Hedonic Deactivation: A New Human Value for an Advanced Society

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ABSTRACT: Comatose subjects experience pleasant unaroused affects such as tranquility, serenity, peacefulness, and relaxation, more frequently and more intensely than they experience aroused feelings or differentiated emotions. I suggest that consciousness is not disconnected by coma, but rather is potentiated following complete blockage of the brain's information channels. The subject's awareness of this detachment from the world triggers hedonic unaroused affects typical of the mystical state. Hedonic deactivation experienced during coma and similar situations remains an aspiration of the subject even following the healing process and even among the general population constitutes a human value towards the evolution of a more spiritual society.

There already exists an extensive literature concerned with the study of certain features of consciousness revealed during states of profound coma or in analogous circumstances, such as clinical death, cardiac arrest, or brain trauma (Grey, 1985; Greyson and Flynn, 1984; Grosso, 1985; Lorimer, 1990; Moody, 1975, 1977; Morse and Perry, 1992; Ring, 1980, 1984, 1992; Roberts and Owen, 1988; Sabom, 1982). The authors of this literature consider these phenomena as a unique syndrome they call near-death experience (NDE); I have called it potentiated phenomena of consciousness (Tiberi, 1994).

Raymond Moody (1975) and Kenneth Ring (1980) have proposed schematic descriptions of the NDE. Ring's (1980) description narrowed down to five the 15 features proposed by Moody: (1) feelings of peace, relaxation, and quietude; (2) the sensation of being outside
one’s body; (3) entering a tunnel; (4) seeing an astonishing light at the end of the tunnel; and (5) living in the light.

The aim of this article is not to set forward a scientific explanation of NDEs or potentiated phenomena of consciousness. Many efforts have been addressed to that end, including those from the standpoint of physiology or neurology (Barnes, 1988; Blacher, 1979; Carr, 1981, 1982; Jansen, 1989; Morse and Perry, 1990; Ring, 1992; Rodin, 1980), pharmacology (Rogo, 1990), psychiatry or psychoanalysis (Laing [Grosso, 1981]; Noyes and Klettí, 1976), psychology (Greyson, 1983; Moody and Perry, 1988; Sabom, 1982), and transcendence (Moody and Perry, 1988; Morse and Perry, 1990; Ring, 1980). More recently an explanation from Susan Blackmore (1993) flatly denied any vestige of the reality of these phenomena, a view derived from the philosophical principle that even external objective reality is unreal, a mere dream created by the mind.

In this article such phenomena will be considered of a mental nature, as qualia of the consciousness, even if it is consciousness in an altered and potentiated state.

Authors concerned with NDEs describe the feelings and emotions interviewees experienced during a profound coma. For example, Ring (1980) discovered that his interviewees reported having gone through a sensation of peace (59 percent), relaxation (29 percent), calmness (20 percent) and joy (20 percent).

Surveys conducted by the Institute of Psychology at the University of Verona have reached the same conclusions. In one of these (Tiberi, 1993), the interviewees were questioned about ten basic emotions and 14 different affects. The more frequently mentioned were quietude/calmness (92 percent), peacefulness (88 percent), relaxation (88 percent), and love (60 percent). More negative feelings are rare, such as anxiety (20 percent) or stress (just one interviewee). Differential emotions are less common than affects: joy (68 percent), interest (48 percent), and fear (20 percent).

During a second survey carried out by the same institute (Tiberi, 1994), the interviewees were again questioned about the same ten differential emotions and 14 affects, with the same results. Sentiments were experienced more frequently and more intensely than the differential emotions. Moreover, these affects were invariable, namely quietude/calmness (89 percent), peacefulness (87 percent), relaxation (87 percent), and love (70 percent). The most frequently described differential emotions were of a positive nature, such as joy (67 percent), surprise (61 percent), and interest (46 percent). Those
of a negative kind were rare: fear (15 percent) and anger (9 percent). On a scale of intensity with a maximum score of four points, this score was attained by 69 percent of the subjects interviewed for quietude; a similar percent attained that score for peacefulness. Relaxation was given the maximum score by 67 percent of subjects, joy by 37 percent; and love by 26 percent. The average scores for intensity paralleled those for frequency: quietude/calmness, 3.40; peacefulness, 3.38; relaxation, 3.35; joy, 2.64; and love, 2.46.

Thus the affects experienced most frequently by Italian interviewees were identical to those felt by Ring's (1980) Americans subjects, and the frequencies of positive differential emotions were lower than those of affects among both Italian and American interviewees.

At this point the question becomes inevitable: why does a person in profound coma experience with greater frequency and intensity affects such as quietude/calmness, peacefulness, and relaxation, yet with less frequency other affects and differential emotions, even if the latter are of a positive nature, like joy and interest? The concise answer is simply this: emotions, even of a positive kind, are more activated than feelings of quietude, peacefulness, and relaxation; even joy has been shown to be activated (Izard, 1977). Even in its mystical form it appears to reach, at a lower level, painful activation, though at higher levels it may also become deactivated.

The English mystic Julian of Norwich (1343-1416) declared she had experienced, during her mystical visions, a joy sufficiently aroused to have broken her heart. Yet there is also an unaroused joy she calls rest or calmness. D. Pezzini (1994) wrote: "Although she knows joy as a violent emotion, it seems that for Julian joy is normally experienced as a simmering fervour, a quiet feeling of calm and harmony" (1994, p. 101; italics added).

A more elaborate answer to the question of why unaroused affects are more common in coma than are aroused affects or differential emotions can be derived from an analysis of affects similar to those of the NDE, but which have been previously examined and hence open to knowledge. Ring (1980) drew a relation between NDEs and mystical states. The mystic in his or her visions experiences a beatitude embracing a profound peacefulness and quietude that are not affects of everyday consciousness, but of the superior consciousness, which has been called by some transcendental, altered, or potentiated.

The physiological aspects of these mystical phenomena are currently an object of study (Margnelli and Gagliardi, 1987), and physi-
ologists have also taken considerable interest in the relaxation, peacefulness, and rest that may be attained through transcendental meditation. These affects, moreover, are no different from those of a mystical source: they are also related to altered or potentiated consciousness. Thus they are not to be identified, for example, with normal relaxation such as psychologists associate with techniques and methods like autogenic training, biofeedback, hypnosis, therapeutic imagination, progressive relaxation, or isometric squeeze relaxation. It follows that there are various states of relaxation and peacefulness, and that in a model incorporating multiple levels of consciousness the entire range of these states might be integrated to formulate a general theory of relaxation. This is precisely what the Polish psychiatrist Andrzej Kokoszka (in press) attempted to do.

**Physiological Deactivation of Emotions and Affects**

Students of emotions and affects, which are nothing more than constructs composed of emotions and cognitive elements (Izard, 1977), have been concerned more with their activation or arousal than with their deactivation or nonarousal.

The concept and theories of arousal are not the same as the concept and theories of the emotion. Elizabeth Duffy defined arousal as “conversion of the source of potential energy into neuronal impulses which either excite another physiological mechanism or inhibit it so that a determined function does not continue to work progressively” (1962, p. 17). Arousal has been laden with the role of motivational intensity, rather than with the directiveness of this state, and is conceived as a form of energy whose availability varies according to the variability of environmental requirements (Revelle and Loftus, 1992). Arousal also changes with the variation in circadian rhythms, with the peak points towards midday and the lowest between 3:00 and 6:00 in the afternoon (Revelle and Loftus, 1992). We are familiar with the role of arousal in memory and learning processes (Christianson and Nilsson, 1984; Heuer and Reisberg, 1992).

haly Csikszentmihalyi's (1991) "flow," or the activation of every differential emotion or every single affect or drive. Emotions and moods are composed of at least three stages: neurophysiological/electrochemical, expressive/motor, and phenomenological/feeling. Few authors claim that emotion is deficient in physiological arousal (Weiner, 1992). Rather theorists identify a multiplicity of arousals in the emotions.

Cognitivist authors highlight the role of autonomic arousal (Mandler, 1975; Schachter and Singer, 1962). Recently Richard Lazarus (1991) downplayed the role of physiological arousal in the emotions only to lionize that of the cognitive systems. Authors of the biosocial theories of the emotions identify emotional arousal with that of the somatic nervous system (Izard, 1977, 1993; Schwartz, Weinberger, and Singer, 1981). Others, such as Karl Pribram (1980), distinguish emotional arousal from emotional activation.

Broadly, the emotions and their derivatives, such as affects and affective/cognitive constructs, are physiologically aroused and activated, whether they are positive or negative, pleasant or unpleasant. Gordon Allport (1924) attributed the hedonic aspect of emotion to arousal, though this would appear more influenced by feeling or the final experience of emotion. Emotional excitement has the effect of enabling the individual organism to cope with the problems of life (Revelle and Loftus, 1992), existential problems that have afflicted humanity from its beginning, and positive problems that make one happy, though in a problematic or imperfect manner.

This function of arousal has induced philosophers such as Epicurus to prefer the renunciation of every emotion, positive or negative. One can even die from joy, while passionate love and sexual ecstasy may become stressful, producing what Hans Selye (1985, p. 26) called "the pleasant stress of fulfillment" or eustress, and spur on to pleasant, less activated emotional levels. Activation seems to constitute a fundamental need for the organism, to the point that should single specific arousals (emotions, drive, motivations, attitudes, prejudices) be lacking, the organism immediately takes measures to fill the void through a process of autoactivation, creating as a surrogate for normal arousal the affect of boredom (Tiberi, 1990).

Basically, every need, cyclical or noncyclical, shares one common denominator: arousal. However, even if the need for activation is basic to an organism, its very satisfaction may result in a disturbance or malaise. Humanity therefore must live with this conflict: on one hand, to need arousal; on the other, to suffer from its satisfaction.
The tendency to avoid this conflict is natural, but sooner or later the individual will come to the realization that it is part of the contingent human condition, from which one can escape only through physical death or mystical death to the world.

Theorists then concerned themselves with the most motivational and adaptive level of activation. Behaviorists and psychoanalysts have highlighted the significance of arousal reduction in relation to behavioral motivation. Other authors, such as D. E. Berlyne (1971) and Zuckerman (1974), have stressed the need to increase arousal (sensation seeking, inspiration, verve, or love).

However, there is broad agreement on the fact that the best level of arousal, that is, the most adaptive and effective in relation to performance, is an intermediate one (Berlyne, 1971; Hebb, 1949; Yerkes and Dodson, 1908; Zuckerman, 1979). Sigmund Freud, in contrast, maintained the value of a lower level; Erich Fromm wrote that an immutable axiom for Freud was "the concept that the psychic apparatus is governed by a tendency to reduce tensions and excitations to a consistently low level . . . or at level zero (the Nirvana principle on which the death instinct is based)" (1992, p. 561).

To take up once more the problem of deactivation it might be useful to adopt the dimensional approach of emotions, the origins of which can be traced from Herbert Spencer (1890), through Wilhelm Wundt (1896), Robert Woodworth (1938), Duffy (1941), Lindsley (1957), and Nico Frijda (1970), to Izard (1971), who created the Dimension Rating Scale, which measures four different dimensions: pleasantness, tension, impulsiveness, and self-security. As far as the arousal-nonarousal dimension is concerned, these theorists concurred unanimously on the concept of arousal, but differed in defining the opposite pole, nonarousal. Some scholars (Sjöberg, Svensson, and Persson, 1978) have maintained that there are no adequate words to describe the continuum up to the pole of low activation. Erland Svensson (1978), who constructed a Mood Adjective Check List (MACL) with six dimensions, two of which relate to activation and tension, called their low pole deactivation and calmness.

Albert Mehrabian (1979) called the same pole nonarousal, and in the adjectival form unaroused; to explain the significance of this he uses the adjectives "relaxed," "depressed," "bored," "aloof," "unconcerned," and "tranquilized." However, these adjectives are not synonymous with deactivation. Boredom, for example, is often taken for an unaroused phenomenon, while in fact it is a highly aroused construct (Tiberi, 1983).
Mehrabian and Linda Stanton-Mohr (1985), in designing the experimental conditions for their experiments, crossed the emotional dimensions of pleasantness, arousal, and dominance and found varying descriptions of deactivation. Crossing high pleasantness with low arousal and low dominance, they obtained the adjectives “unperturbed,” “untroubled,” and “relaxed.” However, crossing high pleasantness with low arousal and low dominance (submissiveness), they obtained the adjectives “consoled,” “sleepy,” “tranquilized,” and “protected.”

To emphasize yet again the disagreement and uncertainty among authors on the concept of deactivation, M. K. Mandal (1986) described fear, anger, and disgust as aroused emotions, while he associated the emotions of sadness, joy, and surprise with nonarousal. These latter emotions should be also considered aroused, even if at different levels. Gary Schwartz, Daniel Weinberger, and Jefferson Singer (1981), for example, have shown that diastolic blood pressure during fear and anger is higher than that during sadness and joy, while diastolic pressure during joy is higher than that during sadness.

Clearly, every emotion has its arousal, even if in various degrees. In other words, unaroused emotions in the strictest sense do not exist; they exist only in a relative sense, namely in a state of potentiated consciousness, at a higher level. Robert Thayer (1989), in the analysis of his Activation-Deactivation Adjective Check List (ADACL) isolated four factors, two of which were the dimensions of Activation-Deactivation, implying an energetic arousal of positive affects, and Tension-Relaxation, implying a tense arousal of negative affects.

Of the adjectives used by the above authors to describe deactivation, some refer to relaxation, quietude, calmness, and absence of any disquiet, which are precisely those deactivated affects reported by NDErs. The dimensional approach to affects leads, therefore, to the activation-deactivation dimension as well. In order to deepen our analysis of this dimension, I will offer a brief outline of some studies dealing with the physiology of relaxation, which has been investigated more thoroughly; I suggest the results obtained in studies of relaxation apply as well to the affects of quietude/tranquility and peacefulness.

I have already referred to the two levels of these affects: the level of normal, everyday consciousness and that of the higher consciousness, otherwise termed altered or potentiated. There has been research on the physiology of both the first and second level. For the
first level, V. Dieter (1986) summed up the physiological features of this type of relaxation as: (1) slowing down of respiratory frequency and regularity of the respiratory cycles, (2) decreased consumption of oxygen, (3) decreased heart rate, (4) increased skin electrical resistance, (5) decreased body muscle tension, (6) dilation of peripheral blood vessels, and (7) enhanced electroencephalographic (EEG) synchrony.

As regards the feeling of relaxation, people who experience this claim they feel serene, tranquil, calm, relaxed, and at their ease. The physiology of normal relaxation corresponds to a reduction in the activation of the organism and its metabolism, which is perceived by the experiencer as a pleasant—even intensely pleasant—feeling, precisely because it is not aroused.

In a review of the physiology of the second level of relaxation, that experienced by potentiated or transcendental consciousness, R. Jevning, Keith Wallace, and Mark Biedebach (1992) wrote that current physiologists have been more concerned with acute states of arousal, such as stress, physical exercise, and attention, than with states of physiological deactivation.

Since there is a lack of physiological studies on reduced arousal of states of consciousness during profound coma and related situations, I will review research concerned with the deactivation of relaxation during transcendental meditation.

Jevning, Wallace, and Biedebach (1992) classified the features of the physiology of potentiated relaxation as follows: (1) respiratory changes, including reduced respiratory rate (up to 50 percent reduction), reduced oxygen consumption (up to 40 percent reduction), periods of respiratory suspension, and reduction in sensitivity to carbon dioxide; (2) circulatory changes, including significant changes in metabolism and in blood circulation, increase in cardiac output, decrease in hepatic and renal blood flow, decrease in vascular resistance, and reduced blood lactate; (3) endocrine changes, including marked decline of adrenocortical activity, of cortisol level, and of adrenocorticotropic hormone level, while the levels of other hormones remain invariable; (4) autonomic changes, including decreased autonomic activation, increased galvanic skin response, decreased spontaneous electrodermal response, decreased heart rate, and enhanced recovery from stressful stimulation; (5) electrophysiologic changes, including high voltage EEG theta burst activity, increased synchrony of frontal alpha activity, decreased beta and delta, and disappearance of tonic electromyographic activity; and (6) sensory-motor changes, including
shortened visual and auditory evoked potential latencies, decreased reaction time to sensory-motor replies, and significant improvement of absolute hearing threshold.

Jevning, Wallace, and Biedebach (1992) drew a comparison between results relative to the deactivation of first-level relaxation obtained during sleep and rest, and those relative to the deactivation of second-level relaxation such as in transcendental meditation, mystical states, and of the potentiated phenomena of consciousness seen in profound coma. They concluded:

Ordinary rest is also accompanied by declines of oxygen consumption and respiratory rate, according to several reports. However effects on muscle metabolism, circulation, renin and AVP secretion, adrenocortical activity, interhemispheric EEG coherence, and subjective experience differ quantitatively and qualitatively between the two behaviors. . . . Also sleep is hypometabolic, but during meditation the effects on secretion of cortisol, prolactin, and AVP, as well as EEG activity differ from those of sleep. (1992, p. 421)

In conclusion, the physiology of transcendental relaxation includes a significant decrease in the entire metabolic activity of the organism. This decreased metabolism is perceived and appraised by the appropriate neuron structures as an emotional stimulus that triggers a very unaroused and somewhat pleasant affect of high relaxation.

The correct sequence leading to transcendental relaxation is therefore the following: the cognitive systems focus attention on the object of meditation, attaining a state of higher consciousness. The organism is now hypometabolic and the conscious perception of these states becomes an emotional stimulus that triggers the feeling of relaxation.

The question is whether this sequence provides useful information about the sequence that leads to the deeper level of relaxation experienced during coma. Of course there will always be a mystery attached to this despite the innumerable scientific efforts to throw light on the problem. However, a traumatic factor such as an accident or heart attack does not do away with consciousness, but rather elicits mechanisms that drastically reduce metabolic activity and consequently activation in all its forms.

The organism, then, is almost isolated from the world. The information channels connecting it to the external and internal world are interrupted through a form of absolute deafferentation. This state much resembles that recounted by the mystics when they speak of having gone through the "dark night of the soul" or the emptiness
of the senses and of the spirit, that is, the removal from everything except the absolute; and in this situation of mystical death they have experienced a sense of the divinity. Probably, already prior to divine contact, which should produce absolute beatitude, simple mystical death or deactivation of the external and internal world should constitute a sufficient stimulus to elicitunaroused pleasant affects of peacefulness, relaxation, and tranquility.

Some near-death researchers assume that their subjects have had a foretaste of death; but these potentiated phenomena of consciousness occur even in circumstances without sickness or accidents, as in out-of-body experiences occurring in perfect health, or in the presence of subjective perception, not corroborated by physicians, on the part of the sick person of being on the verge of death (Owens, Cook, and Stevenson, 1990). It may be argued that such experiencers have had a foretaste of mystical or analogical death, without passing through the arduous path of abstinence and meditation, as a result of their absolute deafferentation and metaphysical isolation from the world.

Again, the conscious perception of hypometabolism and deactivation brought on by the isolation of mystical death might favor the construction of the emotional stimulus that triggers unaroused feelings of happiness. It may be somewhat venturesome to associate this kind of death with the Freudian Nirvana in which all of the organism's tensions and excitements are reduced to zero; but it is undeniable that the immense relaxation following this kind of death appears to be a common effect in all these models.

The near-death literature has highlighted the aftereffects or existential changes undergone by people who have survived this experience, so profound that they would seem to give rise to the passage from Homo sapiens to Homo noeticus, a more spiritual and more evolved being (Dabb and Langevin, 1990; Ring, 1992; White, 1990).

Our subjects from the two above-mentioned studies conducted at the University of Verona also claimed they had undergone these profound changes. In particular, some spoke of having attained a serene state of mind, relaxation, and peacefulness similar to the state of enlightenment that follows the establishment of a permanent transcendental consciousness that no longer turns itself off during the activities of daily life and is independent of transcendental meditation practice (Castillo, 1985).

The frequency of positive emotions following the healing of our subjects was higher than that in the general population (Tiberi, 1994),
while the frequency of negative emotions decreased. However it is well known that emotions, both positive and negative, are aroused and therefore imperfect in contrast to the unaroused affects of the higher consciousness.

Our subjects, however, claimed they had also experienced, after healing, unaroused feelings of serenity and detachment (97 percent), peacefulness (76 percent), love (82 percent), decreased stress (52 percent), and enhanced appreciation of life in general (92 percent). Profound coma seems, therefore, to act as a transformer or reducer of the tensions inherent in the human condition; while healing would appear to function as a transformer in the opposite sense in that it transmits the low voltage of coma affects to aroused feeling experienced before the illness, though without success. Once the fruit of happy deactivation has been tasted, it is thenceforth difficult to do without it.

For this reason many survivors complain, once they have regained everyday consciousness following reanimation, that they would have much preferred to remain in that state of higher consciousness. Since that is not possible, their experience leaves an indelible mark on them. Their real metanoia or conversion will involve reduction of daily activation not to the levels of normal consciousness, but to those levels flowing from the potentiated consciousness of the coma. It seems that the aspiration of returning to the deactivation experienced during the profound coma constitutes for these people their ideal of life, a real human value, at least in the sense of the social sciences; that is, a stable conviction that a particular lifestyle or objective of life is preferable, from the personal or social standpoint, to the opposite lifestyle or the opposite life objective (Rokeach, 1973).

**Hedonic Deactivation as a Human Value**

The problem of human values is so complex and extensively dealt with (Tiberi, 1978) that any further study into deactivation as a human value in contemporary society will have to await future research. For the moment I shall confine myself to setting forward the problem: might the reduction of activation in general, or deactivation, constitute an ideal of life, a lifestyle, one of life's goals?

On first consideration that might seem impossible by virtue of the contradiction that renders it unacceptable: if in fact deactivation were a value, then that would be equivalent to the activation of deactiva-
tion, since values are aroused at least in certain of their phases, for example when they are violated and their motivational propulsion is hindered by violence. The thirst for freedom, justice, and peace may also lead to extreme sacrifice. Values are affect/cognitive constructs; they are ideas aroused by emotions to become ideals. They urge on towards action. Nevertheless, in the phase of their enjoyment, values may become unaroused, if constructed around unaroused affects. To live in peace means living in the tranquility of order.

Contemporary society suffers from an excess of activation or excitement, from an excess of stimulation. To remedy this excess, many in quest of deactivation descend to overly low levels that the organism cannot tolerate. The organism then enters into a kind of stalemate leading to boredom, which in itself is a homeostatic remedy, a type of surrogate for arousal. This is, however, only a temporary and invariably aroused remedy. We are advised to cut down on the excessive excitement rife in political and social life to such a degree that this urgency has become a priority and necessary condition to cope with problems of other kinds. At the risk of being reductionist, I suggest that even the sciences and techniques of psychotherapy, concerned with these psychological excesses, have no other proposal to put forward than the reduction of nervous and psychological activation so as to attain a state of serenity, quietude, and internal peacefulness.

On the scale of needs, the evolution and maturation of society, even of civilization itself, tend towards the need for deactivation, which will seek satisfaction at least at the levels of normal and everyday consciousness, even if the satisfaction at the levels of the higher mystical or transcendental consciousness of Homo noeticus remains for humankind a mere utopian striving for a long time to come. And it might not be a provocation to interpret the deactivated happiness of the profound coma as an unconscious attempt to shirk painful, everyday reality and to find refuge in another reality that is perfectly deactivated, without problems, and hence extremely happy—a happiness resembling that of mystical and physical death, which is the true exodus from the world of vicissitudes towards final peace and requiem.

References


Yerkes, R. M., and Dodson, J. D. (1908). The relation of strength of stimulus to rapidity of habit-formation. Journal of Comparative Neurology and Psychology, 18, 459-482.


Measuring Biomagnetic Effects of NDEs

To the Editor:

P.M.H. Atwater (1994) devoted an entire chapter of her book to the physiological aftereffects of near-death experiences (NDEs) and provided some fascinating information on individuals manifesting electromagnetic effects, including the phenomenon of “healing hands.” Such people (and not all are NDErs) are commonly referred to as “electrical sensitives.”

Atwater defined electrical sensitives as people whose proximity influences electrical or electronic equipment, sometimes causing malfunctions. On their return from “the other side,” sensitives might also suffer newly-acquired allergies, be unable to wear a watch, and/or claim to be able to perform acts of healing by the laying-on of hands.

Kenneth Ring and Christopher J. Rosing (1990) found that NDErs claimed they often caused electrical or electronic equipment (e.g., electric lights, digital watches, computers) to malfunction. They noted that human electrical fields can be measured in the laboratory and wondered whether the electrical fields of NDErs were different from those of normal controls.

I’d like to suggest using existing technology to study and attempt to duplicate those healing powers that sometimes occur as a result of near-death experiences, lengthy meditative practice, or even serious illness. There is a large body of research documenting the healing effects of electromagnetic currents and fields on soft tissues and bone. “Electrotherapy,” despite initial resistance, is now an established branch of medicine and electrotherapeutic equipment is available in many hospitals.

The phenomenon of “healing hands” is an accepted fact of life in many lands, though not our own. Certainly, there will never be a shortage of fraudulent healers, just as there are dishonest men in any field. But if we could positively identify real healers and determine how they do what they do, then we would be able to expose
and prosecute frauds who prey on the hopeful, the vulnerable, and the desperate.

Anthony Borgia (n.d.) described the umbilical cord connecting the soul with the physical body as a “magnetic cord.” He identified a “great spiritual force that is being constantly poured down upon us all from the Father of Heaven Himself. It is, as it were, an eternal magnetic current that is forever charging us with force and power, and giving us life” (p. 119).

George Ritchie wrote about seeing fields of force during his NDE as “a faint luminous glow, almost like an electric field over the surface of their bodies... [that] moved as they moved, like a second skin made out of pale, scarcely visible light” (Ritchie and Sherrill, 1978, p. 59).

Elsewhere (Ritchie, 1991) he described spiritual healing, citing the work of Albert E. Day, Olga and Ambrose Worrall, Ian Stevenson, Bernie Siegel, and Bernard Grad’s research at McGill University using double-blind studies. Robert Becker and Gary Selden (1985) also mentioned Grad’s work with the Hungarian healer Oskar Estebany. Estebany’s ability to reactivate the stomach enzyme trypsin was similar to that of a magnetic field, although no magnetic field could be detected near his hands with the equipment then available.

Ruth Montgomery (1982) recounted the case of a healer who claimed to use a similar kind of energy that he called “revitalizing the magnetic field”: he asserted that by placing his fingers over nerve relay centers in the lower abdomen, a human energizing current is transmitted throughout the body.

The best medical term for this energy might be “biomagnetism,” the first workshop on which was held in 1976. Biomagnetic recordings began in the early 1960s with the first “magnetocardiograph,” a mapping of the magnetic signature of the human heart. In the early 1970s reliable mapping and recording of the magnetic fields generated by the human body became possible with the development of a sensing device of extreme sensitivity, the Superconducting Quantum Interference Device, or SQUID.

There are now many researchers studying biomagnetism, with an emphasis on diagnostic applications. SQUID scans will almost certainly take their place alongside X-rays, magnetic resonance images (MRIs), positron emission tomography (PET) scans, and computerized axial tomography (CAT) scans. There are biomagneticians working in hospital radiology departments and physicists developing informa-
tion and devices at universities all over the world. A specialized organization dedicated to understanding vital energy as a healing force exists, called the International Society for the Study of Subtle Energies and Energy Medicine, located in Golden, Colorado.

Biomagnetism promises more than new diagnostic techniques. There is also the hope of unprecedented (or rediscovered) forms of healing, an expansion of knowledge that could ultimately include electrotherapy as just one small part of an emerging discipline called "bioenergy life sciences."

One of the few popular books on the subject was Becker and Selden's 1985 *The Body Electric*, which contained chapters dealing with the use of miniscule currents and fields to heal and even regenerate animal tissues and bones. For example, Becker and Selden noted that processes susceptible to electromagnetic fields include healing, embryonic growth, and cancer, then added this tantalizing footnote: "Only the magnetic component appears to accelerate healing in any way" (p. 296). When it comes to revealing the weak magnetic fields generated by healers and the human body, the SQUID is just what the doctor ordered; in fact, they suggested that it be used for just this purpose. There is also a description of Kenneth MacLean's experiments during the 1950s and '60s, which reportedly resulted in the healing of some cancers in the lab using steady-state magnetic fields, which led Becker and Selden to ask:

> Why shouldn't some people be able to affect other beings by means of their linked fields? . . . There's reason to believe that gifted healers generate supportive electromagnetic effects, which they convey to their patients or manipulate to change the sufferer's internal currents directly, without limiting themselves to the placebo effect of trust and hope. (p. 269)

A recent Japanese study (Niwar, Izawar, Ishimoto, Jiang, and Kanoh, 1993) reported that human palmar energy, called "kikoh" in Japan, emits electromagnetic radiation in the far infrared region (wavelength 4-14 microns). When tested for effects on human white blood cells, this energy significantly decreased intracellular calcium ion concentration, phagocytosis, and generation of reactive oxygen species in neutrophils, and the blastogenic response of lymphocytes to mitogens. Chemotactic activity by neutrophils was also enhanced by exposure to the palm of a person (a "kikoshi") who heals professionally by the laying on of hands.

A second recent Japanese study (Seto, Kusaka, Nakazato, Huang, Sato, Hisamatsu, and Takeshige, 1992), reported the detection of un-
usually strong biomagnetic fields from the palms of persons selected for their ability to emit energy. Of 37 subjects studied, 3 exhibited strong biomagnetic fields of at least a thousand times greater than the normally detected human biomagnetic field. During these biomagnetic measurements, a corresponding electric current was not detectable; therefore, the extraordinarily large biomagnetic field strength could not have derived from internal body currents alone.

Perhaps the healer absorbs ambient energy and reradiates it in a beneficial, directed form. I hope there is a physician among this Journal's readership who will suggest further studies aimed at the therapeutic use of these energies. Equipment to do such studies is available: I know of at least two multichannel superconducting biomagnetometers currently operating in the United States, at New York University's Center for Neuromagnetism and at the Scripps Clinic in La Jolla, California. I am not aware of any attempt so far to use the SQUID to study healers or NDErs.

Several investigations suggest themselves. What would the magnetograph of an NDEr who enters an "altered state of consciousness" look like? What would the biomagnetometer see around the wrists of an NDEr who can't wear a watch? The SQUID could also be used on healers like the kikoshi, individuals highly skilled in meditative practices, and those who claim to be capable of astral projection. Visionaries, seers, religious adepts, and psychics could be looked at under the "magnetic microscope." If healing turns out to be a real phenomenon, the SQUID provides us with a golden opportunity to establish a database of legitimate healers who could be called on to help those in need.

SQUIDs have also been used on inanimate objects and dead tissue. If such a thing as "residual psychic energy" exists somewhere along the electromagnetic spectrum, we might be able to see it. We might compare a wedding ring of great sentimental value to a new one from a local jewelry store. A love letter compared to a grocery list might provide interesting results. Even objects from "haunted houses" could be tested: a rocking-chair that moves by itself, or a glass that "just shattered."

I am by no means suggesting that we can take a snapshot of the soul. What I am saying is that the technology now exists to detect, analyze, and render visible one facet of our own life-force, the "vital essence" that has fascinated mankind for centuries.
References


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Review of Raising the Dead

To the Editor:

I was terribly disappointed in Mary S. Edwards' (1995) review of Raising the Dead by Robert Selzer (1993). It only served to confirm my own observation that the population, including many near-death researchers, are all too quick to believe every report of a near-death experience (NDE) despite the absence of supportive documentation.

Raising the Dead is Yale University surgeon Selzer's account of how he "died" while suffering from Legionnaire's disease. Like so many other NDEs, his experience included the familiar floating out of the body to observe the death scene. The book reported that he remained in such a state for 10 minutes without vital signs until he came back to life.
The fact is that Selzer never died. He himself admitted that he made the whole thing up: "I just wanted to tell a ripping good story based on my own near-death experience . . . and I needed that single climatic [sic] event" (Huyghe, 1994, p. 103). When Selzer tries to tell people the truth, he often receives an amazing reaction:

Obviously I did not die. . . . But when I tell people the truth, after the fact, they don't want to believe me. It shows how compelling the notion of life after death is to many and how compelling language can be. (Huyghe, 1994, p. 103)

Edwards commented that Selzer "deftly takes us with him" (p. 269) as his recovery progressed, and that he expressed with great wit his "humbling experience of returning to the body" (p. 269). Edwards then wrote that she "was left nearly drunk . . . moving along with Selzer through such a journey" (p. 269). I suggest it is high time the public, especially investigators of NDEs, stop reveling in drunken stupors of emotionalism.

The public's lack of discernment in this area can best be seen in their blanket acceptance of Betty Eadie's bestseller Embraced by the Light (Eadie and Taylor, 1992). Eadie has switched her story several times and has not been altogether honest with the public about her religious agenda. There are even two different versions of her book that contradict each other (Abanes, 1994). It is possible that Eadie, like Selzer, may have captivated some readers with nothing but a tall tale.

Should there not be some degree of skepticism about NDEs, especially those coming from persons like Eadie who refuse to supply any medical records? Are all NDE tales to be believed outright? What about contradictions and inconsistencies in the accounts of persons claiming to have had an NDE? Are these factors to be dismissed in favor of the sheer beauty of a story? If so, then let us all forsake near-death research and simply start a fiction book club. I fear that this is already happening, and Edwards' review of Selzer's book did not do much to alleviate my fears.

References


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