although Chinese doctors historically lacked the sophisticated diagnostic tools and knowledge of anatomy Western doctors possessed, they have been extremely successful at relieving patient suffering. This is because Chinese medicine has always been concerned with treating the whole person—mind, body, and spirit—and it demands that its practitioners individualize their approach for each patient.[10]

As a final example, Viktor Frankl's Meaning-Centered School of Psychotherapy (Logotherapy) strives to apply existential insights to the practice of medicine. An Austrian Jew, Frankl was a young physician in 1942 when he was deported to the Theresienstadt concentration camp. There, he was separated from his wife and parents, who were killed in the gas chambers. Later, as a prisoner at the Auschwitz concentration camp, Frankl had to endure life in the most degrading of circumstances. He was forced to fight over scraps of food like an animal and sleep beside the bodies of dead prisoners. Yet, even when there seemed to be little hope for the future, little reason for him to stay alive, the day-by-day struggle provided its own reason. For Frankl, refusing to die was an act of heroic, defiant insurgence. As he explains in his book, *Man's Search for Meaning*, "meaning is available in spite of—nay, even through—suffering."[8p147] This is an important message that is worth communicating to any patient struggling with illness.

Existentialism liberates us to create ourselves

Much of what we are was determined at conception and birth. We are born into a family, a cultural background, a socio-economic status, with a genetic makeup that predisposes us to certain afflictions. Existentialism liberates us by showing us that we are still free to create ourselves as we go along, even when faced with suffering and death.

Strict empiricism in medicine has its limits, and physicians must strive towards a more nuanced understanding of the interaction between the physiological and psychosocial factors that modify our patient's experience of illness. We must remain mindful of our patients' unique world-views and of the great toll of coping with illness. Fear of dying is significant for many patients, and we must address their concerns honestly and with great tact. I am not suggesting that doctors communicate any existential insights to patients directly. We should try to communicate these deeper sentiments indirectly, through our actions and our empathy. In an existentialist framework, the physicians are not priests, and they cannot miraculously unlock the secret to patients' eudaimonia. Physicians are simply human beings with a special set of therapeutic tools and a deep compassion for the patients they treat.

Acknowledgement

I would like to thank Ms. Michelle Harel and Mr. Fenton McCarthy for their kind assistance during the editorial process.

References

1. Aristotle. The Nicomachean Ethics. London: Penguin Books; 2004.

2. Nussbaum MC. Therapy of Desire. Theory and Practice in Hellenistic Ethics. Princeton: Princeton University Press; 1994.

3. Plato. Five Dialogues. Indianapolis: Hackett Publishing; 1981.

4. Long A.A. Hellenistic Philosophy: Stoics, Epicureans, Sceptics. New York: Charles Scribner's Sons; 1974.

5. Hanson MJ, Callahan D, editors. The Goals of Medicine: The Forgotten Issue in Health Care Reform. Washington (DC): Georgetown University Press; 1999: ix–xi.

6. Palmer D. Kierkegaard for Beginners. London: Writers and Readers; 1996.

7. Peabody FW. The care of the patient. JAMA 1927; 88: 877–82.

8. Frankl VE. Man's Search for Meaning. Boston: Beacon Press; 2006.

9. Cassell EJ. The Nature of Suffering and the Goals of Medicine. New York: Oxford University Press; 1991.

10. The body in balance: Chinese historian diagnoses the yin and yang of health and illness. Penn Arts Sci; Summer 2002.

The author's address is:

12 Ascot Ridge

Great Neck, New York 11021

E-mail: aradu@mail.med.upenn.edu

Netsuke of doctor and patient, Japanese, late 19th century.

Photo credit SSPL/Science Museum/Art Resource, NY. Science Museum, London, Great Britain.

THE
PHAROS
OF ALPHA OMEGA ALPHA HONOR MEDICAL SOCIETY

SPRING 2010

ΑΩΑ 1902

Ἄξιος ὠφελεῖν τοὺς ἀλγοῦντας
"Be Worthy to Serve the Suffering"

Manuscripts being prepared for The Pharos should be typed double-spaced, submitted in triplicate, and conform to the format outlined in the manuscript submission guidelines appearing on our website: www.alphaomegaalpha.org. They are also available from The Pharos office. Editorial material should be sent to Edward D. Harris, Jr., MD, Editor, The Pharos, 525 Middlefield Road, Suite 130, Menlo Park, California 94025.

Requests for reprints of individual articles should be forwarded directly to the authors.

The Pharos of Alpha Omega Alpha Honor Medical Society (ISSN 0031-7179) is published quarterly by Alpha Omega Alpha Honor Medical Society, 525 Middlefield Road, Suite 130, Menlo Park, California 94025, and printed by The Ovid Bell Press, Inc., Fulton, Missouri 65251. Periodicals postage paid at the post office at Menlo Park, California, and at additional mailing offices.

Circulation information: The Pharos is sent to all dues-paying members of Alpha Omega Alpha at no additional cost. All correspondence relating to circulation should be directed to Ms. Mara Celebi, Webmaster, 525 Middlefield Road, Suite 130, Menlo Park, California 94025. E-mail: m.celebi@alphaomegaalpha.org.

POSTMASTER: Change service requested: Alpha Omega Alpha Honor Medical Society, Post Office Box 2147, Menlo Park, CA 94026.

Administrative Office

Edward D. Harris, Jr., MD
Executive Secretary
Menlo Park, California

525 Middlefield Road, Suite 130
Menlo Park, California 94025
Telephone: (650) 329-0291
Fax: (650) 329-1618
E-mail: postmaster@alphaomegaalpha.org