

Iceland has also been a country where apparitions and poltergeists, if not commonplace, may be talked about openly as if they are to be expected from time to time. The book recounts two instances of poltergeists.

Erlendur Haraldsson, a Professor of Psychology at the University of Iceland, has led the current phase of the study of paranormal phenomena. The authors of this work appropriately dedicate it to him.

The book contains one unfortunate lapse. Every country involved in studying paranormal phenomena has thrown up at least one crank, who has put forward a comprehensive theory of everything. Iceland's contribution to this type was a geologist called Helgi Pjeturss. He published books with weird assertions that discarnate personalities lived on other stars or planets. Not surprisingly, a cult developed around him and his books. The authors of the present work strangely bracket Helgi Pjeturss with Sir Oliver Lodge (p. 214). They thus appear to endorse a myth occasionally encountered in less reliable histories of psychical research. According to this myth, the death of Lodge's son Raymond in the First World War and Lodge's conviction that Raymond had communicated to him through mediums after his death converted him to spiritualism, and he thereafter lost all of his critical faculties. This is quite untrue; Lodge believed in the survival of human personality after death before Raymond's death, and he remained critical of evidence concerning it until his own death.

The book is well produced with adequate references and an index. Some of the notes are extremely long and made me ask whether with more work their content could have been worked into the text for the benefit of the reader.

This book should be in the library of everyone interested in the history of the study of paranormal phenomena. It should also be read by students of what might be called the sociology of religion.

Ian Stevenson
Department of Psychiatric Medicine
University of Virginia School of Medicine
Charlottesville, Virginia 22908

The Physical and Psychological Effects of Meditation by Michael Murphy and Steven Donovan. Sausalito, CA: Institute of Noetic Sciences, 1997. Second Edition, edited with an Introduction by Eugene Taylor, Ph.D. ISBN 0-943951-36-4.

When one first opens *The Physical and Psychological Effects of Meditation*, the first thing likely to be noticed is that almost half of the book is bibliography (129 pages out of 282). This is what differentiates this book from most other books on the subject. Rather than describe what meditation is and how to practice a particular type of meditation, the authors have attempted to com-

pile all the known published research into a “one-stop shop” of meditation research — and they have certainly succeeded in that. Included in this book is a comprehensive review of meditation literature from 1931, when Kovoov Behanon, an Indian graduate student at Yale University, conducted the first empirical study of yoga and meditation, to 1996. This is the second edition of this text, the first having been published in 1988. The second edition has an expanded introduction as well as additional material on the research that has been reported since 1988.

The book is split into five parts: the introduction, an overview of meditative studies, the physiological effects, behavioral effects, and finally, subjective reports.

The introduction, written by Eugene Taylor, is actually one of the better parts of the book. It gives an excellent history of the meditation movement in the U.S. and the U.K., paying special attention to the profound impact that the Theosophical movement and others like it had in the late 1800s. Also shown is how the counter-culture movement in the ‘60s and ‘70s combined with an interest in Asian culture to create a new awareness in meditative disciplines, both Western and Eastern.

Another interesting topic discussed in the Introduction is the current rising influence of psychology in medicine. Taylor describes the conflict between the behavioral/reductionist members of the psychology field and those who back meditation research and how it has impacted the field of medicine in general. The writing in this section was the most readable part of the book, Taylor having taken great lengths to not get bogged down in terminology.

Taylor lists many of the centers for meditation research around the world and outlines their primary research focus. Unfortunately, though, the impression is given that all these centers are of the same caliber and that the reader would be well served undertaking a training program from any of them, something which is somewhat unlikely. The possibility that there might exist meditation centers that are lacking in quality or which engage in profiteering unfortunately is not discussed.

The rest of the book relies mostly on citing the available research and discussing it. The research is presented in varying amounts of detail: from a simple citation to a full abstract or excerpt from the paper being discussed. It was refreshing to see that the authors made an attempt to give a full picture of the research material available, describing in detail those papers that showed meditation either had a deleterious effect or no effect, as well as those which showed improvement in the subjects. Meditation is often billed as all things to all people; to their credit, the authors show the falsity of this belief and the limits of the current scientific research. The authors also do well in presenting research that is often inconclusive, or downright contradictory.

The research cited involved a variety of meditation methods, such as Transcendental Meditation (TM), Zen, yoga, Tibetan, and simple relaxation; but TM is mentioned by far the most often, partly because it is a major funder of

meditation research. The subjects had varying levels of meditation experience, although the exact level of such experience was not always clear, since it was often determined by qualitative statements from their instructor. The authors make no attempt to judge the papers critically; they only report their results. The research cited included both anecdotal accounts as well as studies done with a large number of people.

In discussing the physiological aspects of meditation, the authors cited research into many different variables, such as the variation of heart rates, respiration, skin temperature, skin conductance, alpha and theta waves from EEG readings, alleviation of pain (although this could also fall under the psychological effect umbrella), blood pressure, hormone levels, and muscle tension.

The psychological aspects of meditation dealt with areas such as perceptual and cognitive abilities, anxiety, psychotherapy, and addiction. Research included variables that were both quantitative (such as reaction time and motor skills) and more qualitative (such as empathy and creativity) in nature. Some papers note that meditation is contra-indicated, especially among those who are clinically depressed or schizoid. The authors did an excellent job describing the problems with separating the effects of meditation from those of religious beliefs associated with the various methods of meditation, especially with regard to anxiety reduction. Unfortunately, although much of the research relied on self-rating, the authors only touched on the potential problems associated with that.

The last section of the book was the subjective reporting of meditation experiences. Topics discussed included the perceptions of detachment, bliss, energy and excitement, hallucinations, and dreams. The philosophical underpinnings that were mentioned in connection with these sensations included Western mysticism as well as Eastern. Not surprisingly, the research discussed was of a more qualitative nature.

This book would be a good choice for anyone in the field of meditation research or who is interested in meditation and wants to become acquainted with the tremendous amount of research that has accumulated over the last six decades. Readers are given an overview of the variety of research topics and have the opportunity to examine in greater detail those topics that interest them. No previous knowledge of meditation is required, although some previous exposure would help. The authors do not spend a lot of time describing the different methods of meditation. Rather, they describe the various research topics and methodologies that have been used over the past six decades to study this popular topic. The book is not light reading because the text is similar to the writing style of the papers described.

Although the text in general is very enlightening, a few improvements could be made. The authors describe how simple relaxation and meditation give different results, but do not describe how they are different in practice, except in the most general of terms. Adverse side effects are discussed, but unfortunately not until the end of the book.

Perhaps the most important discussion missing was regarding the different meditation techniques used in the published research. Zen, TM, and yoga (among others) were mentioned, but the authors made little attempt to describe the similarities or differences in these techniques. Granted, this is a book about meditation research, not meditation techniques, but nonetheless it would have been invaluable to include some general information to put the research descriptions in context. Also, the authors do not mention that the efficacy of meditation often may be dependent on the type of meditation being practiced or on the quality of instruction, rather than on the simple practice of meditation itself.

All in all, the book was extremely useful in showing the varied kinds of research in the field of meditation. The reviewer would certainly recommend this book for anyone who wants to know more about the kinds of research being done or who is looking for more information about a particular aspect of meditation research. The bibliography alone would be invaluable in this respect.

Craig Clayton
Shaolin Gung Fu Institute
P. O. Box 85235
Seattle, WA 98145
www.shaolin.com

The Grand Unified Theory of Classical Quantum Mechanics by Dr. Randall L. Mills. Blacklight Power Inc.: 41 Great Valley Parkway, Malvern, PA 19355, USA, September 1996, hardback, 557 pages, ISBN 0-9635171-2-0.

This book of 517 pages divided into 5 sections is an attempt to completely rewrite physics, the revision based largely on the conjectured existence of *fractional quantum states*. The first section of 14 chapters describes Mills' modified quantum mechanics (QM) of few-body systems. The second section entitled "Collective Phenomena" covers statistical mechanics, superconductivity, the Quantum Hall effect, and the Aharonov-Bohm effect. Section III covers GR and nuclear physics. A short Section IV is a more leisurely discussion of the modified QM. Section V presents supporting experimental evidence.

Ordinarily, given the impressive volume of physics covered herein, one would expect this to be the work of a knowledgeable and scientifically trustworthy author. At the outset however, the reader is confronted with an inconsistent deployment of symbols and nomenclature. The following example is typical. Eq. (I.20) is a wave-equation, presumably for a massless scalar particle: