

The Newsletter of THE AMERICAN INSTITUTE OF STRESS

Volume 2 Number 2, 1989

The final segment of our Montreux Conference was devoted to advances in electromedicine, and was chaired by Dr. Bjorn Nordenstrom. This is a rapidly growing area which has important implications. Stress-related neurotransmitters act at specific receptor sites in the brain by electrochemical signals, some of which can apparently be simulated or stimulated by the external application of weak, but precise electromagnetic influences. As will be seen, this has important practical applications in the diagnosis and treatment of stress-related depression, insomnia and anxiety and may be as effective as drug therapy, and much safer because of the absence of unpleasant side effects and addictive potential. Dr. Nordenstrom's novel theory of a third circulatory system in the body, composed of closed electrical circuits, suggests that preservation of electrical homeostasis may be the ultimate criterion for life and the preservation of health. It has also resulted in a most impressive therapy program for cancers resistant to conventional approaches.

Exciting Electromedicine Era Emerging

- **Electromagnetic Lollipop Replaces Tranquilizers and Sleeping Pills!**
- **Depression Quickly Diagnosed and Treated with Electromagnetic Energy!!**
- **Inoperable Cancer Cured with Simple DC Electricity!**

Promises of the future? Not at all. These and other scientifically proven developments were presented at a recent international conference. And they are only the tip of an electromagnetic iceberg which will revolutionize medical diagnosis and treatment. Over the past decade, doctors have been increasingly relying on electricity to speed up the healing process of soft tissue and bone, and in many cases to unite fractures which had been separated for years. Transcutaneous electrical nerve stimulation (TENS) is now

routinely used to manage chronic pain by means of a simple battery operated device transmitting small amounts of electrical energy between two electrodes. Electroacupuncture has been found effective in the treatment of heroin and cocaine addiction, transcranial electrical stimulation is reported to reduce smoking withdrawal symptoms, relieving jet lag and to improve learning and memory. Electroanesthesia is now used in Russia, Europe, and Scandinavia, especially in high risk patients, since it reduces operative and postoperative drug therapy and their complications by 75%.



**Dr. Paul J. Rosch, Dr. Stewart Wolfe,
Dr. Bjorn Nordenstrom**

For further information on the original source of abstracts and other reprints available on similar subjects, please send a self-addressed stamped envelope to: Reprint Division, American Institute of Stress, 124 Park Avenue, Yonkers, NY 10703.

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The Newsletter of
**THE AMERICAN INSTITUTE OF
 STRESS**

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Electroquackery

Most physicians are understandably skeptical about such claims primarily because the lengthy history of electromedicine is essentially a story of repeated fraudulent claims. Twenty-five hundred years ago, the Greeks were using the mild shocks given off by electric eels or torpedo fish to relieve headache and arthritis. Around 1000 A.D. Persian physicians believed magnets and magnetism could relieve gout and spasms and five centuries later, similar claims were made in Europe for dropsy and jaundice. Interest really peaked in the 18th century when Anton Mesmer found that he could apparently heal many patients through the power of his own body's magnetic energy. Subsequently, most of the claims of "mesmerism" were shown to be exaggerated, but some aspects of "animal magnetism" therapy, which was named "hypnotism," were found to have powerful uses. Freud used hypnosis for more than a decade before an embarrassing incident with a patient led him to develop his "talking cure" now known as psychoanalysis.

In the United States, Elisha Perkins, who received his medical degree from Yale, developed the theory that all diseases had magnetic-electric causes. Relief could be readily obtained by rubbing metal objects down the body from the site of any discomfort down the patient's arms or legs to draw disease from the body. These tools, known as "Perkins' tractors" were three-inch-long brass and iron rods, rounded at one end, and pointed at the other and were used by George Washington, his Chief Justice, and many members of Congress. "Tractorism" persisted until veterinarians found it didn't work and physicians discovered that they could get the same results with wooden "Tractors." Using electricity to revive the dead was popularized in 1818 by Mary Shelley's

Frankenstein, which bred numerous reports of electroresuscitation.

A tidal wave of electroquackery swept over the United States early in the present century with electric belts, rings, headbands, brushes, corsets, and even infant teething devices. The Sears catalog proudly offered "the first genuine electric rings in the country. All others are imitation." Electric socks to cure female ailments and fatigue were a big seller and all sorts of fancy large contraptions with impressive dials, lights, and wires began to appear. One of these, the Electronic Reactions of Abrams Machine (ERA) could allegedly not only diagnose and cure cancer, syphilis, impotence and baldness, but could tell from a drop of blood the patient's sex, race, and even religion! By 1923, more than 3,500 of these machines were in medical offices throughout the country, thanks to testimonials from authors Upton Sinclair and Sir Arthur Conan Doyle, a practicing physician himself before he created Sherlock Holmes.

Wilhelm Reich, a protege of Freud, identified sexual energy as the electrical force of orgone and invented the orgone box to collect and transmit it. Over 1,000 such electromedical artifacts have been accumulated in one collection alone.

Is The "Laying On of Hands" Electromagnetic Healing?

Thus, it is no small wonder that the scientific community is turned off by electromedicine. On the other hand, electrical energy has always been linked with life and healing. Death is determined by the absence of evidence of electrical energy in the heart (electrocardiogram) or brain (electroencephalogram). The Bible and other historical works recount how various "holy" or "powerful" individuals healed blindness, leprosy, and other disorders merely by touching the afflicted. Royalty also apparently enjoyed this ability with the power of the "king's touch." While most skeptics would argue that this merely represents another manifestation of the placebo response, the healing properties and medical benefits of "the laying on of hands" has been confirmed in several prestigious medical institutions. "Therapeutic touch" therapy has been found to lower anxiety levels in cardiac patients scheduled for surgery, in neonatal settings to treat babies in distress, or to speed up the growth of premature infants, and even to lower heart rate and blood pressure in comatose patients in Intensive Care Units. Sophisticated technologic advances may now make it possible for us to gain further insight into the mechanisms of such effects and how such personal interactions unleash powerful and otherwise untapped intrinsic forces that promote self healing. From a theoretical viewpoint, it seems quite plausible that

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Is the "Laying On of Hands" Electromagnetic Healing?

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electromagnetic energy could produce profound behavioral and physical responses. All reactions and processes in the body are eventually accomplished via the transmission of weak electrical signals by naturally produced chemicals or externally administered drugs. Morphine relieves pain simply because it has electrochemical effects at receptor sites designed for the body's own natural pain killers, the endorphins. Tranquilizers and sleeping pills presumably also act in a similar fashion. There is every reason to suspect that such activities could be stimulated or simulated by the external application of small amounts of electrical energy. (On a much larger scale, insulin coma therapy for severe depression was replaced by electric shock treatment which provided similar benefits but fewer complications.)

Does the Body Have An Electrical Circulatory System?

Dr. Bjorn Nordenstrom believes that an electrical circulatory system exists in the body, and that there are numerous important closed electrical circuits which are responsible for maintaining health. Certain disorders, including cancer, are characterized by alterations and changes in their electrical characteristics which distinguish them from healthy tissue. These abnormalities provide the basis for identifying and treating malignant growths. At the conference, Dr. Nordenstrom presented several cases of breast and inoperable lung cancer which had been successfully treated using small but precise amounts of direct current applied directly to the tumor by means of a needle electrode inserted under local anesthesia. This technique also permits the delivery of chemotherapeutic agents directly into malignant growths, resulting in concentrations thousands of times higher than can be achieved by conventional methods and without any disturbing side effects such as nausea, vomiting, and hair loss. One example was a 66-year-old woman who had developed a metastatic tumor of the left lung four years after partial removal and radiotherapy of an ovarian cancer. In the interim, she suffered two heart attacks, complicated by an abnormal heart rhythm, and could not undergo surgery. Following electrochemical treatment, the tumor progressively regressed and five years later, only a minimum scar remained. In another 21-year-old woman, two large metastatic tumors had appeared in each lung two years after a hysterectomy for uterine cancer. They were treated one at a time with regression of all four, and the patient remains alive and well ten years later. Dr. Nordenstrom's therapy is based on more than 20 years of research, and his credentials are impeccable. An internationally recognized pioneer in the development of needle biopsy, he recently retired as Chairman

of the Department of Radiology of the Karolinska Institute and head of the selection committee that makes the awards for the Nobel Prize in Medicine and Physiology. Some believe that if corroborated, his findings could be as important as William Harvey's discovery of the circulation of the blood.

"What is now proved was once only imagin'd."

— William Blake

Electrotherapy for Depression, Anxiety, Insomnia and Addiction

The meeting also included a presentation on the use of weak amounts of electrical energy passing between two electrodes placed on either side of the head above the ears, much like Walkman earphones. By measuring changes in the blood levels of certain brain chemicals after 10 or 15 minutes of this harmless procedure, it was possible to diagnose depression with a degree of accuracy equal to or better than conventional biochemical tests. Furthermore, signs and symptoms of depression were significantly improved after only two or three weeks of daily treatment for 15 to 20 minutes. Another report dealt with the effects of the Swiss Symtonic device which exerts its effects by producing a weak electromagnetic field in certain portions of the brain. This is accomplished by means of a lollipop wafer-like electrode attached to a transmitter by a flexible antenna. Placing the electrode against the upper palate for just 15 or 20 minutes daily produces the desired effects. Sophisticated computerized EEG studies confirm a profile of alterations in brain wave activity very much like that seen following administration of valium and that seen during deep meditation. Extensive testing in Europe has confirmed significant antianxiety benefits as well as reduction of blood pressure. Double blind polysomnography studies recently performed at two major sleep centers in the United States, designed to satisfy requirements for FDA approval, corroborate its effectiveness in insomnia. Unlike major tranquilizers and sleeping pills, there are no adverse side effects or dependency problems and it is now actually being used to treat valium addiction. A placebo effect can easily be excluded since absolutely nothing is felt during treatment and efficacy and safety have also been demonstrated in extensive animal studies. The international conference, held in Switzerland, was co-sponsored by The American Institute of Stress, New York Medical College, and the Bionus Clinic in Montreux, where these and other cutting edge advances in medicine are being evaluated.

"Everybody gets so much information all day long that they lose their common sense."

— Gertrude Stein

The Future of Electromedicine

Electromedicine also promises phenomenal diagnostic possibilities. Nuclear magnetic resonance has already provided superior imaging of the brain and other structures (MRI) and is the basis for a new blood test for cancer claimed to be 95% accurate. In Europe, there is great interest in the Vincent device which measures electrical resistance, pH and other electrochemical characteristics of blood, saliva, and urine. Simultaneous evaluation of these parameters provides assistance in diagnosing or predicting the likelihood of certain disorders, and tracking the results of treatment. Biosensor instrumentation, which converts chemical into electrical signals, already provides instant blood sugar determinations within 30 seconds. Advances in this area may permit rapid measurements of brain neurotransmitters like dopamine, which play an important role in Parkinson's disease, depression and substance abuse and should markedly improve diagnosis and therapy. They may also be able to test athletes for drug use, measure vitamin, amino acid and essential

nutrient levels, monitor implants or transplants and even diagnose diseases like Reye's syndrome. Proponents point out that these electrochemical sensors function very much like the ones in our tongue which allow us to instantly identify things that are sweet, sour or bitter. These and other natural biosensors have been exquisitely developed over millions of years of evolution and all we have to do is to learn how to copy them.

Such scientifically based applications of electromagnetic energy, are likely to be undermined by all sorts of worthless claims and devices by entrepreneurs and charlatans. Some of these may provide benefits simply because of the power of the patient's own faith and hope since "part of the cure is the wish to be cured." While many such electromedical promises will deservedly be rejected, let's not throw the baby out with the bath water.

In his *Introduction to a Submolecular Biology*, the Nobel Laureate Albert Szent Gyorgy stated "What drives life is thus a little electric current, kept up by the sunshine. All the complexities of intermediary metabolism are but the lacework around this basic fact. Well over a hundred years ago, Lord Byron wrote of "Striking the electric chain wherewith we are darkly bound," and Walt Whitman exclaimed "I sing the body electric." It appears that they may have been prophets as well as poets.

"Time crumbles things; everything grows under the power of Time and is forgotten through the lapse of Time."
— Aristotle

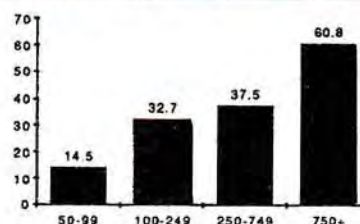
Stress Reducing Effects Of Crying

"Tears, idle tears, I know not what they mean," wrote Tennyson, but modern science may be able to provide some answers. It has previously been reported that tears due to irritants have a different chemical composition than those resulting from emotional distress. One prominent researcher believes that in the latter instance, tears represent a way for the body to increase elimination of stress-produced chemicals. Extremely upset individuals are often urged to "have a good cry and it'll make you feel better." And, crying may be the reason that some people do feel better simply because they are getting rid of harmful by-products. It's well known that women are more apt to cry when emotionally upset than men and that "big boys don't cry." One of the reasons for this may lie in the relationship between emotional crying and the secretion of prolactin, which promotes tear production. Prolactin levels are increased during stress. Around the time of puberty, boys and girls have similar prolactin levels and equally similar crying tendencies. However, adult female prolactin levels are about 60% higher than those seen in males of comparable age which may explain why they tend to cry four times more frequently than men.

The Benefits of Job Stress Management Activities

A recent survey of worksite health promotion activities sponsored by the Public Health Service investigated stress-reduction activities in 1300 companies with 100 or more employees and 400 with 55-99 workers. Satisfactory responses were obtained in over 83%. The three most cited benefits from such activities were improved productivity, (50%), less absenteeism and better employee relations. Over a quarter of the companies interviewed offered some form of stress management training, predominantly in the form of information and the implementation of organizational changes to reduce job stress, usually by supervisory training. More than half reported that the benefits of such training outweighed the costs of such efforts, 29% indicated it was too early to make such a judgment, and 19% thought the costs and benefits were about equal. Less than 3% felt that costs outweighed benefits or had negative effects. Stress management training activities varied directly with the size of the organization as noted below.

Figure 13. Percent of Worksites with Stress Management Activities, by Worksite Size (%)



Stress, Panic Order, And Depression

The relationship between stress, panic disorder, and mitral valve prolapse has been discussed previously in this Newsletter. In many instances, it appears likely that the common denominator is increased secretion of adrenalin and noradrenalin. Both patients with panic disorders or mitral valve prolapse can have disturbing symptoms of chest distress and/or palpitations quite similar to those experienced by patients suffering a heart attack. In one recent study of 74 patients with chest pain who underwent coronary arteriography, close to 40% showed no evidence of significant disease. Psychiatric evaluation revealed that 43% of these met the criteria for panic disorder in contrast to only 7% of those with positive arteriograms.

Most panic attack victims are females between the ages of 20-30, whereas heart attacks tend to occur more often in middle-aged males. Panic attacks are frequently precipitated by stressful events such as divorce or death, or in the case of soldiers, being ordered into combat. In other patients, it seems that a "series of small stresses may cause panic attacks." Anxiety and panic attack disorders appear to be increasing or at least being diagnosed more frequently. A recent news release reported that the anti-anxiety drug, Xanax, has now become the third most commonly prescribed drug, up from sixth place a year ago. The main reason cited was that "anxiety is the most common symptom of 'psychological distress' . . . its diagnosis and treatment have increased, especially for panic disorder, which responds well to Xanax." While such drugs may be helpful in relieving symptoms, many experts have found that anti-depressants are the drug of choice in terms of prevention as well as management. This might indicate that serotonin, as well as adrenalin and noradrenalin could play an important role in the pathogenesis of this disorder.

"Faith may be defined briefly as an illogical belief in the occurrence of the improbable." — H.L. Menckel

Sex, Social Isolation, and Cardiovascular Mortality

A large scale study in eastern Finland in 1979 reported a strong inverse correlation between social support and deaths due to heart attacks. Now, a follow-up prospective study provides further corroborative information. More than 13,000 men and women, aged 39-59, were interviewed in 1972 and 1977. Social support was evaluated by analysis of marital status, frequency of visits with friends and relatives, telephone calls, attendance at clubs, associations, or society meetings. The ratings were compared with data obtained from the National

Death Registry. There was a strong inverse relationship between five-year mortality for all causes, cardiovascular disease, and for ischemic heart disease in men, but not women. This association between social isolation and death rates persisted even after correcting for age, smoking, cholesterol, blood pressure, and other potential influences such as educational level or urban versus rural residence. Males in the lowest fifth of the social rating scale had almost 2-1/2 times more deaths from all causes, (including cardiovascular disease) when compared to those in the highest 20%. There was some suggestion of possible increased risk of mortality in isolated women at the very lowest levels of the scale, but these were not statistically significant. The results of this study confirm prior reports of significantly greater mortality rates in the 12-24 month period following loss of a spouse in widowers but not widows. It has been suggested that this may be due to the fact that women are better able to cope with bereavement and similar types of social stress because of fewer major changes in their lifestyle.

"Take care of the means and the end will take care of itself."

— Mahatma Gandhi

More on Suppression of Anger and Hypertension

Anger and its expression are emerging as the most significant personality predictors of hypertension. Other studies have also suggested that this is the component of Type A behavior that correlates best with the subsequent development of coronary heart disease. A new report evaluated responses to anger in 45 non-medicated subjects, 19 of whom were hypertensive. There was a significant correlation between conscious suppression of anger and elevated systolic and diastolic blood pressure levels. An additional finding was that systolic blood pressures tended to be higher in those whose parents and grandparents also tended to exhibit denial of anger coping styles, even after adjusting for each individual's own expression of anger rating. It was suggested that growing up in a family where anger was chronically suppressed could result in an unconscious tendency to repress anger. Conceivably, this could play some role in the evaluation and interpretation of family hypertension since it suggests that environmental as well as genetic factors can play a significant role and that nurture may be as important as nature.

"There are two classes of disease — bodily and mental. Each arises from the other, and neither exists without the other. Mental disorders arise from physical ones and likewise physical disorders arise from mental ones."

— Mahabharata (Indian sage 2000 B.C. quoted by Eysenck)

Social Support and the Immune System

A variety of reports confirm that depression, stress, and negative emotions are associated with depressed immune system function. One study of individuals caring for spouses, parents, or other relatives with Alzheimer's Disease revealed that they had weaker immune systems, more depression, and infectious illnesses than a matched control group. Now, a further analysis of this sample revealed that the degree of social support they received from family or friends was also an important factor. "Negative or upsetting support" in the form of criticism of how they cared for a relative and lack of appreciation of the sacrifices made by care givers were associated with the poorest immune function in the sample studied.

"It is not true that life is one damn thing after another —it's the same damn thing over and over."

— Edna St. Vincent Millay

Herpes and Hassles

Increasing research in the burgeoning field of psychoneuroimmunology appears to confirm earlier reports that stress and negative emotions can depress immune system responses. It has been suggested that stress contributes to the development of cancer and a variety of infectious diseases by reducing immune defenses which normally protect us from these disorders. Some feel we may have gone overboard in making this assumption since there is little scientific proof to support such a conclusion (see Vol. 1, No. 6). Most evidence is merely anecdotal, such as recurrence of herpes following emotional stress. Such patients provide a good population to examine since the herpes virus is present in an inactive phase in the cell bodies of affected peripheral nerves. Under certain circumstances, it becomes active, reproduces and is transported down conducting fibers to the skin where it results in the formation of typical "cold sores" or blisters.

In one recent study, men with recurrent herpes were evaluated psychologically, as well as from an immunologic viewpoint. The results in married men were then compared to a matched group who were separated or divorced. It was found that the latter group were "anxious, depressed, and more lonely than their married counterparts — and had higher levels of herpesvirus antibodies." These antibodies rise during periods of reactivation of the virus and thus are thought to reflect the inability of a depressed immune system to keep the infection suppressed. Even in the married group, those who reported poorer relationships also demonstrated higher viral antibody levels and lower helper T cell to suppressor

cell ratios — another indication of decreased immune defenses. In another interesting animal experiment, unstressed mice located in cages adjacent to litter mates who were receiving mild electric shocks, showed a decline in killer cell activity if they were close enough to hear and smell their stressed neighbors. It has been suggested that such responses may be mediated by increased sympathetic nervous system activity and the release of adrenalin like hormones. Immunity is also suppressed as part of the "fight or flight response" where such activities predominate.

"The happy life is a torch and it burns up all of one's troubles."

— Chinese Proverb

Stress, Depression and Irritable Bowel Syndrome

Irritable bowel syndrome is a common gastrointestinal complaint characterized by abdominal pain, flatulence, and various disturbances in bowel habit that have no obvious organic basis. There is considerable controversy over the role of stress and emotions in the development or persistence of this functional disorder which often fails to respond to antispasmodics, high fiber diet, tranquilizers, etc. A recent report of 138 patients treated with low doses of an antidepressant disclosed some relief in 90% and more than half became symptom free. In the latter group, more than three out of four continued to have no bowel complaints 18 months later. The treatment was equally effective in patients with recent onset of symptoms as well as those with a much longer history, averaging 12 years duration. The greatest improvement was seen in those patients who complained of diarrhea. The mechanism of action is not clear, although tricyclic antidepressants do affect neurotransmitter activity in the brain and receptor sites for many of these chemical messengers are also present in the gastrointestinal tract.

Expression of Emotions — Nature or Nurture

Several years ago, it was shown that when Americans make facial expressions reflecting certain emotional states, there are accompanying autonomic nervous system changes similar to those experienced during the spontaneous occurrence of those feelings. Thus, seeing the facial expressions that occur during anger or sadness results in an increased heart rate. A similar finding has now been reported in a remote culture in Indonesia. Forty-six males, ages 17-28, were asked to make specific facial expressions to simulate fear, anger, sadness, and disgust. Heart rate, skin temperature, and (Continued on page 7)

Expressions of Emotions Nature of Nurture

speed and depth of breathing were recorded and the results compared with findings in the United States and at least a half dozen other cultures. The subjects were asked to imagine some emotional experience such as anger or disgust and then were asked to describe their feelings at the peak of the image. While the magnitude of physiologic responses differed, the patterns of changes observed were identical. These findings suggest that physiological changes which accompany certain emotions are genetically determined, although cultural influences may modify their degree. The authors conclude that "it isn't just the look on the face, but the feelings inside that people share." The studies also show that cultural differences may determine whether and how people talk about their emotions.

Stress Free Silence Prevents Blood Pressure Rise with Age

It is a well accepted fact that blood pressures tend to rise as we grow older. The rule of thumb used to be that normal systolic blood pressure was 100 plus your age. The explanation for this was that as we grow older, our arteries become more arteriosclerotic or harder, so that the heart has to pump more forcefully to achieve the same effects on blood flow. It has also been demonstrated by Lynch and others that talking elevates the blood pressure. However, whether or not such repeated rises leads to sustained hypertension is debatable. Support that it might come from a recent Italian study of white women in a stress-free environment, characterized by "silence, meditation, and isolation from society." Blood pressure, cholesterol, triglycerides, and sodium secretion were followed for 20 years in 144 white nuns in Umbria and 138 white Umbrian lay women. At the end of this period of time, the only significant difference in the two groups was in their blood pressure levels. Blood pressures rose to a mean of 168/94 in the lay women but remained constant at a mean of 128/81 in the nuns. Both groups were similar in age, race, ethnic background, age at menarche, family history of hypertension, body mass index, use of alcohol, tobacco, coffee and tea. None of the subjects smoked or used oral contraceptives. Thus, the main differences between the two groups was silence and the stress reduction benefits of meditation along with relative freedom from such psychosocial stresses as aggression, conflict, and competition. The lack of changes in other parameters associated with hypertension and aging suggest that the benefits might be due to diminished hardening of the arteries in the nuns. It has been suggested that repeated surges of blood pressure as a consequence of talking along with psychosocial stress may contribute to such arteriosclerotic changes.

Book Reviews

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and description of clairvoyant diagnoses by C. Norman Shealy and the relationship between electrical shielding, ESP, and the earth's magnetic field.

This volume represents an outstanding attempt to integrate and coordinate diverse modalities employed by individuals from various countries and cultures who seem to be interested in the same thing although they may use different terms and different approaches. The A.R.E. Clinic and the Fetzer Foundation are to be congratulated for organizing this unique and groundbreaking attempt to explore common areas of interest, applying scientific methods to evaluate anecdotal reports, and outlining promising areas for future research and treatment. A large number of contributions came from India, but Canada, England, Japan, the United States, and the U.S.S.R. were also represented, providing access to a wide body of world literature to which many of the participants would not otherwise have been exposed. The presentations are well referenced providing a valuable resource for further investigation into specific areas of interest. Perhaps the only criticism one might make is that the Index is not as comprehensive as it could have been and a variety of interesting topics were not referenced. This book is highly recommended for anyone with an interest in electromedicine, natural healing, or environmental electromagnetic energies and their possible interactions. One can only hope it will inspire future meetings to present and monitor developments and progress in these areas with the same level of openmindedness and scientific integrity.

Cross Cultural Anxiety, vol. 3, Spielberger, C.D., and Diaz-Guerrero, R. eds., Hemisphere Publishing Corporation, New York, 1986, 167 pp., \$39.95.

This small volume reports the research findings from eleven different countries using the state-trait anxiety inventory measures developed by Spielberger. Such information is important since it is obvious that psychosocial stresses vary tremendously both qualitatively and quantitatively in different cultures. Thus, life change events such as divorce, or a minor brush with the law, could result in different ratings in the Holmes-Rahe Scale, depending upon whether one lived in rural Japan, Moscow, or Las Vegas. Measurement of state and trait anxiety should not be expected to be as susceptible to such variation and this appears to be supported by the present volume. The first four chapters discuss the effects of stress and anxiety on performance of individuals of varying ages in Brazil, Hungary, India, and Poland. Succeeding chapters deal with the effects of anxiety on athletic performance. Here, the relationship seems analogous to the optimal results achieved by the degree of tension in a violin string. In both instances, peak performance is not likely to be attained if tension or anxiety is too high or too low. The final chapters are of particular interest in that they report the construction and validation of new measures to assess anxiety in Arabic-speaking children and adults, Bengali and Korean students, and adults in rural New Zealand. These studies confirm that anxiety is a universal emotion and are a testimonial to the value and validity of Spielberger's measurement techniques in such widely different population groups and ages.

"Philosophy separated itself from Science when it asked the question: What type of knowledge of the world and life makes man happiest? This happened in the Socratic schools. This point of view—happiness—litigated the artery of scientific investigation—and it does it still today."

— Nietzsche

Book Reviews • Meetings and Items of Interest

Book Reviews

Energy, Medicine Around the World, Srinivasan, T.M. ed., Gabriel Press, Phoenix, 1988, 341 pp. \$17.95.

This book is quite unique both in terms of its content and orientation. The 28 chapters represent a distillate of presentations made during an Energy Medicine Conference held in February 1987 in India. The volume is divided into four sections, the first entitled "Concepts in Energy Medicine." It begins with a superb overview by Elmer Green which attempts to explain and coordinate various definitions and approaches encompassed by the concept of "energy medicine." Many think of this term as reflecting something that can be objectively identified and quantified such as electrostatic, electromagnetic, acoustic, or gravitational forces. For others, however, such energy forces should include the pranic fields of Tibet, Chinese Chi, Japanese Ki, Reich's orgone, and perhaps even the life energy emanations demonstrated by Kirlian photography. Green's pioneering research in biofeedback at the Menninger Clinic has provided him with a unique background in clinical psychophysiology and he suggests that the "missing link" between mind and body is the "energy body." He proposes that it is this entity which is self regulated by yogics and also by those who eventually learn how to utilize biofeedback successfully. Energy medicine, as noted in the title of his presentation, is the interface between medical intervention and psychophysiological self regulation. The second chapter in this section enlarges upon this and provides a valuable history of the evolution of energy medicine, its underpinnings, and knowledge bases, and the extraordinary dimensions of this emerging paradigm.

Section 2 includes some nine chapters dealing with such topics as Energy Medicine, Shamans, Diviners, Native Healers, The Laying On of Hands, etc. Considerable attention is given to the therapeutic effects of acupuncture, and yoga and how they relate to the overall subject of energy medicine. The third section entitled "Emerging Areas in Energy Medicine" consists of some 11 equally interesting chapters beginning with a paper entitled "Biofeedback and Human Potential" by Elmer Green which attempts to integrate various tangential approaches such as ethology, Freudian psychodynamics, psychoneuroanatomy, autogenic training, yoga, and Jungian psychology among others. Papers are devoted to the psychophysiological and clinical effects of electromagnetic and geomagnetic environmental fields, the applications use of pulsed magnetic fields in therapy, and more detailed considerations of the theoretical basis and the therapeutic use of biofeedback. The final section, "Expanding Horizons of Human Consciousness," includes such topics as concepts of consciousness, a thoughtful and objective analysis

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Meetings and Items of Interest

Feb. 28-March 3, Behavioral Medicine, Harvard Medical School, Department of CE, Ritz Carlton, Boston, (617) 732-1525.

March 6-12, American Holistic Medical Association Annual Conference, Seattle. Contact AMHA (206) 322-6842.

March 8-11, American Psychosomatic Society Annual Meeting, San Francisco. Contact American Psychosomatic Society, 6728 Old McClean Village Drive, McClean, VA 22101, (703) 556-8729.

March 14-18, Psychological Trauma; Clinical Psychopharmacology, Harvard Medical School, Department of CE, Aruba, Netherlands Antilles, (617) 732-1525.

March 20-22, The Third Annual Symposium on Psychiatric Medicine, Florida Hospital center for Psychiatry, Orlando, (407) 897-1800.

March 20-24, Introduction to Medical Hypnosis: The induction and utilization of hypnosis in medical practice. University of California, San Diego. La Jolla (34 hours). (619) 259-6790.

March 29-April 1, Society of Behavioral Medicine Annual Meeting, San Francisco. Contact Judith Woodward (615) 974-5164.

March 31-Apr. 2, Guided Imagery for clinicians: An Intensive Training Program, Newport Beach, CA, The Institute for the Advancement of Human Behavior, P.O. Box 7226, Stanford, CA 94309, (415) 851-8411.

April 2-7, Biological Aspects of Non-Psychotic Disorders, World Federation of Biological Psychiatry, Jerusalem, Israel. Write to P.O. Box 983, Jerusalem 91009, Israel.

April 7-9, Helping People Change: Practical concepts and treatment strategies for the health professional, Chicago, The Institute for the Advancement of Human Behavior, P.O. Box 7226, Stanford, CA 94309, (415) 851-8411. **April 7-9,** The Positive Power of Humor and Creativity, Saratoga Springs, NY, (518) 587-8770 or Humor and Creativity Conference, 110 Spring St., Saratoga Springs, NY 12866.

April 7-9, Behavioral Healthcare Tomorrow, Los Angeles Institute for Behavioral Healthcare, P.O. Box 7226, Stanford, CA 94309, (415) 851-8411.

April 10-14, Coping with Stress and Anxiety, Temple University, School of Medicine, Sarasota, Fla. (813) 388-1766.

April 10-14, Introduction to Medical Hypnosis. The induction and utilization of hypnosis in medical practice. University of California, San Diego. La Jolla (34 hours). (619) 259-6790.

April 19-23, Association for the Advancement of Health Education, Boston. Contact Linda Moore (703) 476-3437.

Apr. 24-26, Stress Management Workshop, McMaster University, Hamilton, Ontario, Canada, (416) 525-1940.

April 27-29, Healing the Heart: Advances in the Prevention and Treatment of Coronary Heart Disease, Boston, The National Association for the Clinical Application of Behavioral Medicine, Box 523, Mansfield Center, CT 06520, (203) 456-6000.

April 28-29, Cognitive Behavior Modification: Effective interventions with adults, children and adolescents, Dallas Institute for the Advance of Human Behavior, P.O. Box 7226, Stanford, CA 94309, (415) 851-8411.

May 4-5, Cognitive Behavior Modification: Effective interventions with adults, children and adolescents, Pittsburgh Institute for the Advancement of Human Behavior, P.O. Box 7226, Stanford, CA 94309, (415) 851-8411.

May 4-7, The Power of Laughter and Play: Applications in Health, Business, Education, Relationships and Lifestyle (Steve Allen, Sid Caesar and Steve Allen, Jr., M.D., Rich Caesar, M.C.), Long Beach, CA. The Institute for the Advancement of Human Behavior, P.O. Box 7226, Stanford, CA 94309, (415) 851-8411.

May 5-7, Guided Imagery for Clinicians: An Intensive Training Program, Seattle, WA, Institute for the Advancement of Human Behavior, Seattle, WA. The Institute for the Advancement of Human Behavior, P.O. Box 7226, Stanford, CA 94309, (415) 851-8411.

May 12-13, Cognitive Behavior Modifications: Effective interventions with adults, children and adolescents, Washington, D.C. Institute for the Advancement of Human Behavior, P.O. Box 7226, Stanford, CA 94309, (415) 851-8411.

May 18-19, Cognitive Behavior Modifications: Effective interventions with adults, children and adolescents. Minneapolis, MN, Institute for the Advancement of Human Behavior, P.O. Box 7226, Stanford, CA 94309, (415) 851-8411.

June 1-3, Cognitive Behavior Modifications: Effective interventions with adults, children and adolescents. Pittsburgh, PA, Institute for the Advancement of Human Behavior, P.O. Box 7226, Stanford, CA 94309, (415) 851-8411.

June 4-9, The Power of Art: Humanism, Healing and Health Care. Kual Foundation for Continuing Education, Poipu, Kual. Contact David Elperin, M.D., P.O. Box 3650 Lihue, HI (808) 245-3351.

June 6-8, The Ecology of Work: Improving Productivity and the Quality of Work Life. Cincinnati, OH. Contact Tom Chase, R.R. #2, box 44a, Northwood, NH 03261.

June 26-Sept. 1, Tenth Cape Cod Institute (Daily morning series of lectures on Neuropsychology, The Relaxation Response, Diagnosis and Treatment of Sexual Problems, Children of Divorce, Adolescents in Trouble, Clinical Hypnosis, Marital therapy, etc.) Cape Cod, MA. Contact Dr. Michael Peters, Albert Einstein College of Medicine, 1303 Belfer Bldg., Bronx, NY 10461 (212) 430-2307.

Oct. 23-25, The Ecology of Work: Improving Productivity and the Quality of Work Life. Toronto, Ontario. Contact Tom Chase, R.R. #2, Box 44a, Northwood, NH 03261.

Dec. 3-7, International Round Table on Silent Myocardial Ischemia. For detailed information contact the Congress Secretariat, Tel Aviv; contact Kenes Ltd., P.O. Box 50006, Tel Aviv 61500.

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