

BOOK REVIEW

Jeffrey Long, M.D.
Federal Way, Washington

The Reintegration of Science and Spirituality: Subtle Matter, “Dark Matter,” and the Science of Correspondence, by Deno Kazanis. Gainesville, FL: InstaBook, 2001, 137 pp., \$14.95, pb. (Second edition published 2002 by Styra Publications, Tampa, FL.)

The Reintegration of Science and Spirituality: Subtle Matter, “Dark Matter,” and the Science of Correspondence is written by Deno Kazanis. Kazanis has a fascinating background. He received his master’s degree in physics, and his doctoral degree in biophysics. In addition to his academic training, he has studied Tibetan Buddhism, Taoism and Waidankung, an intense form of quigong. With such a background, it is not surprising that Kazanis presents fascinating insights regarding the integration of his scientific and spiritual training.

I review this book from the perspective of a scientist, physician, and near-death experience (NDE) researcher. My perception is that Kazanis writes from a perspective significantly different from my own, heavily influenced predominantly by his study of Tibetan Buddhism and related teachings, and secondarily by his scientific knowledge of physics.

As part of his effort to integrate science and spirituality, Kazanis discusses the recent discovery of *dark matter*, one of the most mysterious discoveries of astrophysics in modern times (Rubin, 1998). As a necessary brief introduction to dark matter, astronomers have observed the outermost suns of spiral galaxies are revolving around the center of the galaxy more rapidly than can be accounted for by gravitational effects of observable mass. This, and other observations, led to the determination that approximately 80 to 90 percent of the gravitational force of galaxies is coming from matter that cannot be directly seen or detected by any

Jeffrey Long, M.D., is a physician in the private practice of radiation oncology. Reprint requests should be addressed to Dr. Long at P.O. Box 23367, Federal Way, WA 98093; e-mail: nderf@nderf.org.

known method. This dark matter may be either a form of conventional matter in a highly compressed and cool form, such as the remnant of a collapsed star; or a form of unknown atomic or subatomic particles; or both. These unknown particles might be substantially different from known matter. Current scientific understanding favors the hypothesis of unknown particles accounting for most dark matter.

This book's major theme is an exploration of the fascinating possibility that this dark matter is the link to a variety of unexplained observations, including NDEs. Kazanis does an excellent job presenting the concept of dark matter, as well as its possible link to such unexplained observations, in a manner that is both informative and easy to read. While some understanding of Eastern religion and science would be helpful to the reader, such background is by no means necessary to understand the material presented.

The *subtle matter* referred to in the book title is from Eastern mystical teachings regarding the unseen part of the universe that is at least partly understandable to those practicing certain Eastern religions. The *science of correspondence* referred to in the book title is "a functional metaphorical/analogical relationship between two logically unrelated objects or events. . . . This has to be experienced and cannot be intellectually grasped" (p. 86). The *science of correspondence* is a method of reasoning by analogy or metaphor. Clearly this is a difficult concept that is adequately explained in the book.

We start to see the difference between the author's and my own perspective of science and spirituality in the first sentence of the Preface, where Kazanis states: "Years ago as I was practicing Tibetan meditations which involved visualization of internal subtle structures of the human body (such as channels and chakras), I began to realize that there must be a physical basis for these structures" (p. iv).

Lacking any personal or professional background suggesting the existence of chakras, I asked myself what was known about any physical correlate of chakras, and whether chakras were accepted among conventional health scientists as real. I performed a literature search in The National Library of Medicine (NLM), an enormous searchable database of allied health science literature from all around the world, and in a variety of languages. Directly entering the term *chakra*, and searching NLM revealed only two articles that had the term *chakra* in the title (both Dutch journal articles from 1979), suggesting, consistent with my medical perspective, that the physical or physiological correlate of chakras is unknown to conventional health scientists. I then searched my database of 240 NDEs submitted to my web site

(www.nderf.org) for the term *chakra* and did not find the term. I then queried my NDE co-investigator, Jody Long, who is knowledgeable of, and personally believes in, the reality of chakras. Long had recently reviewed the aforementioned 240 NDE accounts, and could not recall any account describing awareness during any NDE of anything suggesting chakras.

The reader can quickly see the differences between the author's and my own belief systems. I do not claim either of our belief systems is superior to the other, but simply point out how differing belief systems make a consensus regarding the integration of science and spirituality difficult. This important concept is not discussed in the book.

Kazanis discusses a number of unexplained and controversial observations including astrology, herbalogy, and alchemy, and concludes: "Although science is unable to account for such events at this time, there is no reason for doubting that they can be accounted for, providing we expand our knowledge to include subtle bodies, subtle matter and subtle energy, which is, in essence, what science today calls 'dark matter'" (p. 118). This conclusion is difficult to accept given our very primitive understanding of dark matter. Basically, all that is known about dark matter is that it has gravity and does not interact with the known electromagnetic spectrum to allow it to be visualized. A conclusion linking dark matter to other mysterious phenomena seems very premature.

This brings up another concern. Relating dark matter to the realm of existence of a variety of phenomena (including NDEs) is an intriguing hypothesis, but I believe most readers will accept it is only a hypothesis. We are a long way from proving the validity, or lack thereof, of this hypothesis. One would expect a book about the integration of science and spirituality to be filled with such statement qualifiers as "possible," "perhaps," and "hypothesized," but there is a noticeable paucity of such qualifiers throughout the book.

By my perception, Kazanis represents the mystical teachings he is aware of as more reliable than science for the pursuit of spiritual growth. In the first chapter he states: "By turning inward mysticism has concentrated its exploration of the universe on those concepts which are of value to spiritual growth" (p. 20). Science is never similarly acknowledged as being of value for spiritual growth. At no point in the book did I encounter the recognition that the mystical teachings Kazanis discusses may need to undergo revision in the future as new understandings are developed. Yet Kazanis criticizes science for periodically, throughout history, representing its understandings as absolute and complete truth, only to be humbled by the next generation of scientific

discovery significantly changing accepted scientific understandings. Such criticism is certainly legitimate, yet this one-sided criticism of science does not help the difficult process of integrating science and spirituality. A substantial openmindedness and humility by all will be required by all to allow such integration. No single scientific or spiritual discipline has all the answers.

Kazanis, considering dark matter, makes the good point that “time-space relationships are dependent upon the type of matter one is conscious of, or experiencing. Clearly this would make it very difficult to communicate these experiences with only our usual sense of time and space” (p. 33). It is indeed a fascinating hypothesis that dark matter may be the unseen realm where NDEs occur. Such a hypothesis might account for the lack of direct visualization of NDErs in an out-of-body state, the NDErs’ inability to interact physically with earthly objects, and the ineffable nature of many NDEs. Dark matter may have different laws of physics than our observable universe, perhaps at least partially accounting for the consistent observation by NDErs that the experience involved a sense of timelessness, telepathic communication, and nonphysical movement. This book has only a few paragraphs devoted to NDEs, consistent with the intent to discuss briefly how a wide variety of unexplained phenomena may be relate to dark matter.

Kazanis correctly points out that mystics are at least trying to answer some very big and important questions that science cannot. For example, science has very little to offer regarding questions about God, consciousness, and the meaning of life, to name a few. When we know so little about such important questions, it certainly seems reasonable to consider the thousands of years of collective wisdom of other cultures. This book is a good, very brief introduction to such beliefs. The concept of dark matter is intriguing and thus this book is recommended reading for those interested in how science and spirituality might be integrated. It is not the intent of this book to discuss NDEs in any depth, and readers interested in such a focus are advised to consider other books.

Reference

Rubin, V. (1998). Dark matter in the universe. *Scientific American Presents*, 9(1), 106–110.