

## Chapter 2 - The Transpersonal Nature of the Physical Body

### INTRODUCTION

**The incredible case of Mr. Wright.** In 1956, a healthy and vibrantly active individual named Mr. Wright developed lymphosarcoma, cancer of the lymph nodes. His condition had deteriorated to such an extent that the tumors in his neck, groin, chest, and abdomen had grown to the size of oranges; his chest had to be emptied of one to two liters of milky fluid every other day. Doctors did not believe that he had much longer to live. Mr. Wright, however, has heard about an upcoming clinical test of a new experimental drug, called Krebiozen, and pleaded with them to include him in the study. Even though Mr. Wright was past the point of saving, the doctors gave in to his persistent requests and entered him into the clinical trials of what was later to prove to be a worthless drug. Of the 12 people in his experimental group, he alone showed brilliant improvement. His tumors “melted like snowballs on a hot stove” and within 10 days, all signs of Mr. Wright’s cancer had vanished. Within two months, however, news reports of the ineffectiveness of Krebiozen started to reach Mr. Wright. His confidence in the drug began to falter, and soon all his symptoms returned. Near death, his physician decided to perform an unorthodox experiment. He informed Mr. Wright that a new, improved, double-strength formula of Krebiozen has been developed and that Mr. Wright had been selected to prove its efficacy. Within days of receiving the *fresh water* placebo, Mr. Wright’s symptoms of cancer again disappeared. Tumors vanished and chest fluid disappeared. Within two months, press announcements declared Krebiozen a worthless drug. Mr. Wright’s faith finally gone, he succumbed to the disease within days (Klopfer, 1957).

**Figure 2-1** presents the original report on Mr. Wright presented by his psychiatrist, Dr. Bruno Klopfer, in his Presidential Address to the Society of Projective Techniques in 1957.

**Figure 2-1.**  
**The Incredible Case of Mr. Wright**

**A glimpse of the body’s healing system.** Mr. Wright’s remarkable experience tells us a great deal about the unity of body and mind, about the body’s transpersonal capacity for transformation, and about how the body is equipped, ideally speaking, to rid itself of any disease. Indeed, as we will see in this chapter, “these powers of the body are biologically quite achievable in practical terms, but only by a complete change of focus and belief” (Roberts, 1979, pp. 330-331).

### **A glimpse of the transpersonal nature of the physical body**

Mr. Wright’s experience also provides us a glimpse of the true transpersonal nature of the physical body. The “transpersonal” nature of the physical body refers to its transformative capacity to extend and expand biological processes beyond their usual physiological parameters to encompass nonphysical aspects of life, mind and consciousness, and even transcend the limitations of time and space under certain circumstances. It refers to the physical body’s potential to direct and use its energy to richly form from itself, from its biological components and inner experience, with a sense of meaning and purpose, a broad range of possibilities for human transformative capacity and extraordinary functioning. To start, let us consider twelve varieties of evidence:

- Placebo response
- Imagery and healing
- Biofeedback
- Hypnosis
- Cultural beliefs and personal attitudes
- Acts of will
- Multiple personality disorder
- Spontaneous remission
- Miraculous cures at Lourdes
- Intercessory prayer
- Charismatic phenomena (stigmata, body incombustibility, blood prodigies, endia, invulnerability to injury, physical materializations, body elongation)
- Birthmarks suggestive of reincarnation.

The implications of this evidence for a solution to the century-old mind-body problem from a transpersonal point of view will be discussed. We will see that mind matters and how matter has a mind of its own. Finally, activities and exercises for tuning into and turning on the transpersonal nature of the physical body for increased energy and health, strength and vitality, comprehension and creativity are described.

**Figure 2-1. The Incredible Case of Mr. Wright**

(Klopfer, 1957, pp. 331-340; see also Rossi, 1986, pp. 4-7)

Mr. Wright had a generalized far advanced malignancy involving the lymphnodes, lymphosarcoma. Eventually the day came when he developed resistance to all known palliative treatments. Also, his increasing anemia precluded any intensive efforts with X-rays or nitrogen mustard, which might otherwise have been attempted. Huge tumor masses the size of oranges were in the neck, axillas, groin, chest, and abdomen. The spleen and liver were enormous. The thoracic duct was obstructed, and between 1 and 2 liters of milky fluid had to be drawn from his chest every other day. He was taking oxygen by mask frequently, and our impression was that he was in a terminal state, untreatable, other than to give sedatives to ease him on his way.

In spite of all this, Mr. Wright was not without hope, even though his doctors most certainly were. The reason for this was that the new drug that he had expected to come along and save the day had already been reported in the newspapers! Its name was "Krebiozen" (subsequently shown to be a useless, inert preparation).

Then he heard in some way that our clinic was to be one of a hundred places chosen by the Medical Association for evaluation of this treatment. We were allotted supplies of the drug sufficient for treating 12 selected cases. Mr. Wright was not considered eligible, since one stipulation was that the patient must not only be beyond the point where standard therapies could benefit, but *also* must have a certain life expectancy of at least three, and preferably six, months. He certainly didn't qualify on the latter point, and to give him a prognosis of more than two weeks seemed to be stretching things.

However, a few days later, the drug arrives, and we began setting up our testing program which, of course, did *not* include Mr. Wright. When he heard we were going to begin treatment with Krebiozen, his enthusiasm knew no bounds, and as much as I tried to dissuade him, he begged so hard for this 'golden opportunity,' that against my better judgment, and against the rules of the Krebiozen committee, I decided I would have to include him. Injections were to be given three times weekly, and I remember he received his first one on a Friday. I didn't see him again until Monday and thought as I came to the hospital he might be moribund or dead by that time, and his supply of the drug could then be transferred to another case.

What a surprise was in store for me! I had left him febrile, gasping for air, completely bedridden. Now, here he was, walking around the ward, chatting happily with the nurses, and spreading his message of good cheer to any who would listen. Immediately I hastened to see the others who had received their first injection at the same time. No change, or change for the worse, was noted. Only in Mr. Wright was there brilliant improvement. The tumor masses had melted like snowballs on a hot stove, and in only these few days, they were half their original size! This is, of course, far more rapid regression than the most radio-sensitive tumor could display under heavy X-ray given every day. And we already knew his tumor was no longer sensitive to irradiation. Also, he had had no other treatment outside of the single useless 'shot.' This phenomenon demanded an explanation, but not only that, it almost insisted that we open our minds to learn, rather than try to explain. So, the injections were given three times weekly as planned, much to the joy of the patient, but much to our bewilderment.

Within 10 days [Mr. Wright] was able to be discharged from his 'death-bed,' practically all signs of his disease having vanished in this short time. Incredible as it sounds, this 'terminal' patient, gasping his last breath through an oxygen mask, was now not only breathing normally, and fully active, he took off in his plane and flew at 12,000 feet with no discomfort.

**Figure 2-1. The Incredible Case of Mr. Wright (continued)**

(Klopfer, 1957, pp. 331-340; see also Rossi, 1986, pp. 4-7)

This unbelievable situation occurred at the beginning of the 'Krebiozen' evaluation, but within two months, conflicting reports began to appear in the news, all of the testing clinics reporting no results. At the same time, the originators of the treatment were still blindly contradicting the discouraging facts that were beginning to emerge.

This disturbed our Mr. Wright considerably as the weeks wore on. Although he had no special training, he was, at times, reasonably logical and scientific in his thinking. He began to lose faith in his last hope which so far had been life-saving and left nothing to be desired. As the reported results became increasingly dismal, his faith waned, and after two months of practically perfect health, he relapsed to his original state, and became very gloomy and miserable.

But here I saw an opportunity to *double-check* the drug and maybe, too, find out how the quacks can accomplish the results that they claim (and many of their claims are well substantiated). Knowing something of my patient's innate optimism by this time, I deliberately took advantage of him. This was for purely scientific reasons, in order to perform the perfect control experiment which could answer all the perplexing questions he had brought up. Furthermore, this scheme could not harm him in any way, I felt sure, and there was nothing I knew anyway that could help him.

When Mr. Wright had all but given up in despair with the recrudescence of his disease, in spite of the 'wonder-drug' which had worked so well at first, I decided to take the chance and play the quack. So deliberately lying, I told him not to believe what he read in the papers, the drug was really most promising after all. 'What then,' he asked, 'was the reason for his relapse?' 'Just because the substance deteriorated on standing,' I replied, 'a new super-refined, double-strength product is due to arrive tomorrow which can more than reproduce the great benefits derived from the original injections.'

This news came as a great revelation to him, and Mr. Wright, as ill as he was, became his optimistic self again, eager to start over. By delaying a couple of days before the 'shipment' arrived, his anticipation of salvation had reached a tremendous pitch. When I announced that the new series of injections was about to begin, he was almost ecstatic, and his faith was very strong.

With much fanfare, and putting on quite an act (which I deemed permissible under the circumstances), I administered the first injection of the doubly potent, *fresh* preparation – consisting of *fresh water* and nothing more. The results of this experiment were quite unbelievable to us at the time, although we must have had some suspicion of the remotely possible outcome to have even attempted it at all.

Recovery from his second near-terminal state was even more dramatic than the first. Tumor masses melted, chest fluid vanished, he became ambulatory, and even went back to flying again. At this time he was certainly the picture of health. The water injections were continued, since they worked such wonders. He then remained symptom-free for over two months. At this time the final AMA announcement appeared in the press – 'nationwide tests show Krebiozen to be a worthless drug in treatment of cancer.'

Within a few days of this report, Mr. Wright was readmitted to the hospital *in extremis*. His faith now gone, his last hope vanished, and he succumbed in less than two days.

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### EVIDENCE OF HUMAN TRANSFORMATIVE CAPACITY

#### The Placebo Response

**“Placebo response” defined.** Mr. Wright’s total faith and belief in the efficacy of a worthless drug cured him of cancer. In the medical literature, Mr. Wright’s experience of healing is regarded as an example of “the placebo response.” A placebo is “any medical procedure that produces an effect in the patient because of its therapeutic intent and not its specific nature, whether chemical or physical” (Lieberman, 1962, p. 761). “The placebo response is so powerful that no drug can be marketed in the United States unless it has been evaluated against a placebo” (Taylor, 2003, p. 314).

**Placebos in the history of medicine.** It was the power of belief that some historians of medicine believe were responsible for the observed effectiveness of patently useless, inactive medical treatments such as ground-up fox lung for tuberculosis, powered deer antlers for impotence, sheep dung for gallstones, goose dung for baldness, turtle blood for blood clots, and downright harmful procedures such as blood letting, vomiting, blistering, freezing, heating, and leeching and yet patients got better (Shapiro, 1959). The history of medicine shows that many such home remedies and medical treatments administered in the early days of medicine were pharmacologically inert yet relieved an amazing range of illnesses, produced few toxic side effects, and significantly altered mood and behavior largely because of the law of belief and the power of the subconscious mind (Shapiro, 1960). Physicians of the time understood that thoughts and beliefs, emotions and feelings, imagery and language had powerful effects and were used regularly to help activate the healing system of the body.

“Placebos can be more powerful than, and reverse the action of, potent active drugs ... The incidence of placebo reactions approaches 100% in some studies. Placebos can have profound effects on organic illnesses, including incurable malignancies .... Placebos can mimic the effects usually thought to be the exclusive property of active drugs” (Shapiro, 1964, p. 74).

**Placebos as good as medicine?** Pharmacologically active drugs such as penicillin, insulin, or morphine can become either less or more effective, depending on the patient’s attitude toward them. For instance, morphine can lose as much as 25% of its effectiveness as a pain killer if patients think they have only received a placebo; placebos can reduce pain by as much as 35% if patients think they have received morphine instead (Beecher, 1959). “Placebos are associated with at least 50% reduction of pain in about one-third of patients suffering from a wide variety of traumatic and postoperative pain. The powerful analgesic morphine produces similar relief in one three-fourths of patients” (Franks & Franks, 1991, p. 136). The remarkable efficacy of placebos is considered so reliable and valid that “the difference between the effectiveness of the drug and the effectiveness of the placebo is considered to be a measure of the drug’s actual effectiveness” (Taylor, 2003, p. 315).

A provocative example of the direct physical effects of placebos on bodily processes appeared in the *World Journal of Surgery* (Fielding et al., 1983) in which 30 percent of the control group – who were expecting an injection of a chemotherapy agent but were given a placebo instead – actually lost all their hair!

**Placebos as good as surgery?** Blair Justice in her 1987 book, *Who Gets Sick*, describes how placebos may be “as good as surgery” (Justice, 1987, p. 278). A classic 1979 study of placebo surgery published in the *New England Journal of Medicine* involving “*litigation of the internal mammary artery*” (a surgical procedure designed to increase circulation of the heart and treat *angina pectoris*, the acute chest and arm pain caused by temporary shortages of oxygen and nourishment to the heart) reported that patients who underwent a fake, placebo surgery (so-called “sham operation” where the patient is wheeled into the operation room, skin incisions are made under anesthesia but no actual operation is performed) experienced *equivalent* self-reported relief from anginal pain, therapeutic need for post-operative nitroglycerine drugs, and tolerance for exercise as measured by electrocardiogram as those patients who underwent the actual surgical procedure. The study “demonstrated that litigation of the internal mammary artery was no better than a skin incision, and that such an incision could lead to a dramatic sustained placebo effect” (Benson & McCallie, 1979, p. 1426).

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**Coronary by pass surgery.** In a double-blind study of *coronary bypass surgery* to treat angina pectoris, it was found that 90% of patients undergoing actual coronary bypass surgery and 60% of patients undergoing placebo surgery experienced equivalent relief of anginal pain, improved quality of life, and increased tolerance for exercise (National Cooperative Study Group, 1976).

**Inner ear surgery.** Blair Justice reports another placebo surgery study conducted in Denmark that involved

“15 patients who underwent a prescribed ‘endolymphatic sac shunt’ for Meniere’s disease, a disorder of the inner ear characterized by deafness, dizziness and a buzzing in the head. Fifteen patients with the same disorder received a placebo operation. A three-year follow-up showed no significant difference between the surgery and placebo groups. About 70 percent in both groups had nearly complete relief of symptoms” (quoted in Justice, 1987, p. 279; Thomsen, Bretlau, Tos, & Johnsen, 1983).

**Effectiveness of surgery not due to surgery alone.**

Because ethics governing the conduct of medical research now requires informed consent of the patient before any medical procedures are performed, sham surgeries such as those described above are no longer considered ethically acceptable to conduct in the United States. What these studies nevertheless show is that the effectiveness of surgical procedures may not be due to the surgery alone, but also to the patient’s belief that it will lead to the relief of symptoms – whether the patients actually undergoes the procedure or not, but simply *believe* that they did.

**Placebo: The healing power of nothing at all.**

**Figure 2-2** identifies the range of medical disorders, psychiatric syndromes, mood and behavior effects, and adverse reactions that have been observed to occur following the administration of a placebo.

**Figure 2-2**

**Placebo: The Power of the Subconscious Mind**

In one study of 15 randomized, double-blind studies involving 1,082 participants, placebos were found to have produced a 35% cure rate of numerous non-life-threatening medical problems, ranging from postoperative pain to angina pectoris discomfort, headache and cold symptoms, nausea and seasickness, which is slightly less than the actual effectiveness of either active pharmacological agents or surgery in relieving such symptoms (Beecher, 1955).

**Importance of set and setting.** The cognitive, environmental, and phenomenological approach has shown that a placebo’s effectiveness depends on a variety of mental, stimulus, and personality variables including: patient characteristics, aspects of the patient-physician relationship, situational factors, characteristics of the placebo itself, the treatment’s reputation, social norms, the patient’s attitude, and the physician’s beliefs and behavior (Frank & Frank, 1991, pp. 132-153; White, Tursky, & Schwartz, 1985). For instance, an active drug’s effectiveness can actually decrease from 77% to 10% of cases if the physician is doubtful over its effectiveness (Feldman, 1956). “The effectiveness of the placebo varies...depending upon how much the patient expects to benefit” (Achterberg, 1985, p. 88).

**No placebo-prone personality.** Most research indicates that contextual properties of the immediate situation seem to predominant in generating a placebo, and therefore *there seems to be no placebo-prone personality* (Lieberman, 1962; Shapiro, 1964), suggesting that most people have the ability to activate their healing system through a placebo response, although

“Some studies have shown that persons with certain personality traits consistently respond more positively to placebos than others. In general, placebo reactors tend to be anxious, can let themselves depend on others for help, and can readily accept others in their socially defined roles. In a study of placebo responders with surgical pain, placebo responders tended to be more dependent, emotionally reactive, and conventional, while the nonreactors were more likely to be isolated and mistrustful” (Frank & Frank (1961/1991, pp. 137-138).

**The subconscious mind is the bridge linking belief and healing.**

A psychodynamic approach to understanding Mr. Wright’s amazing recovery would appeal to the power of his subconscious mind as responsible for the cure. Belief, faith, and expectation activated the power of Mr. Wright’s subconscious mind to trigger his mind-body communication and healing system, enabling him to mobilize the autonomic, endocrine, and immune functions of his body, to initiate a healing response.

**Figure 2-2 Placebo: The Power of the Subconscious Mind**  
 (Hurley, 1991, pp. 28-31; Murphy, 1992, chapter 12; White, Tursky, & Schwartz, 1983)

**Placebo-Induced Relief from Medical Disorders**

- Angina Pectoris, and Essential Hypertension
- Warts
- Asthma
- Pain
- Rheumatoid and Degenerative Arthritis
- Hay fever and Other Allergies
- Coughing
- Migraine Headache
- Diabetes
- Peptic Ulcer
- Seasickness
- Common Cold
- Cancer
- Acne
- Radiation Sickness
- Multiple Sclerosis
- Parkinsonism and Other Organic Brain Disorders
- Obesity
- Urinary Incontinence

**Placebo-Induced Relief from Psychiatric Syndromes**

- Anxiety
- Depression
- Schizophrenia

**Mood and Behavior Influenced By Placebos**

- Pulse Rate
- Observable Calm or Nervousness
- Feelings of Comfort or Euphoria
- Insomnia and other Sleep Difficulties
- Emotional and Perceptual Changes that Mimic Marijuana Drug Experience
- Grip Strength
- Blood Pressure
- Memory

**Adverse Reactions to Placebos**

- Nausea
- Dry Mouth
- Heaviness
- Headache
- Concentration Difficulties
- Drowsiness
- Fatigue
- Unwanted Sleep
- Diarrhea
- Swelling of the Lips
- Weakness
- Rash
- Decreased or Increased Libido
- Bloating of the Lower Abdomen
- Dizziness
- Lumbar Pain
- Anorexia
- Blurred Vision
- Palpitations

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“Over the years, medical science has identified the primary systems of the human body – circulatory system, digestive system, endocrine system, autonomic nervous system, parasympathetic nervous system, and the immune system. But two other systems that are central in the proper functioning of a human being need to be emphasized: the healing system and the belief system. The two work together. The healing system is the way the body mobilizes all its resources to combat disease. The belief system is often the activator of the healing system (Cousins, 1981, p. 205).

**The inner conscious body.** The placebo response provides a glimpse at the power of the subconscious mind to precisely awaken, harness, and directs the complicated, and infinitely varied physiological processes needed to reduce a headache, overcome an allergy, reduce a fever, soothe a peptic ulcer, relieve psychiatric symptoms, or deploy various antibodies needed for the cure of cancer. The physical body’s amazingly precise response to placebos points to its richly creative, purposeful, and *highly* discriminating ability to transform energy into matter. The placebo response suggests that the body which so creatively directs and uses its energy to initiate, organize and manipulate inner physiological processes to respond to meaning and intent is far from unconscious, but only appears unconscious to an ego structure whose ignorance and limited focus make it simply not conscious enough to be able to contain the vast knowledge that belongs to the inner conscious body from which the outer ego derives much of its own energy. From one transpersonal perspective, “The conscious ego rises indeed out of ‘the unconscious,’ but the unconscious being the creator of the ego, is necessarily far more conscious than its offspring” (Butts, 2002, p. 435).

**Subconscious mind does not distinguish physical fact from imagined reality** Transpersonal psychologist, Jeanne Achterberg in her 1985 book *Imagery and Healing* suggests that, as far as the subconscious mind is concerned, there is no important difference between an *imagined* reality (placebo effect) and a purely physical one (active medication). For instance,

“People’s expectations about drinking can be more potent predictors of behavior than the pharmacological impact of alcohol (Abrams & Wilson, 1983). If they think they are drinking alcohol and expect to get drunk, they will in fact get drunk even if they drink a placebo” (Radin, 1997, p. 148).

“Our bodies learn to respond to sounds of footsteps in the dark; they even learn to respond to thoughts of footsteps in the dark, as if there are really there. All the biochemical changes that happen during the real-life exposure can happen just as well during the fantasy. Thoughts of a passionate encounter can cause the same juices to flow as the encounter itself. A whiff of fresh lavender can bring forth a flood of memories of a loving grandmother’s cozy room, along with feelings of relaxation and security” (Achterberg, 1985, p. 165).

Jeanne Achterberg makes a good point: Our conscious beliefs and expectations, images and emotions, are reflected in the body, whether those cognitions, imagery, and feelings have a basis in physical reality or are simply imagined. The body always has the conscious mind to contend with; the unconscious accepts those orders given to it by the conscious mind. There is one large point, however, often overlooked.

“The unconscious is *not* a sponge, indiscriminately accepting material regardless of the considerations of your conscious self. All beliefs or suggestions are first sifted through your conscious mind, and *only those that you accept* are then permitted their penetration into the other areas of the self” (Roberts, 1974, pp. 355-356).

It is the power of belief that is being demonstrated, not the inability of the subconscious mind to be highly discriminating, or an indication of its irrationality, ignorance, or helplessness under such conditions.

### **Imagination as the bridge linking mind and body.**

Humans are a species that specialize in the use of imagination. We can anticipate and conceive of a vast number of probable events and not just actual ones, manipulating possible outcomes in our imagination with each one remaining probable until we activate it. As a consequence, humans inevitably show a wider variety and range of biological and behavioral reactions than nonhuman animals do to the same stimuli. The applied use of the imagination is one of the most distinguishing marks of our species. Achterberg considers the imagination to be the bridge linking thought and bodily processes (Achterberg, 1985, chap. 4). “The placebo does not have imaginary effects though it operates through the imagination” (Cousins, 1981, p. 217).

### Imagery and the Body

**Imagery as therapy: The Simonton's "whole person" approach to cancer treatment.** Radiation oncologist O. Carl Simonton and psychotherapist Stephanie Matthews-Simonton, leaders in the holistic health movement, developed a successful therapeutic approach to overcoming cancer that combined mind-body imagery and creative visualization with traditional medical treatment and psychological and behavioral management, emphasizing relaxation techniques and physical exercise, working with the emotions, pain management and goal setting. Their total therapeutic approach and numerous case studies demonstrating its effectiveness are described in their 1978 book, *Getting Well Again: A Step-By-Step, Self-Help Guide to Overcoming Cancer for Patients and Their Families* (Simonton, Simonton, & Creighton, 1978).

**Positive belief and expectancy affects the immune system.** In a clinical study of the effectiveness of the Simonton & Simonton whole-person approach to cancer treatment, 159 patients with incurable cancer were taught how to use relaxation and mind-body imagery to alter the course of their disease. The Simonton's whole-person approach also emphasizes *the role of belief and positive expectancy* in influencing bodily processes that determine health and illness.

Given the importance that a patient's view of his or her prospects for recovery has for the process of getting well again, the Simontons' program works on change a patient's expectancy based on what are termed "negative-outcome beliefs" (e.g., cancer is synonymous with death, strikes from without with no hope of controlling it, treatments are always drastic and ineffective and has many side effects) toward an expectancy based on "positive-outcome beliefs" (e.g., cancer is a disease that may or may not be fatal, the body has its own innate healing abilities, treatment can be an important ally in support of the body's defenses). "No individual is helpless... in the face of negative beliefs. He or she can learn to make choices once again, and thus to *choose*, positive concepts, so that they become as natural as negative beliefs once did" (Roberts, 1997, p. 20)

The Simontons found that the treatment group had a survival time of more than twice that of patients who received medical treatment alone following diagnosis (24.4 months versus 12 months) and concluded that "an active and positive participation can influence the onset of the disease, the outcome of treatment, and quality of life" (Simonton, Simonton, & Creighton, 1978, p. 12). This study shows that mental imagery appears to have a direct impact on the immune system.

### **Imagery as therapy: Bernie Siegel's Exceptional Cancer Patients (ECaP) therapy program.**

Cancer surgeon Bernie Siegel's 1986 book *Love, Medicine, and Miracles: Lessons Learned About Self-Healing from a Surgeon's Experience with Exceptional Patients* describes the characteristics of individuals with colon, liver, lung, brain, breast, or bone cancer whose live expectancy was one year or less yet who nevertheless survived five years or more from time of diagnosis (called "exceptional" cancer patients). These patients who outlived their expectancy were described as creative, open to new ideas, flexible, argumentative, openly expressive of emotion, having a "fighting spirit," strong egos with high feelings of self-efficacy and self-worth, and who did not "accept" or "adjust" to their cancer easily or well (Siegel, 1986). Using the relaxation and guided imagery approach developed by the Simontons and Achterberg, Siegel likewise "found consistent differences between the images of patients who would do well compared to those who would do poorly" (Siegel, 1986, p. 157).

**The question of "false hope."** Of course, patients who have worked hard using the Simontons' whole-person approach and who participated in Siegel's ECaP program still died. Many of these individuals, however, significantly outlived their prognosis and lived a more rewarding life than they would have otherwise as a result of participating in the Simontons' psychological approach to cancer treatment. One concern expressed by people about the Simonton mind-body approach, and other therapy approaches such as Bernie Siegel's Exceptional Cancer Patients (ECaP) that encourages patients to participate in and influence their own recovery, is that it gives people "false hope" about their recovery from cancer. The Simonton's, however, assert that having a positive way of viewing life gives not "false" hope but *reasonable* hope.

"The question of 'false hope' suggests that people should never have hoped if there is a good chance there will be disappointed. Such a belief provides no basis for living a full life or for dealing with a threat of life... People who are concerned about "false hope" often see themselves as realists, people who see life "as it really is." But a view of life that does not include hope is not realism but pessimism. This stance may avoid disappointment, but it does so by actively shaping negative outcomes. Hope is an important element in survival for the cancer patient. Indeed, hopelessness and helplessness are frequent precursors of cancer" (Simonton et al., 1978, pp. 87-88).



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**The power to make ourselves well.** Exceptional patients have taught Dr. Siegel that nearly all diseases to some degree originate in the conscious beliefs of the patient that subsequently generate the emotional reactions and influence the unconscious processes that seem to play such a significant role in the creation of physical health or illness (a relationship he calls “soma-significant”). Bernie Siegel finds this an empowering discovery. Most people like to think that they are responsible for their health, but not responsible for their illnesses. Or if they see themselves as making themselves sick, then they believe that only get well again by going to a doctor. If we have the power to make ourselves sick through our beliefs and expectations, emotions and imagery, then we also have the power to make ourselves well through those same processes.

“Illness... [is] not thrust upon you, and this is your freedom. Since you [do] this to your body, you can stop doing it. Try to become more alert to your own stream of consciousness. Notice when you are giving yourself negative suggestions....Negative habits of thought, and *withheld* feelings and emotions [get] you into [illness] and the same backwards, can get you out” (Butts, 2002, pp. 405, 403).

**Mind and disease: Jeanne Achterberg’s imagery approach to healing.** Jeanne Achterberg, associate professor and director of research and rehabilitation at the University of Texas Health Science Center and former president of the Association for Transpersonal Psychology, has researched and practiced mind-body imagery in a variety of health care settings for over 25 years to successfully treat not only cancer, but also chronic pain, rheumatoid arthritis, diabetes, severe orthopedic trauma, burn injury, alcoholism, and stress-related disorders such as migraine headaches and hypertension (Achterberg & Lawlis, 1980; 1984). Her 1985 book *Imagery in Healing* describes research demonstrating that mind-body imagery can be used to control very specific physiological processes, including the electrical activity of neurons and even the number of particular types of white blood cells in the body (e.g., neutrophils or T-cells) that combat cancer.

**Imagery and the neutrophil.** In one study conducted at Michigan State University, eight male and eight female healthy medical and psychology students who believed they would be able to use their conscious mind to affect their immune system were selected for six training sessions in relaxation and creative visualization of the shape, form and function on neutrophils as “garbage collectors that picked up trash and dumped it outside the body” (Achterberg, 1985, p.200). Total white blood cell count for all 16 participants was subsequently shown to *decrease* significantly from pretest to posttest sessions ( $p<.0001$ ) with practically the entire drop in blood cell count attributable to a decrease in circulating neutrophils alone; the count for all other white blood cells remained the same. In a follow-up study, in which a different group of participants were asked to imagine the neutrophils remaining in the body, the average number of cells staying the blood stream compared (58%) showed a significant *increase* compared to the first experimental group (28%). “Imagery appears to have a direct impact on the function of the neutrophils, at least for those who believe it will” (Achterberg, 1985, p. 201).

**Imagery predicts status of disease.** The connection between mental imagery and disease state is so strong that imagery assessment (e.g., “Describe how your cancer cells look in your mind’s eye” and “How do you imagine your white blood cells fight disease?”) has successfully been used to predict who will die of cancer and who will go into remission. In a landmark collaborative study conducted by Carl Simonton and his wife Stephanie Matthews-Simonton and by Jeanne Achterberg and her husband Frank Lawlis (Achterberg, 1985, pp. 183-192), 126 patients having Stage IV metastatic cancer completed a battery of psychological tests, including imagery assessment of patient’s drawings of themselves, their cancer, treatment, and immune system, scored along 14 dimensions on a 1-5 scale. Of all the factors founded to be predictive of future events (including the psychological factors of denial, locus of control, and negative self-investment), imagery was most predictive of future health status. Remarkably, “the total [imagery] scores were found to predict with 100% certainty who would have either died or shown evidence of significant deterioration during the two-month period, and with 93% certainty who would be in remission...What the patients’ imaginations predicted were the dramatic changes that would occur within a short period of time” (Achterberg, 1985, p. 189).

**Imagery as mental practice: Imagery and athletic performance.** Mental practice “refers to the symbolic rehearsal of a physical activity in the absence of any gross muscular movements” (Richardson, 1967, p. 95). Numerous studies show that imagery in the form of mental rehearsal, especially when used in combination with other cognitive-behavioral techniques (e.g., relaxation, meditation, biofeedback, hypnosis, cognitive restructuring, self-monitoring, and goal-setting) enhances sports performance and helps athletes overcome self-doubts, pain, and fear during anxiety-provoking competitive situations (Druckman & Bjork, 1991, chapter 11).

In one experiment involving elite athletes, 48 Olympic rifle shooters were randomly assigned to four groups: Group I (relaxation-imagery) listened to a relaxation/imagery audiotape twice a day for 6 weeks; Group II (meditation-imagery) listened to a meditation/imagery audiotape twice a day for 6 weeks; Group III (combined relaxation/imagery/meditation) listened to the meditation/imagery audiotape for 3 weeks and then the relaxation/imagery audiotape for 3 weeks; Group IV (control) listened to a classical music audiotape. Although Group I (relaxation-imagery) did not differ from the control group, Group II and Group III differed significantly from controls ( $p < .05$ ) in reductions in self-reported anxiety and better shooting performance (Druckman & Bjork, 1991, p. 208). Similar physical effects of mental rehearsal with athletes have been well documented (Garfield, 1984).

**Imagery and neuromuscular movements.** Charles Garfield in his 1984 book *Peak Performance: Mental Training Techniques of the World's Greatest Athletes* interviewed hundreds of world-class athletes and reports on the sophisticated imagery techniques elite athletes use to improve their performance. Visual imagery, auditory imagery, and kinesthetic imagery are used in combination along with physical practice to enhance athletic performance.

For instance, Marilyn King, two-time Olympic team member as a Pentathlete, suffered a severe back injury that confined her to bed nine months before the 1980 Olympic trials. During her four months in bed, she did nothing but watch films of the best performances of athletes in the pentathlon, while employing visual, auditory, and kinesthetic visualization to see, hear, and feel herself going through the same events. From her point of view, it was this use of imagery that helped her achieve second place at the Olympic trials despite her lack of physical preparation. Research studies back up her claim: “For conditions under which physical practice may be expensive, time consuming, fatiguing, or injurious, combined mental and physical practice or mental practice alone is clearly more effective than no practice at all” (Druckman & Bjork, 1991, p. 205). Garfield suggests that mental images appear to initiate subliminal neuromuscular impulses which provide a subtle muscular workout that improves coordination and peak performance.

**Role of images in setting and overcoming physical limitations.** The role of the imagination in setting and overcoming limitations is dramatically illustrated in the case of Roger Bannister who broke the four-minute mile barrier.

“Roger Bannister who, in the face of absolute ‘irrefutable’ scientific evidence that the human being could not run faster than four minutes in a mile, had an image of being able to break the four minute mile. This proved to have been a *psychological*, not a physiological, block because within the same year that Roger Bannister broke the four minute mile barrier, [John Landy did it five weeks later], 52 other men broke the record too” (McNeill, 1991, p. 33).

## Chapter 2 - The Transpersonal Nature of the Physical Body

### **Physical changes corresponding to a mental image.**

Ian Stevenson, Professor of Psychiatry at the University of Virginia (1997) recounts evocative clinical cases of physical changes in the body corresponding to mental images accompanying the revival of intense memories of earlier trauma.

“In the 1950’s, several examples of this phenomenon were published. In one of the most impressive, the subject relived (with the help of ether) an occasion when, being in a hospital and requiring restraint, his arms had been tied with w rope. When the patient relived this experience, deep curved depressions appeared on his lower arms. They were exactly like those that occur on the flesh of a person tied with ropes.... In another published case a patient relieved a severe caning inflicted on her by her sadistic father. He had used a carved cane, and the unusual pattern of the carving on the cane appeared on the skin of the patient as she relived being beaten with this cane” (p. 17).

“Images... are the language the body understands, particularly with regards to the autonomic or involuntary nervous system” (Achterberg, 1985, p. 99).

### **Biofeedback**

**Instrumented biofeedback.** The most thoroughly documented and studied behavioral technique designed to teach the imagination how to communicate to the autonomic or involuntary nervous system via imagery is biofeedback (Green & Green, 1977; Murphy, 1992, chap. 16; Olton & Noonberg, 1980). In traditional forms of instrumented biofeedback, information obtained from electronic instruments (e.g., temperature sensors attached to the skin, electrodes attached to the back of the scalp, monitors of the electrical conductance of the skin) is presented to subjects in the form of an auditory tone that varies in pitch or a visual display that varies in brightness as the biological process being monitored increases or decreases in functioning.

### **Autonomic or involuntary processes brought under conscious control.**

Biofeedback research has demonstrated that a broad range of internal biological processes once believed to be *beyond voluntary control* (e.g. heart rate, blood flow, muscle firing, skin temperature brain wave activity) can in fact be brought under conscious control by human and nonhuman animals once the level and minute changes in the ongoing activity of these processes is known and provided as “feedback” to the organism (Miller et al., 1974). **Figure 2-3** identifies the variety of bodily functions that can be modulated by feedback.

### **Figure 2-3**

### **Mind Modulation of Autonomic Nervous System Functioning via Feedback**

### **Any biological process is potentially controllable via biofeedback.**

According to clinical psychologist Alyce Green and biopsychologist Elmer Green (1977), pioneer biofeedback researchers at the Menninger Foundation, “It may be possible to bring under some degree of voluntary control any physiological process that can continuously be monitored, amplified, and displayed” (pp. 42-42). “To date, there is evidence that every physical function that can be measured in this way can be controlled and regulated to some extent” (Achterberg, 1985, p. 99).

### **Noninstrumented biofeedback possible.**

Michael Murphy, in his 1992 book, *Future of the Body: Explorations into the Further Evolution of Human Nature* notes that once a particular biofeedback for producing specific physiological states is thoroughly learned and mastered, then mechanical devices can be dispensed with.

Numerous studies have shown that self-regulation skills acquired through biofeedback training can be dispensed with. By 1990, for example, more than 2,000 subjects at the Menninger Foundation had learned to modify various bodily processes through a combination of feedback, Autogenic Training, and visualization so that their new self-control did not depend upon machines” (p. 350).

**Figure 2-3 Mind Modulation of Autonomic Nervous Functioning via Biofeedback**

(Miller et al., 1974; Murphy, 1992, chap. 16).

- **Voluntary Control of Muscle Activity**
  - Conscious control of firing frequency and rhythms of single motor unit (SMU) potentials at many muscle sites
- **Voluntary Control of Gross Muscle Activity**
  - Conditions that have been cured or relieved through biofeedback include:
    - Temporomandibular joint dysfunction (involving symptoms of pain in jaw and face, teeth grinding during sleep, ringing in ears, swallowing difficulty, fatigue)
    - Orofacial dyskinesia (symptoms of uncoordinated movements of face, jaw, tongue, neck).
    - Tension headache (through relaxation of the frontalis muscle).
    - Torticollis (symptoms of muscular contraction in which the head is twisted to one side).
    - Cerebral palsy symptoms
    - Compulsive subvocalization.
    - Esophageal dysfunction.
    - Excessive nasality.
    - Involuntary spasms of the eyelids.
    - Inability to open eyes following psychological trauma.
    - Muscular paralysis by cerebrovascular accidents.
    - Difficulty playing musical instruments.
- **Voluntary Control of the Brain's Electrical Activity**
  - *Alpha-wave training* (8-12 cycles per second) associated with mystical experiences, sensory deprivation, and states of sustained alertness.
  - *Theta-wave training* (4-7 cycles per second) ordinarily abundant during drowsiness and sleep, associated with daydreaming, imagery, and creative visualization.
  - *Beta-wave training* (40 cycles per seconds) associated with focused arousal accompanying learning processes
  - *Brain-wave asymmetry training* permits people to produce different amounts of alpha in each brain hemisphere simultaneously. "Researchers [have] demonstrated that alpha activity could be controlled in one hemisphere alone; that a 14-year-old boy could increase alpha in his left hemisphere while increasing beta or theta responses in his right; that male and female subjects could suppress alpha in both hemispheres or suppress it in one while enhancing it in the other; and that certain subjects could increase alpha at one site while decreasing it at another in the same hemisphere" (Murphy, 1992, p. 360)
- **Voluntary Control of Other Bodily Functions**
  - *Heart rate.* ("Heart malfunctioning has also been modified – and sometimes eliminated – through biofeedback training. Sinus tachycardias, Wolff-Parkinson-White syndrome, and fixed atrial fibrillation have been controlled by patients given beat-to-beat feedback during laboratory sessions and at home; and patients with premature ventricular contractions have learned to reduce the prevalence of their dysfunctional beat" (Murphy, 1992, p. 360).
  - *Blood pressure* (e.g., modification of systolic and diastolic pressures)
  - *Electrodermal activity* (reflecting stress and anxiety) can be increased or decreased.
  - *Peripheral temperature and circulation* (i.e., changes in hand temperature and peripheral blood flow shown to facilitate relaxation and relieves of migraine headaches, Raynaud's syndrome).
  - *Gastrointestinal functioning.* ("Patients with reflux esophagitis have learned to increase their lower esophageal sphincter contraction, for example, thus providing a barrier against reflux. People with fecal incontinence resulting from neuromuscular impairment have learned to control their anal sphincter. And patients suffering from stomach acidity, ulcers, or irritable bowels have learned to suppress their abnormal smooth-muscle responses and acid secretions" (Murphy, 1992, p. 362)

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What is truly amazing is the *degree of specificity* of self-regulation that can be developed and achieved following training in biofeedback procedures, and the ability to maintain such control *without feedback*.

### **Characteristics of people who respond to biofeedback.**

Jeanne Achterberg in her 1985 book *Imagery in Healing* notes that “not everyone responds well to biofeedback therapy...The best success rates across all diagnoses average around 60 percent” (p. 100). The successful individual needs to be motivated to learn the technique, willing to spend time practicing it, believe that it will work, and trust the trainer. Beyond these issues of motivation,

“The basis for individual differences in learning biofeedback... [appears] to be the ability to use the imagination. Those individuals who were unable to fantasize, who seldom remembered their dreams, and who were not regarded as particularly creative, had the most difficulty in learning the biofeedback response” (Achterberg, 1985, p. 101).

**Imagery ability is a normally distributed trait.** Michael Murphy in his 1992 book *The Future of the Body* suggests that the ability to learn to consciously regulate bodily processes like any other trait is normally distributed across the population with a majority of people able to use their imaginations in this way. “The widespread success of biofeedback training has shown that most, if not all people [with sufficient practice, motivation, and self-awareness to achieve mastery] can improve their powers of self-regulation” (Murphy, 1992, p. 350)

**Cognitive and somatic processes not completely understood.** The cognitive and somatic processes that must occur between the mental images in a person’s mind and the change in the number of white blood cells, heart rate, blood flow, muscle firing, skin temperature, and brain wave activity in a person’s body to make imagery and biofeedback control possible are not completely understood. As Jeanne Achterberg put the matter in regards to the clinical aspects of biofeedback, “The person learns to do ‘something’ with his mind that allows conscious communication with the body. This ‘something’ does not relate to words, but to images engaging various sensory and motor systems” (Achterberg, 1985, p. 99).

### **Extrasomatic sensitivity a transpersonal attribute.**

The effects that compelling mental images may have on local bodily functions provides another kind of evidence of the transpersonal nature of the physical body. Somatic awareness and self-regulation mediated by visual imagery hints at further capacities for inner perception historically attributed only to practitioners of Hindu, Buddhist, and Taoist yoga. Enhanced kinesthetic awareness mediated by visual imagery or immediate feedback of the body’s processes – when it is freed from the limitations and distortions of prior cultural training and neurological conditioning, and made accessible to conscious control – points to the extraordinary, metanormal capacity for the perception of somatic events that does not depend upon bodily organs. This extrasomatic awareness has been reported to be acquired by certain specific yogic practices (Aranya, 1977) and consists in an awareness of cells, molecules, and even atomic events within the body.

The next source of evidence for the transpersonal nature of the physical body – its ability to change “unchangeable” bodily structures and functions by carefully chosen words and communications (suggestions) – examines phenomena in which *beliefs* about the body become expressed in changes in bodily functions.

### **Hypnosis**

**Hypnosis defined.** Hypnosis or “trance,” as the term is used here, refers to a quite normal state of consciousness in which an individual narrows the focus of his or her awareness and concentrates attention upon a particular idea, area of thought, or belief, to the exclusion of others. From one transpersonal perspective,

Quite without any inductions, you have ‘hypnotized’ yourself into all the beliefs that you have. This simply means that you have consciously accepted them, focused upon them, excluded data to the contrary, narrowed your interests to those specific points, and accordingly activated the unconscious mechanisms that then materialize those convictions through physical experience... It is a quite *conscious* performance. As such it also portrays the importance of belief, for using hypnosis you ‘force-feed’ a belief to yourself, or one given to you by another – a ‘hypnotist’; but you concentrate all of your attention upon the idea presented” (Roberts, 1974, pp. 356, 77).

**There is nothing magical about hypnosis.** There is nothing “magical” about hypnosis, therefore. It is a natural function of the conscious mind that everyone utilizes constantly. It seems strange and esoteric only when it is set aside from ordinary life and special procedures are assigned to it.

“Hypnosis clearly shows in concentrated form the way in which your beliefs affect your behavior in normal life. The various methods simply focus all of your attention upon a specific area, shutting out any distractions... Structured hypnosis merely allows the subject to utilize full powers of concentration; thereby activating unconscious mechanisms...The one prerequisite is an intense concentration upon specific incoming data to the exclusion of everything else... Any good demonstration of hypnosis will clearly show...that beliefs dictate your experience...In certain terms, hypnosis is simply an exercise in the alteration of beliefs, and only too clearly shows that sense experience follows expectations... Formal hypnosis merely brings about an accelerated version of what goes on all the time” (Roberts, 1974, pp. 320, 353-356).

**Figure 2-4** illustrates the variety of “unchangeable” bodily structures and functions that have been altered as a result of individuals willingly suspending certain beliefs and allowing themselves to accept others for a moment that result from the activity of the conscious mind being focused, intensified, narrowed to a specific area, and all other stimuli are cut out, allowing the hypnotist’s ideas to go directly to the unconscious, where they are acted on.

**Figure 2-4**  
**Mind Modulation of the Autonomic Nervous System, Endocrine System and Immune System by Hypnosis.**

**What built-in capacities underlie hypnotic phenomena?**

Obviously, the alterations in physiological processes that are observed in hypnosis could not happen if our physical body did not have built-in capacities allowing them to occur. Many possible ways and means have been proposed by which hypnosis accomplishes observed somatic alterations, including factors relating to unique personality characteristics of highly hypnotizable subject and the “special” nature of hypnosis and the hypnotic setting; physiological explanations pertaining to alteration of blood flow, limbic-hypothalamic system activity, and electrical voltage change; and more psychically-oriented interpretations, such as that involving “temporal reversal”.

**Personality characteristics associated with hypnotizability.** Looking to individual differences in personality characteristics associated with “hypnotic susceptibility” for an explanation of the physiological alterations observed in hypnosis has not been a particularly fruitful avenue of research. It is known that individuals who score high on standardized scales of hypnotic susceptibility are most like to exhibit the capacity to influence autonomic, endocrine, and immune system functioning following a formal hypnotic induction procedure. The search for personality characteristics that are strongly associated with hypnotic susceptibility, however, has been disappointing.

Ernest Hilgard (1965/1968), in a review of personality characteristics associated with hypnotizability, reports that hypnotic susceptibility does not correlate highly or consistently with any global test of personality, such as anxiety, social desirability, conformity, social influencibility, or attention. “The qualities that predict hypnotic susceptibility are elusive” (Hilgard, 1965/1968, p. 269). He does, however, offer the following tentative personality description of the hypnotizable person, based on available evidence, as

“one who has rich subjective experiences in which he can become deeply involved; one who reaches out for new experiences and is thus friendly to hypnosis; one who accepts impulses from within and is not afraid to relinquish reality testing for a time...These free, irrational, reality-distorting characteristics may be found in flexible combination with realistic academic and social adjustment” (p. 268).

**“Special” nature of hypnosis and hypnotic setting.** In their summary of published research concerning hypnotic influences on bodily processes, hypnosis researchers Theodore Sarbin and Robert Slagle in their 1979 article “Hypnosis and Psychophysiological Outcomes” conclude that the altered physiological processes observed following a traditional hypnotic induction are not unique to use of formal hypnotic induction procedures or to the peculiarity of the hypnotic context established in laboratory and clinical settings but can be produced by a wide range of “stimulating conditions including symbolic stimuli and imagining” (Sarbin & Slagle, 1979, pp. 299-300).

**Figure 2-4. Mind Modulation of the Autonomic Nervous System,  
Endocrine System, and Immune System by Hypnosis**

(Barber, 1984, chapter 4; Rossi & Cheek, 1988, chaps. 4 and 9; Sarbin & Slagle, 1979, chap. 9; Rossi, 1986, p. 110; Murphy, 1992, pp. 325-339)

- “Glove and stocking” anesthesia
- Modification of respiration rate, blood pressure, pulse rate.
- Starting and stopping of bleeding (vasoconstriction/vasodilation)
- Control of frigidity, impotence, sexual excitement, menstrual periodicity, urine excretion.
- Pain relief (childbirth, menstrual cramps, burns, various surgery,
- Ameliorating hypertension and cardiac problems
- Ameliorating Raynaud’s disease
- Enlargement and apparent growth of breasts in women
- Amelioration of bruises
- Recovery of memories of previous trauma may be accompanied by the reappearance of wounds resembling those received during the original trauma
- Control of diabetes and blood glucose levels
- Immune response facilitation in peritonitis
- Cure of asthma and other respiratory ailments
- Modulation of hunger contractions, gastric acid secretions, sensations of digestion and constipation
- Alterations of allergic responses (hay fever, tuberculin injections, pollen).
- Modification of basal metabolic rate, calcium metabolism, plasma cortisol, oral temperature, surface body temperature, electrodermal activity (GSR)
- Alterations in evoked response potentials (ERP), EEG activity,
- Induction of blisters, inflammation and wheals on the skin
- Minimizing and healing of burns
- Producing and curing diverse forms of contact dermatitis (e.g., poison ivy, herpes simplex, psoriasis)
- Dermal secretions
- Removal of warts
- Healing of congenital ichthyosiform erythrodermia (“fish-skin disease”)
- Relief of musculoskeletal disorders (sprained backs, degenerative vertebral conditions, rheumatoid arthritis, bone fractures, bursitis, pulled muscles, muscle spasms)
- Controlling of blushing and whitening of the skin
- Aiding coagulation of blood in hemophiliacs
- Ameliorating the alarm (fight-flight) response
- Perceptual alterations (induced blindness, color-blindness, improved vision, hallucinations)
- Cognitive alterations (improved concentration, study habits, retention,, state-dependent enhancement of memory)
- Improvements in physical performance (strength, motor skills)
- Paranormal experience (ESP)
- Quasi-mystical states

Are observed alterations in physiological processes specific to the hypnotic “trance”? The answer is an unqualified no. ...Can symbolic processes produce changes in biological processes? The answer is an unqualified yes. That somatic processes can be influenced by symbolic stimuli is an observation that goes back at least to Aristotle. The reviews of Dunbar (1954) and the reports to be found in *Psychosomatic Medicine* make clear that the introduction of a large variety of stimulating conditions including symbolic stimuli and imaginings, can influence life processes (Sarbin & Slagle, 1979, pp. 299-300)

**Alteration of blood flow.** Ernest Rossi Ernest Rossi, who has written several books on therapeutic hypnosis with Milton H. Erickson and David Cheek, in his 1986 book, *The Psychobiology of Mind-Body Healing: New Concepts of Therapeutic Hypnosis* observes that “the phenomenon of focused attention, imagery, biofeedback, and therapeutic hypnosis all operate by altering the direction of blood flow. Altering blood flow...is one of the basic, common factors in resolution of most, if not all, mind-body problems” (Rossi, 1986, p. 109).

**Limbic-hypothalamic system activity** Ernest Rossi identifies some of the general autonomic, endocrine, immune, and neuropeptide channels and receivers by which trance-state-dependent suggestions likely initiate and direct mind-body communication. He points to these pathways and receptors as likely candidates for explaining the mind’s ability to select and influence the precise processes by which it brings quite local effects on specific body functions.

**Electrical voltage change.** Blair Justice, in her 1987 book *Who Gets Sick: How Beliefs, Moods, and Thoughts Affect Your Health* suggests that hypnosis may work by producing changes in the electrical voltage that alter the chemical and cellular processes at the target areas of the body (Justice, 1987, p. 317).

**Temporal reversal.** Seth-Jane Roberts offers the following provocative psychic explanation from his unique transpersonal point of view:

“You must understand that basically time is simultaneous. Present beliefs can indeed alter the past...A new belief in the present...can cause changes in the past on a neuronal level. In some cases of healing, in the spontaneous disappearance of cancer, for instance, or of any other disease, certain alterations are made that

affect cellular memory, genetic codes, or neuronal patterns in the past. In such instances there is, as easily as I can explain it, a reaching into deep biological structures as they existed at one time; at that point the probabilities are altered, and the condition erased in the present – but also in your past. A sudden or intense belief in health can indeed “reverse” a disease, but in a very practical way *it is a reversal in terms of time*. New memories are inserted in place of the old ones, as far as cells are concerned under such conditions. This kind of therapy happens quite frequently on a spontaneous basis when people rid themselves of diseases they do not even know they possess” (Roberts, 1974, pp. 325-326).

**Unquestioned answers and unanswered questions.**

*How* the mind is able to concisely isolate the right part of the body and select and influence precisely the right antibody, hormone, nerve-cell activity, enzyme, neurotransmitter, cellular processes, and so forth in order to carry out a verbal suggestion during hypnosis to remove, say, some intractable disease from the skin one area at a time remains a mystery. *That* it can do so in some people under certain circumstances through the use of mental imagery or carefully chosen words and communications (suggestions) in a predictable, measurable, and reproducible way is a fact to which greater cognizance needs to be given by mainstream psychology.

**Glove and stocking anesthesia, blisters, and warts.**

There remain many curious hypnotic phenomena that as yet have no satisfying explanation. “Glove and stocking” anesthesia and the formation of blisters, for example, are demarcated to areas of the body that “do not correspond to known configurations of nerves or blood vessels of the skin” (Stevenson, 1997, p. 19).

Suggestions received in a trance state can also cure a wart that is caused by a virus. This implies that suggestions in a trance state may also be used to affect the prognosis of AIDS which is also caused by a virus (a retrovirus that makes its way into the DNA of a cell to change its programming). Beliefs and expectations, emotions and feelings apparently are also a part of the interior environment of the cell, the chromosomes, and the genes.



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There is also the example of the intractable skin disease known as fish-skin disease that was removed from one area of the body at a time as hypnotic instructions were given over time – as if the mind somehow knew how to target precisely the right portion of the body needed to carry out the suggestions offered.

**The case of fishskin boy.** Our genes are believed to be permanent, irrevocable blueprints for bodily processes that are not susceptible in any way to manipulation or control by either thought or emotion. However, hypnosis has been documented to cure a genetic condition known as “congenital ichthyosis” or more generally, Brocq’s disease, where the outer layer of skin forms a thick, hardened, cracked, scaly surface that resembles the skin of a fish or reptile such as an alligator (Mason, 1952). Despite the fact that it is a genetic disease for which there is no known medical or surgical treatment, the highly hypnotizable patient succeeded in healing the disease gradually at one portion of the body at a time until all of the scaly skin was gone. Permanent improvement of the skin was observed for 60-70% of the body over a period of 4 years.

**Hypnotizability and gene expression.** Physician Larry Dossey (1991) makes two key observations about this case. One is that an important ingredient in the sixteen-year-old English boy’s cure was the fact that he was highly hypnotizable. Hypnotic suggestions for the cure of asthma, removal of migraine headache symptoms, and increased lymphocyte functioning, for instance, have been found to be most effective in individuals who are capable of medium to deep levels of hypnosis as measured by standard hypnotizability scales such as the Stanford Hypnotizability Scale (Collison, 1975; Hall, 1982-1983). A second key observation is that “people suffering from genetic diseases need not change the genes themselves, only their manifestations” (Dossey, 1991, p. 154). Although hypnosis may not have changed the genes themselves, it definitely did change their physical expression. In any case, genetically-related diseases apparently are capable of responding to hypnosis.

**Thoughts and emotions comprise a part of the gene’s environment.** From the transpersonal perspective of Seth-Jane Roberts an alternative framework for understanding of the nature of genetic event is proposed:

“The genetic system is not closed.... The genes do not simply hold information without any reference to the body’s living system. It does not exist, then – the genetic structure – like some highly complicated *mechanism* already programmed, started and functioning ‘blindly,’ so that once it is set into operation there is no chance for modification. ...There is a great give-and-take between human genetic systems, the environment, and cultural events...Genetic events are not irrefutable in a deterministic fashion. They represent strong inclinations toward certain bodily or mental activity, certain biological preferences...so that the probabilities are “loaded” in certain directions.... Chromosomal messages are not written within the chromosomes as words might be written upon paper, but the information *and* the chromosomes are a living unit. The information is alive... The cells with their genetic packages, like all cells are alive; they react to stimuli. They act (Roberts, 1986b, pp. 314-315)... The information is knit into the genes and chromosome, but it exists *apart*, and the physical structures merely represent the carriers of information” (Roberts, 1977, p. 190).

<p><b><u>The nature of genetic events.</u></b> Scientists do not know the unknown pathways that the mind of a patient takes to transduce the simple <i>words</i> spoken by another human being (the hypnotist) into a <i>meaning</i> and <i>intention</i> that causes physical changes in the expression of one's genetic make-up or in DNA programming. More than controlling autonomic nervous system functioning through biofeedback or the blood flow patterns to various cells of the immune system through imagery, here we have evidence of a thought tapping into the nucleus of a cell and the 46 chromosomes and the estimated 100, 000 genes in each cell that provide the blueprint for the synthesis of some 50,000 proteins. We now know that so-called "programmed" genetic activity can be altered or changed not only by conditions in the environment (e.g., nuclear accidents) but also by a thought. We may not know how it occurs; the fact remains that it can and does occur. It would be a grave scientific error to ignore, overlook, or deny this fact, simply because science cannot explain it at this time.</p> <p>Wherever the explanations that may be found to explain how <i>beliefs about the body become expressed in changes in bodily functions</i>, so-called hypnotic phenomena have important implications for revisioning the mind-body problem from a transpersonal perspective. In the concluding comment of T. X. Barber's (1984) article titled: "Changing 'Unchangeable' Bodily Processes by (Hypnotic) Suggestions", the author summarizes the implications of his review of the empirical research on the effects believed-in suggestions have on physiological functioning of the body:</p> <p style="padding-left: 40px;">"The data presented... should, once and for all, topple the dualistic dichotomy between mind and body which has strongly dominated Western thought since Descartes. The meanings or ideas embedded in words which are spoken by one person and deeply accepted by another can be communicated to the cells of the body (and to the chemicals within the cells); the cells then can change their activities in order to conform to the meanings or ideas which have been transmitted to them" (Barber, 1984, pp. 115-116)</p>	<p style="text-align: center;"><b>Cultural Beliefs and Personal Attitudes</b></p> <p><b><u>Beliefs we embody through cultural training and social conditioning.</u></b> The placebo response, imagery, biofeedback and hypnosis conclusively demonstrate that belief and expectation, purpose and intent have the power to change the functioning of the physical body, and that, to use the words of Norman Cousins, "belief becomes biology" (quoted in Dossey, 1991, p. 56). In order to more fully understand the power of the subconscious mind to affect the health of the physical body, we must also consider the greater social and cultural context or what transpersonal psychologist Charles Tart referred to as the "consensus trace" in which personal experience of health and illness occur (Tart, 1986). Mind modulation of the autonomic nervous system, endocrine system, and immune system by the individual person that occurs through the agency of the placebo response, imagery, biofeedback, hypnosis (and later, as we shall see the phenomena of multiple personality disorder, spontaneous remission, miraculous cure, intercessory prayer, and charismatic phenomena) "happens in the context of his [or her] psychological and biological status, and basically cannot be separated from his religious and philosophical beliefs and sentiments, and his cultural environment and political framework" (Roberts, 1981, p. 19) that contributes to the cultural training and social conditioning that en-trances us all (Tart, 1986).</p> <p><b><u>Experience of pain has substantial cultural component.</u></b> An individual's experience of pain, for instance, has a substantial cultural component, such that members of certain cultures report pain sooner and react more intensely to it than individuals from other cultures (Zborowski, 1958). Studies have shown that the attitude of an expectant mother during childbirth strongly influences the pain that she will experience while giving birth and that these attitudes vary from culture to culture (Jordon, 1983). Mexican women expect pain during childbirth and this translates into more painful experiences and more complications, than women in the South Pacific island of Yap who treat childbirth as an everyday occurrence and thus experience far fewer complications during delivery. "Expectations do play an important role in how labor is experienced. Cultural lore and customs are a significant source of these expectations" (Taylor, 2003, p. 321).</p>
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## Chapter 2 - The Transpersonal Nature of the Physical Body

**Voodoo Death.** Beliefs that are imposed upon us by our society influence our health and illness. Walter Cannon, the physiologist who first described the “fight-or-flight” concept in which the body activates two neuroendocrine systems (sympathetic and adrenal-cortical) to attack or flee from a threatening situation, conducted a classic study of what has come to be called “voodoo death” (Cannon, 1942). The following case is suggestive.

“A young Negro on a journey lodged in a friend’s house for the night. The friend had prepared for their breakfast a wild hen, a food strictly banned by a rule which must be inviolably observed.... The young fellow demanded whether it was indeed a wild hen and when the host answered ‘no,’ he ate it heartily and proceeded on his way. A few years later when the two met again, the old man asked the younger if he would eat a wild hen. He answered that he had been solemnly charged by a wizard not to eat that food. Thereupon the host began to laugh and asked him why he refused it now after having eaten it as his table before. On hearing this news the Negro immediately began to tremble, so greatly was he possessed by fear, and in less than 24 hours he was dead” (Cannon, 1942, quoted in Dossey, 1991, p. 57).

Voodoo death illustrates how cultural and social beliefs play an important role in shaping how an individual *interprets* an event. The event itself may be trivial, yet the significance and meaning that the event holds for the individual is strongly influenced by the customs and beliefs of the society in which the person lives.

**The Western Creed.** Social and cultural beliefs imposed on us by our society have important consequence for individual health.

“Worry, fear and doubt are detrimental to good health...and these are very often caused by the officially held beliefs of society. Those beliefs paint a dire picture, in which any given situation is bound to deteriorate. Any conceivable illness will worsen, and any possible catastrophe be encountered. Such beliefs discourage feelings of curiosity, joy, or wonder. They inhibit playful activity or spontaneous behavior. They cause a physical situation in which the body is placed in a state of defensive aggression. Under such conditions it seems only rational to look for the worm in the apple, so to speak, and to expect pain or danger in each new experience or encounter” (Roberts, 1997, p. 172).

**Figure 2-5** presents the worldview called “The Western Creed” that characterizes the collective secular worldview of orthodox, Western psychology, according to transpersonal psychologist Charles Tart (1997). It expresses ideas that are prominent in Western society, that are automatically accepted as “facts” by many people in our culture, and that undermine an individual’s sense of safety, vitality, and exuberance, and one’s sense of well-being and self-confidence, and feelings of freedom (see Tart, 1975/1992, chap. 2).

### **Figure 2-5 The Western Creed**

It is easy to see how this cumbersome set of beliefs may severely impede mental and physical well-being. Charles Tart proposes the following “belief experiment” to help people become more aware of the degree to which the beliefs conveyed in the Western Creed have become such an implicit part of everyday life:

“[People] are asked to deliberately give as much energy and belief as possible, ‘play the game,’ to entertain a particular set of beliefs for about 15 minutes. While doing so, they are to observe the emotional feelings generated. They are asked to wait to *intellectually* analyze the exercise until it is over. Afterwards they can go back to their usual beliefs and evaluate what they’ve learned from the experiment. To increase the emotional impact of the experiment...I have my students stand at attention in neat, orderly rows, with their right hands over their hearts, the way we learned to pledge allegiance to the American flag in school. In unison we then recite aloud the Western Creed...The full-scale exercise usually generates strong emotions that I have people work out afterwards” (Tart, 1997, pp. 40-41).

Tart believes that it is very important that the ideas expressed in the Western Creed be recognized when they appear, since that recognition alone can clear one’s thoughts and mind. Once we become aware of how deeply these beliefs have become conditioned within our psyches and recognize how frequently these beliefs are constantly being repeated and reinforced in contemporary culture by modern science and through the indoctrination of our educational system, we can better understand how mass meditations upon these so-called “facts” can impede mental and physical well-being.

**Figure 2-5. The Western Creed**

Tart (1997, pp. 41-42; see also Tart, 1975/1992, chapter 2)

I BELIEVE... in the material universe... as the only and ultimate reality... a universe controlled by fixed physical laws... and blind chance.

I AFFIRM... that the universe has no Creator...no objective purpose...and no objective meaning or destiny.

I MAINTAIN... that all ideas about God or gods... enlightened beings... prophets and saviors... or other nonphysical beings or forces... are superstitions and delusions.... Life and consciousness are totally identical to physical processes... and arose from chance interactions of blind physical forces.... Like the rest of life... *my* life... and *my* consciousness... have no objective purpose...meaning.

I BELIEVE... that all judgments, values, and moralities... whether my own or others... are subjective... arising solely from biological determinants... personal history... and chance....

Free will is an illusion.... Therefore, the most rational values I can personally live by must be based on the knowledge that for *me* ...what pleases me is Good... what pains me is Bad.... Those who please me or help me avoid pain are my friends... those who pain me or keep me from my pleasure are my enemies.... Rationality requires that friends and enemies be used in ways that maximize my pleasure and minimize my pain....

I AFFIRM... that churches have no real use other than social support... that there is no objective sins to commit or be forgiven for... that there is no retribution for sin or reward for virtue... although there may be social consequences of action.... Virtue for *me* is getting what *I* want... without being caught and punished by others....

I MAINTAIN... that the death of the body is the death of the mind.... There is no afterlife... and all hope of such is nonsense.

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**Cultural beliefs as “carriers” of disease.** The psychological and spiritual ramifications of cultural belief systems such as embodied in the Western Creed are clearly point out from the transpersonal perspective of Seth-Jane Roberts (1981).

“The majority of accepted beliefs – religious, scientific, and cultural – have tended to stress a sense of powerlessness, impotence, and impending doom – a picture in which man and his world is an accidental production with little meaning, isolated yet seemingly ruled by a capricious God. Life is seen as a “valley of tears” almost as a low-grade infection from which the soul can be cured only by death. Religious, scientific, medical, and cultural communications stress the existence of danger, minimize the purpose of the species or of any individual member of it, or see mankind as the one erratic, half-insane member of an otherwise orderly realm of nature. Any or all of the above beliefs are held by various systems of thought. All of these, however, strain the individual’s biological sense of integrity, reinforce ideas of danger, and shrink the area of psychological safety that is necessary to maintain the *quality* possible in life. The body’s defense systems become confused to varying degrees....The body’s defenses will take care of themselves if they are allowed to, and if the psychological air is cleared of the true “carriers” of disease” (Roberts, 1981, pp. 54-55).

**Black Monday syndrome.** The cultural beliefs that we accept from our society manifest themselves in our lives through our private attitudes. For instance, studies have shown that our individual attitudes toward life (as reflected in our satisfaction with our jobs, for example) affect a range of medical conditions. There is a phenomenon called “Black Monday Syndrome,” for instance, in which statistics indicate that more fatal heart attacks and strokes in males cluster around 8:00-9:00 o’clock on Monday morning than at any other time or day of the week – precisely when people are returning to their jobs and work situations (Rabkin, Mathewson, & Tate, 1980). Most people in the United States who have their first heart attack below the age of 50 have *none* of the major physical risk factors for heart disease (smoking, high blood pressure, elevated cholesterol, sedentary lifestyle, obesity, diabetes) (Jenkins, 1971). “Something else” is obviously operating other than physical risk factors alone in causing coronary heart disease. This “something else” are the unfortunate beliefs prominent in our society that darken our sense of joy and positive expectation..

“One of the greatest detriments to mental and physical well-being is the unfortunate belief that any unfavorable situation is bound to get worse instead of better. That concept holds that any illness will worsen, any war will lead to destruction, and that any and all known dangers will be encountered, and basically that the end result of mankind’s existence is extinction. All of those beliefs impede mental and physical health, erode the individual’s sense of joy and natural safety, and force the individual to feel like an unfortunate victim of exterior events that seem to happen despite his own will or intent” (Roberts, 1997, p. 20).

**Sudden death syndrome.** A sense of personal helplessness, hopelessness and crushing despair as well as intense emotions may be a sufficiently intense psychological trigger to cause what is called the “giving up-given up” or “emotional sudden death” syndrome that can produce sudden and dramatic changes in person’s biological status. Physician George L. Engel (1971) of the University of Rochester School of Medicine reported numerous cases of how people suddenly died from ventricular fibrillation

- after the collapse or death of a close person,
- during a period of acute grief (within 16 days),
- following the threat of the loss of a close person,
- during mourning or the anniversary of the death of a close person,
- after loss of status or self-esteem,
- in response to personal danger or threat of injury (whether real or symbolic), after danger is over, and
- during reunions, triumphs, and “happy endings.”

There is the dramatic example of the 27-year-old army captain who had commanded the ceremonial troops at the funeral of President Kennedy who was so emotionally upset by the assassination that he died 10 days later of a heart attack. A pair of Siamese twins who had been inseparable for 39 years and who were successfully separated died for no known cause within a week of each other following the operation. Then there is the case of the “64-year-old woman who had never recovered from the death of her son in an auto accident 14 years earlier, [who] died 4 days after her husband was murdered in a holdup” (Engel, 1971, p. 774).

**Meaning and health.** Obviously not everyone who has a stressful job to which they must return dies of a stroke on Monday morning. Not everyone who experiences profound feelings of lack of control and despair or intense emotion dies of a heart attack. As health psychologist Shelly Taylor (2003) reminds us, “Such incidents are dramatic, but their etiology is virtually identical to that of other stress-related illnesses. The process of disease development simply occurs faster than is usually the case in the stress-illness relationship” (p. 204). Holistic physician Larry Dossey (1991) suggests that it is the *interpretation* or *meaning* given to the event by the person that is the operative independent variable. “It is not just the *presence* of stress that matters in sudden death. Some people, after all, thrive on stress. Something more is involved...the *interpretation* of the event by the person. This is how life meanings enter our body, for they *are* our interpretations” (Dossey, 1991, p. 54). “Your body has an overall body consciousness filled with energy and vitality. It automatically rights any imbalances, but your conscious beliefs also affect this body consciousness. Your [body] believes what you tell [it] about [itself]. So does every other portion of your physical body” (Roberts, 1974, pp. 103-104).

**Attitudes affect biological status.** Michael Talbot in his 1991 book *The Holographic Universe* provides a list of research findings from the field of health psychology that demonstrate that our private attitudes do indeed affect our biological status.

“People who score high on tests designed to measure hostility and aggression are seven times more likely to die from hearty problems than people who receive low scores. Married women have stronger immune systems than separated or divorces women, and *happily* married women have even stronger immune systems. People with AIDS who display a fighting spirit live longer than AIDS-infected individuals who have a passive attitude. People with cancer also live longer if they maintain a fighting spirit. Pessimists get more colds than optimists. Stress lowers the immune response; people who have just lost their spouses have an increased incidence of illness and disease, and on and on” (Talbot, 1991, p. 102).

### **The Act of Will**

It is not just the beliefs that we passively accept from our society and culture and our private attitudes that influence bodily processes, but also the *active power of personal will*. By utilizing the body’s nerve structure through certain intensities of will or conscious belief, the usual physiological parameters of the body can be transcended.

**Assagioli’s Psychosynthesis.** Transpersonal psychiatrist Roberto Assagioli recognized the enormous potential inherent in the use of the will for achieving self-actualization. According to Assagioli (1992/1973), the transpersonal system of “psychosynthesis,” is “a process of growth based on the harmonious integration of all aspects of personality around the self, the center of awareness and will” (p. vi). In this process, the development and utilization of will is central – “its training and use constitute the foundation of all endeavors” (Assagioli, 1992/1973, p. 6).

**The case of Jack Schwarz.** One remarkable individual who was able to effectively use his will to control his body’s internal biological processes was Dutch-born “yogi” Jack Schwarz

“In studies conducted [in the 1970’s] at the Menninger Foundation and the University of California’s Langlely Porter Neuropsychiatric Institute, Schwarz astonished doctors by sticking mammoth six-inch sailmaker’s needles completely through his arms without bleeding, without flinching, and without producing beta brain waves (the type of brain waves normally produced when a person is in pain). Even when the needles were removed, Schwarz still did not bleed, and the puncture holes closed tightly. In addition, Schwarz altered his brain-wave rhythms at will, held burning cigarettes against his flesh without harming himself, and even carried live coals around in his hands” (Talbot, 1991, pp. 102-103; See also Raymond, 1978).

**The case of Mirin Dajo.** Another individual who demonstrated similar voluntary control of his body under conditions that would ordinarily produce excruciating pain in others was Dutch-born Mirin Dajo whose abilities were also subjected to scientific scrutiny. One particular dramatic demonstration of Dajo’s ability to willfully control his body’s internal bodily processes was conducted on May 31, 1947 before an audience of physicians, medical students, journalists, and others, under the supervision of Dr. Werner Brunner, the chief of surgery at the Zurich cantonal hospital.

“Dajo bared his chest and concentrated and then, in full view of the assemblage, he had his assistant plunge the [fencing] foil through his body. As always, no blood flowed and Dajo remained completely at ease... By all rights, Dajo’s vital organs should have been severely damaged, and his seeming good health was almost too much for the doctors to bear. Filled with disbelief, they asked Dajo if he would submit to an X ray. He agreed and without

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apparent effort accompanied them up the stairs to the X-ray room, the foil still through his abdomen. The X ray was taken and the result was undeniable. Dajo was indeed impaled. Finally, a full twenty minutes after he had been pierced, the foil was removed, leaving only two faint scars. Later, Dajo was tested by scientists in Basel, and even let the doctors themselves run him through with the foil" (Talbot, 1991, pp. 103-104; see also Stelter, 1976)

**Ceylon and Indian fakirs.** *National Geographic* and *Scientific American* have highlighted these seemingly supernormal feats of self-control over bodily processes in articles featuring the accounts of annual rituals in villages in Ceylon and India where *different* individuals, chosen to represent the power of the local gods every year, travel from village to village blessing the crops and children while holding onto ropes attached to steel hooks that have been shoved under their skin and muscles on both sides of the back. At times swinging freely while suspended by the hooks embedded in his back, the "celebrant" astonishingly shows no evidence of being in pain, and afterwards when the hooks are removed, shows no sign of blood and little sign of any puncture marks or wounds in the skin, which heal rapidly without medical treatment within a period of two weeks (Grosvenor, 1966; Kosambi, 1967; Melzack, 1973). "Clearly, pain is as much a matter of mind as of sensory receptors" (Smith et al., 2003, p. 138).

### Multiple Personality Disorder

The placebo response, imaginal healing, biofeedback, hypnosis, cultural conditioning and personal attitudes, and acts of will demonstrate that it is the beliefs of the conscious mind (reinforced by imagination, emotion, and sensory stimuli) that regulate the involuntary bodily processes and the entire physical system. Beliefs apparently have another reality beside the one with which mainstream psychology is familiar.

The psychiatric disturbance called multiple personality disorder (MPD) shows what occurs when the system of beliefs related to self-image takes over the conscious mind and is reflected in the physical body itself. MPD represents another category of phenomena that raises fundamental questions about the nature of the relationship between mind and body and provides additional evidence of the body's extraordinary transformative capacity to extend and expand biological processes beyond their usual physiological parameters and transcend ordinary forms of biological functioning. MPD is another line of

evidence that supports the holistic view of the human organism and that mind and body continually interact. MPD dramatically demonstrates the innate mobility and ever changing quality of the human psyche as expressed in flesh and just how much psychological states can affect the seemingly "permanent" and "stable" biology of the body.

**Figure 2-6** lists the kind of physiological changes recorded in the literature that occur when multiples switch personalities. [ For additional discussions of physiological differences between alternate personalities, see Braun 1983a, 1983b; Coons, 1988; Greaves, 1980; Miller, 1989; Putnam, 1984; Putnam et al., 1990). It is important to note that the anomalous physiological phenomena observed in MPD are not unprecedented. They were discovered and reproduced by the pioneers of *hypnosis* at the turn of the century (Beahrs, 1982; Braun, 1983b; Hilgard, 1986; Kroger, 1979; Putnam, 1986b).

### Figure 2-6 Evidence of Physiological Shifts in MPD

**First person plural: Change your mind and you change your body.** In multiple personality disorder we have evidence of mind (consciousness) creating different manifestations of body (matter) quickly and at will, as different ego states emerge, shift, and change. "The physical constitution of the body follows your beliefs, and so all of its sense data will faithfully follow the beliefs that direct its activity" (Roberts, 1974, p. 320). As noteworthy as the remarkable psychological differences that occur between sub-personalities in name, age, memories, handwriting, sex, cultural and racial backgrounds, artistic talents, foreign language ability, and IQ, are the biological changes that occur in the physical body as a result of switching from one ego-state to another different ego-state. According to Damgaard (1987):

One of the hallmark research findings in MPD ego state experiments is the discovery that different states vary in regard to internal self perception (physical appearance, age, voice quality, etc.) as well as external physical characteristics, such as visual acuity, EEG patterns, allergies, drug sensitivity, skills, habits, vocabulary, taste discrimination and performance on IQ and projective tests (Greaves, 1980). In the same physical body an adult ego state who smokes, wears glasses, is right-handed, good at math, allergic to sulfur, with a normal IQ can exist alongside a child ego state who has never smoked, has 20/20 vision, is left-handed, paints, has no medication allergies, and scores in the 130's on the same test (p. 128).

### Figure 2-6. Evidence of Extraordinary Psychophysical Plasticity in Multiples

#### Central Nervous System Changes

- **Brain Wave Activity.** When people with MPD and a control group of individuals who were instructed to rehearse imaginary alternate personalities are compared, there is much greater variation in the electroencephalograms (EEGs) of multiples as they switch from one alternate personality to another than in the EEGs of individuals who simulated the disorder (Putnam, 1984).
- **Regional Cerebral Blood-Flow.** Changes in regional cerebral blood-flow are reported to occur as multiples switches from one alternate personality to another, with different hemispheres being activated with different alternate personalities (Prigogine, 1991)
- **Pain Sensitivity.** There are many reports of individuals with MPD with alternate personalities are anesthetic (i.e., do not feel pain at all) or whose “job” is to “take the pain” (O’Regan & Hurley, 1985). “When in pain, A can switch to an anesthetic personality. Or, personalities can keep passing the pain to each other in turn, switching when the persistent pain becomes intolerable” (Braude, 1995, p. 45)
- **Handedness.** Some multiples switch handedness as they switch ego-states (O’Regan & Hurley, 1985)
- **Galvanic Skin Response.** Marked fluctuations of electrodermal response in the hands of alternate personalities have been reported that mark the transition from one personality to another (Brende, 1984).
- **Anesthetics.** “In the classic case of Miss Beauchamps (M. Prince, 1905/1978), personalities B1 and B4 could be rendered unconscious with chloroform, while at the same time Sally would remain unaffected” (Braude, 1995, p. 49).

#### Anatomical Changes

- **Optical Changes.** “Psychologist Scott Miller, at the University of Utah, had an ophthalmologist give standard optical tests to ten multiples in different ego-states, and found that they experienced significant changes in visual acuity, in the shape and curvature of their eyes, and in their optical refraction. One woman with personalities aged 5, 17, and 35 had a childhood condition called “lazy eye” only in her 5-year-old state, while a male patient who had suffered an injury that made his left eye turn out exhibited the condition in just one of his personalities....Multiples often have different eyeglasses for their different selves” (Miller, 1989, quoted in Murphy, 1992, p. 243).

#### Immune System Changes

- **Allergic Reactions.** There are cases on record of individuals being allergic to fruits (e.g., citrus), animals (e.g., cats), environmental agents (e.g., cigarette smoking) in one personality and not allergic to them in another (Braun, 1983a). “One patient was allergic to citrus juices in all of his personalities except one. If this personality ate an orange and remained in control of the body for a sufficient period of time to digest and metabolize it, no ill effects resulted. Another patient, who was usually so allergic to cats that she itched and teared around them, could play with them for considerable periods of time in one of her ego-states, and even be scratched and licked, without any apparent allergic responses” (Braun, 1983b, quoted in Murphy, 1992, p. 242).
- **Dermatologic Reactions.** Whenever a female alternate personality who, as a child, had received abusive burns from lighted cigarettes administered by her mother and brother, appeared during therapy sessions, the burn spots would reappear on her skin and last for 6-10 hours (Braun, 1983a). “Each time that personality returned, the spots returned. The same patient in another personality developed stripe marks across the lateral aspects of both arms, and some across the shoulders and back of the neck, all of which...were reported to be the results of a whipping administered by the mother” (Braun, 1983b, p. 127).

#### Endocrine System Changes

- **Diabetic Status.** A multiple can be diabetic in some personalities but not in others (Braun, 1983a).

#### Exceptional Abilities

- **Extending Peak Capacity.** A personality who is tired, intoxicated, or in the throes of heroin withdrawal in one alternate personality becomes alert, sober, and symptom-free once another personality takes control. “For example, if A is tired or drugged, B can emerge fresh or clear-headed” (Braude, 1995, p. 45).
- **Paranormal Experiences.** Multiples commonly report having paranormal experiences (e.g., ESP)
- **Healing.** There are cases where third-degree burns heal with unusual speed when an individual shifts from one personality to another (Braun, 1995; Putnam, 1984).



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The very “same” person at one moment can be allergic to orange juice, reacting in pain to a bee sting, drunk, sedated, color-blind, diabetic, or epileptic, while a moment later all these conditions mysteriously vanish and the person is now non-allergic, anesthetic, sober, energized, non-diabetic, non-epileptic, and have perfect color vision while in the “same” body. Even such seemingly “unchangeable” characteristics as visual acuity, eye color, brain wave patterns, and voice pattern can alter with a change in ego-state. *Change of mind creates a change in body*. When different personalities are in control of the body the chemical make up may vary considerably, showing significant differences over the main personality’s usual hormonal status, for instance. “The chemical changes are caused by the transition of beliefs that operate, and not the other way around (Roberts, 1974, p. 131).

**Changing “unchangeable” bodily processes by shifts in self-image.** Current biopsychology “facts” tell us that innumerable bodily processes are relatively unchangeable and uninfluenced by things as intangible as the self-image or self-concept (Kalat, 1998). *Handedness* is a characteristic that does not undergo sudden shifts once established. A person who is *color-blind* remains that way. *Visual acuity* does not automatically change from nearsightedness to farsightedness at will. *Intelligence* is a stable personality trait that does not change from one moment to another. *Blood flow* and *brain wave activity* is not ordinarily subject to conscious control without biofeedback training or years of disciplined yogic training. *Allergic responses* are not simply turned on and off when one wants them to. Yet they can be and are in the provocative demonstrations of personality action known as multiple personalities.

**Revisioning biopsychological theory.** The alterations in physiological processes that are observed in switching from one identity state to another could not happen if our physical body did not have built-in capacities allowing them to occur. The whole issue of mind-body plasticity needs to undergo a major reformulation in biopsychology based on the evidence of the extraordinary psychophysical plasticity demonstrated in multiple personalities (Prigogine, 1991). Imagine the degree to which mind and body must interweave with one another in order for a change in mood and thought to produce the complex and multifaceted processes involved in restoring destroyed or injured cells, in stopping the production of specific antibodies, in reversing the inflammation of individual capillaries of the lung and the release of fluid, and in deactivating the action of particular chemicals, especially histamine, to stop an allergic reaction in its tracks.

Imagine all the physiological processes that must be controlled at a moment’s notice to decrease the lactic acid and uric acid in the blood and decrease fat in the liver and in the blood in order to cancel the effects of alcohol in the blood system. Imagine the metabolic processes and body cells that must be precisely manipulated to restore sufficient insulin production from the beta cells of the islands of Langerhans in the pancreas, or decrease the insulin requirement by the tissue cells, or increase the effectiveness of insulin by deactivating one or more insulin antagonists in order to turn diabetes on and off.

How does one change the color of the iris which genetically determined in the same way as skin color? More than this, Michael Talbot in his 1991 book *The Holographic Universe* observes, “Once a multiple has undergone therapy and in some way becomes whole again, he or she can still make these switches at will. This suggests that somewhere in our psyches we *all* have the ability to control these things” (Talbot, 1991, p. 100).

### Spontaneous Remissions

Spontaneous remission refers to “the disappearance, complete or incomplete, of a disease or cancer without medical treatment or with treatment that is considered inadequate to produce the resulting disappearance of disease symptoms or tumor” (O’Regan & Hirshberg, 1993, p. 2). Although the traditional medical view is that spontaneous remissions do not really occur, but are simply the result of a mistaken diagnosis of the individual’s condition and that the person never really had the disease in the first place, these rare and spectacular demonstrations of transpersonal mind-body communication and healing persist in the annals of medicine.

Brendan O’Regan and Caryle Hirshberg (1993) as a part of the Institute of Noetic Science’s *The Inner Mechanisms of the Healing Response Program* and *The Remission Project* have assembled “the largest database of medically reported cases of spontaneous remission in the world, with more than 3,500 references, from more than 800 journals in 20 different languages” (p.3). The collection of abstracts of research reports of remission reported in their 1993 book, *Spontaneous Remission: An Annotated Bibliography* indicate that extraordinary forms of healing are widespread and occur for practically all medically known diseases ranging from

- cancers
- infectious and parasitic diseases
- endocrine, nutritional and metabolic diseases
- immunity disorders

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- diseases of the circulatory system, blood and blood forming organs
- disorders of the nervous system and sense organs
- respiratory and digestive system disorders
- disorders of genitourinary system
- pregnancy and childbirth-related disorders
- diseases of the skin
- subcutaneous and connective tissue diseases
- musculoskeletal disorders
- injury-related disorders.

Interestingly, O'Regan & Hirshberg's (1993, pp. 11-39) collection of research reports indicates that spontaneous remissions have been observed to occur with no medical intervention at all, but following a complex range of events that one would not expect to cure the person at all including:

- diagnostic biopsy procedures
- bacterial skin infections
- wound infections
- hypoglycemic coma
- hemorrhage
- menopause
- smallpox infection
- typhoid fever
- pneumonia
- heat (fever)
- hepatitis
- hysterectomy
- cauterization
- inflammation
- pregnancy
- abortion
- incomplete operations

One of the more intriguing observations reported in O'Regan & Hershberg's collection of remission research articles is that in some cases when the organ that was the primary site of cancer was surgically removed, the other organs to which the cancer had spread ("metastases") would frequently also be healed. In other cases, when an simple needle biopsy procedure of the primary cancer site occurred (i.e., there was no surgery to remove the cancer), secondary metastases would disappear. "Biopsy can be part of the process of inducing remission somehow. When you intervene in one area, it sets up a process which can help in another" (O'Regan, 1991, p. 50).

O'Regan & Hirshberg's (1993, p. 45) collection of research abstracts indicates that remissions occur in conjunction with a host of psychological and spiritual factors that correlate with and appear to promote the occurrence of remission including:

- group support,
- hypnosis/suggestion,
- meditation,
- relaxation techniques,
- mental imagery,
- psychotherapy/behavioral therapy
- prayer/spiritual belief
- religious/spiritual conversion
- sense of purpose
- placebo effect
- diet/exercise
- autonomous behavior/increased autonomy
- faith/positive outcome expectancy
- fighting spirit,
- denial
- lifestyle/attitude/behavioral (changes)
- interpersonal relationship changes
- positive emotions/acceptance of negative emotions
- environmental/social awareness/altruism
- expression of needs
- sense of control/internal locus of control
- desire/will to live
- increased or altered sensory perception
- taking responsibility for illness

**Evidence of the body's innate healing ability.** The phenomenon of spontaneous remission demonstrates that the body is equipped, ideally speaking, to rid itself of any disease, and to maintain its health into old age. Spontaneous remissions are also evidence of the body's relative independence from the mind and of its power to heal itself in the face of negative beliefs about illness that may be held by the conscious mind. Spontaneous remissions demonstrate that the body apparently possesses its own defense mechanisms to protect itself from the mind's negative beliefs? But if the body has natural healing abilities of its own, then why does it not "take over" more often to heal itself? From the transpersonal perspective of Seth-Jane Roberts (1997, p. 15):

"The body consciousness is indeed independent. To a large degree its own defense mechanisms protect it from the mind's negative beliefs – at least to a large degree. Almost *all* persons pass from a so-called disease state back into healthy states without ever being aware of the alterations. In those cases the body consciousness operates unimpeded by negative expectations or concepts. When those negative considerations are multiplied, however, when they *harden*, so to speak, then they do indeed

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begin to diminish the body's own natural capacity to heal itself, and to maintain that overall, priceless organization that should maintain it in a condition of excellent strength and vitality. There are also occasions when the body consciousness itself rises up in spite of the person's fears and doubts, and throws aside a condition of illness in a kind of sudden victory. Even then, however, the person involved has already begun to question such negative beliefs. The individual may not know *how* to cast them off, even though he or she desires to do so. It is in those instances that the body consciousness arises and throws off its shackles. With free will, however, it is not possible for the body consciousness to be given full and clear domination, for that would deny large areas of choices, and cut off facets of learning. The main direction and *portent*, however, of the body consciousness on its own is always toward health, expression, and fulfillment... The body consciousness, on its own, is filled with exuberance, vitality, and creativity (Roberts, 1997, p. 15)

Certain individuals who glimpse this great natural healing ability of the body, such as Ernest Rossi, in his interesting 1986 book, *The Psychobiology of Mind-Body Healing: New Concepts of Therapeutic Hypnosis*, informs us of it in relationship to the phenomenon of cancer.

"It is important to understand that the body develops cancer cells as an apparently natural process throughout the entire lifespan within the growth of clinically recognizable cancer tumors. This is illustrated by the fact that one form of cancer cell (neuroblastoma) is much higher even in babies than in the clinical incidence of the disease. On the other end of the scale, postmortem autopsies on practically all males 50 or over show evidence of prostatic cancer cells, yet actual clinical cancer is not evident in most of them. Since most people do not develop cancer even though cancer cells are continually produced, the body must have a natural immunological surveillance system that seeks out and destroys the single cancer cells before they grow into clinically evident tumors" (Rossi, 1986, p. 159).

### A new paradigm of transpersonal medicine.

Transpersonal psychologists, who acknowledge the great healing ability of the body, use it. Physicians encounter it when a patient with a so-called incurable disease suddenly recovers. Unfortunately, traditional medicine does not understand the true nature of the body and its own potentials, and as a result spontaneous remissions remain understudied and undervalued.

"To be healthy you must believe in health. A good physician is a changer of beliefs. He will replace an idea of illness with one of health. Whatever methods or drugs he used will not be effective unless this change of belief takes place." (Roberts, 1974, 102).

A new paradigm of transpersonal medicine is emerging in understanding the healing power of the human spirit (Lawlis, 1996). O'Regan & Hirshberg (1993) describe the value of the study of spontaneous remissions for this new approach to mind-body communication and healing:

A new area of biology is emerging: the study of spontaneous remissions from normally fatal illnesses. Of all the astonishing properties of living systems the two most amazing are their ability to reproduce themselves and the ability to repair themselves in a wide variety of ways. As Lewis Thomas suggests, scientists studying spontaneous remission could uncover the mysteries of how the human body can cure itself, turning those mysteries into mechanisms of healing "at will" (p. 1).

### **Spiritual Healing and Miraculous Cures**

#### Distinguishing spiritual healing and spontaneous remission.

Some individuals might consider Mr. Wright's remission of cancer (described at the beginning of this chapter) an example of a "miracle" cure. Miracle cures are defined as "the sudden, permanent, and complete cure of a long-lasting condition of a more or less organic in nature for which no adequate treatment can be held responsible" (Van Kalmthout, 1985, p. 1). Miracle cures can be distinguished from spontaneous remissions (or regressions) by their time course and the definitiveness of the cure. Whereas miracle cures are sudden, total, permanent, and inexplicable, spontaneous remissions tend to be gradual and temporary. Mr. Wright's experience of placebo healing would be considered a spontaneous remission of cancer in these terms.

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Because it lacked permanency, Mr. Wright's experience would likely be considered to be a temporary remission and not a miracle cure, at least as far as the rules of evidence for miracle cures devised by the Roman Catholic Church are concerned. Originally formulated in 1735 by Cardinal Lambertini (afterwards Pope Benedict 14th), five sets of criteria must be satisfied in order to be considered a "miraculous cure" (Dowling, 1984, p. 634):

- The disease must be serious, incurable or unlikely to respond to treatment.
- The cure must be sudden and reached instantaneously (or developed over a period of days). The disease which disappeared must not have reached a stage at which it would have resolved by itself. No medication should have been given, or if some medicines were prescribed then they must have had only unimportant effects (or potentially curative treatments can be demonstrated to have failed)
- The cure must be complete, not partial or incomplete.
- All claims for a miracle cure have to pass through the procedures of an International Medical Commission.

**Figure 2-7** describes the rigorous procedures of the International Medical Commission by which all claims of cures are scrutinized before they can be declared to be miraculous by the Roman Catholic Church.

#### **Figure 2-7 Miracle Cures and Their Medical and Ecclesiastical Assessment**

Lourdes, France has been the site of cures and healings ever since 1858 when three children saw a vision of the Virgin Mary. In 1954 a medical commission was established to scientifically verify the occurrence of reported cures that have resulted from drinking or bathing in the waters that flow from an underground spring there. Of the 6,000 claims of miraculous cures that have been evaluated by the International Medical Committee of Lourdes, only 64 have been identified as medically inexplicable and officially recognized as "miracles" by the Roman Catholic Church.

**Figure 2-8** illustrates the range of organic disorders that have been cured at the famous shrine or by waters taken from its springs.

#### **Figure 2-8 Case Studies of Healing at Lourdes**

**Can faith reconstruct decaying bone?** Some of the most powerful beliefs that turn on the healing system are those that embody one's spiritual faith. The "miraculous" cures documented at Lourdes are a case in point. Can faith reconstruct decaying bone? Apparently so. A remarkable case of reconstruction of the hip bone and cavity in the hip that had disintegrated as a result of a malignant sarcoma was documented by the Commission in 1972, a cure that is considered impossible from the viewpoint of current medical science (Salmon, 1972). In 1962 Vittorio Michelli was admitted to the hospital in Verona, Italy with cancer of the bone and within 10 months the cancerous tumor had entirely eaten away his hip bone to such a degree that that his left leg was only attached to his body by soft tissue and skin. As last resort, with his leg in a plaster cast to keep it in place, he traveled to Lourdes and while bathing in the waters at Lourdes, immediately felt a healing heat permeate his body. Soon afterwards his appetite and energy returned, and subsequent X-rays disclosed that the tumor had grown smaller until it eventually disappeared and the bone of his hip actually began to regenerate. Within months Vittorio was walking again and by 1965 his hip joint had completely reconstructed itself, an event unknown in the annals of medical science. The remarkable pelvis reconstruction represented a permanent cure as verified by subsequent X-rays in 1968 and 1969 – an event unparalleled in the history of modern medicine. According to the official report of the Medical Commission:

"Definitely a medical explanation of the cure of sarcoma from which Michelli suffered was sought and none could be found. He did not undergo specific treatment, did not suffer from any susceptible recurrent infection that might have had any influence on the evolution of the cancer. A completely destroyed articulation was completely reconstructed without any surgical intervention. The lower limb which was useless became sound, the prognosis is indisputable, the patient is alive and in a flourishing state of health nine years after his return from Lourdes" (quoted in O'Regan, 1990, p. 51).

Michael Murphy in his 1992 book *The Future of the Body: Explorations into the Future Evolution of Human Nature* identifies the range of maladies for which complete remissions have been documented cures at Lourdes, including:

**Figure 2-7. Spiritual Cures and Their Medical and Ecclesiastical Assessment**

(Dowling, 1984, pp. 635-636)

“At present there are 25 members of the Commission: thirteen French, two Italian, two Belgian, two English, two Irish, one each from Spain, Holland, Scotland and Germany. Then they have a wide spread of specialties. Four each from general medicine and surgery, three from orthopedics, two each from general psychiatry, neuropsychiatry, dermatology, ophthalmology, pediatrics, cardiology, oncology, neurology and biochemistry. Ten members hold chairs in their medical schools. All are practicing Catholics. Many are doctors who come regularly to Lourdes as pilgrimage medical officers, but some have little or no connection with the shrine.

“If, after the initial scrutiny and follow-up, the Medical Bureau thinks that there is good evidence of an inexplicable cure, the dossier [on the cure] is sent to the International Medical Commission which usually meets once a year in Paris. The preliminary investigation of the data is made, and if the members agree that the case is worth investigating, they appoint one or two of their members to act as rapporteur. The rapporteur then makes a thorough study of the case, usually seeing the patient himself [or herself], and presents the material in a detailed written dossier circulated to the members before the meeting at which they will make their decision.

“The report is then discussed critically, at length, under 18 headings, a vote being taken at each stage. In the first three stages, the Committee considers the diagnosis and has to satisfy itself that a correct diagnosis has been made and proven by the production of the results of full physical examination, laboratory investigations, x-ray studies and endoscopy and biopsy where applicable: failure at this stage is commonly because of inadequate investigation or missing documents. At the next two stages, the Committee must be satisfied that the disease was organic and serious without any significant degree of psychological overlay.

“Next it must make sure that the natural history of the disease precludes the possibility of spontaneous remission. The medical treatment given cannot have affected the cure...Then the evidence that the patient has indeed been cured is scrutinized and the Committee must be satisfied that both objective and subjective symptoms have disappeared and that investigations are normal. The suddenness and completeness of the cure are considered together with any sequelae. Finally, the adequacy of the length of follow-up is considered. After this detailed study, the question, ‘Does the cure of this person constitute a phenomenon which is contrary to the observation and expectations of medical knowledge and scientifically inexplicable?’ is put. A simple majority carries the case one way or the other.

“The declaration by the [International Committee] does not make it a miracle because that is a matter for the Church, not doctors. The verdict is sent to the patient’s bishop and if he thinks fit he appoints a Canonical Commission with its own medical advisors. If it reports favorably and the bishop accepts the report, he issues a decree declaring the case to be a miracle.

**Figure 2-8. Case Studies of Healing at Lourdes**

(Murphy, 1992, pp. 269-271; O'Regan, 1991, p. 51; O'Regan & Hirshberg, 1993, pp. 547-548; Garner, 1974)

*Francis Pascal* contracted meningitis – an inflammation of the membranes that cover the brain and spinal cord – in 1937 at the age of three that caused loss of sight and partial paralysis. One year later, Pascal was brought to Lourdes and, after two immersions in the waters that flow from an underground spring there, was instantly cured of his blindness and paralysis. Members of the International Medical Commission confirmed that Pascal's previous blindness and paralysis had been organic, not functional., and that his cure was authentic. The cure was pronounced to be miraculous by the archbishop of Aix-en-Provence in 1949.

*Gerard Bailie*, born with normal vision, developed bilateral chorioretinitis and double optic atrophy - a normally incurable inflammation of the choroid tissue and retina of the eye, resulting in the reduction of blood supply and a wasting away of the optic nerve - in 1943 at the age of two and a half, and lost his sight entirely as a result of an unsuccessful surgical operation. Four years later, Bailie's sight was completely restored during a visit to Lourdes. The Members of the International Medical Commission confirmed that Bailie's previously atrophied optic nerves had been completely restored in size and that he could now see objects clearly.

*Delizia Cirolli* was diagnosed with a case of Ewing's sarcoma in her right knee – a malignant tumor of the bone that produces painful swelling in the tissue of the knee - in 1976 at the age of 12. Refusing the advice of the surgeon to have her leg amputated, Delizia's parents took her to Lourdes where she spent four days attending the ceremonies, praying at the Grotto, and bathing in the waters. There was no improvement and X rays taken the following month showed a spreading of the malignant tumor. As family and friends prepared for her funeral, they prayed to the Virgin Mary for a cure and Delizia's mother regularly gave her Lourdes water to drink. Three months later, the malignant tumor had vanished, and subsequent X-rays showed repair of the bone that had metastasized. The Members of the International Medical Commission confirmed that Ewing's tumor had been the correct diagnosis and in 1982 declared that the cure was scientifically inexplicable.

*Serge Perrin* developed organic hemiplegia with ocular lesions - a paralysis of one side of the body caused by a brain lesion with loss of sight caused by cerebral circulatory defects – in 1970. After praying at the Grotto and bathing in the water, Perrin was suddenly and completely cured of his afflictions, regaining motor movement and restoration of his sight. The Members of the International Medical Commission confirmed the original diagnosis and deemed the cure scientifically inexplicable.

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- ulcers on hands, feet and legs with extensive gangrene
- anterolateral spinal sclerosis (motor disorder of the nervous system)
- tuberculosis (inflammation of the lungs)
- peritonitis (the inflammation of the walls of the abdomen caused by inflammation of abdominal organs, perforated gallbladder ruptured cyst, internal bleeding)
- leg and abdominal tumors (a swelling caused by uncontrolled and progressive new growth of tissue)
- dorsolumbar spondylitis (a degenerative change in the spine)
- blindness of cerebral origin
- bilateral optic atrophy (a wasting away of the optic nerve resulting in loss of vision and permanent blind spot in the center of the visual field)
- multiple sclerosis (the demyelization of the white matter of the brain and spinal cord resulting in paralysis)
- sarcoma of the pelvis (cancer of the hip)
- Budd-Chiari syndrome (a circulatory system disorder involving closure or obstruction of blood vessels to the liver) (Murphy, 1992, p. 271).

**Alex Carrel's *Voyage to Lourdes*.** One of the most evocative accounts of spiritual healing that occurred at Lourdes is described by Dr. Alex Carrel in his 1903 book *Voyage to Lourdes* (Carrel, 1950). Dr. Carrel was a rationalist, a skeptic and a Nobel Laureate in medicine who, during a train trip to Lourdes, decided to personally observe a young woman named Marie Bailly whom he met on the train. On the verge of death and suffering from the last stages of tubercular peritonitis (inflammation of the lining of the walls of the abdominal and pelvic cavities), Dr. Carrel watched Marie slowly heal right before his eyes after only a few hours in the Grotto where Bernadette is reported to have seen her vision of the Virgin Mary. As a result of his experience at Lourdes, Carrel came away convinced that many of the cures at Lourdes were indeed authentic and could not solely be attributed to the power of suggestion or to the relief of mere functional (psychosomatic) disorders. Although he found it "distressingly unpleasant to be personally involved in a miracle," he declared that "to say something is not true without having first investigated the facts is to commit a grave scientific error... it is also the duty of science not to reject things simply because they appear extraordinary or because science is powerless to explain them... The only thing that matters is to look at the facts" (Carrel, 1950, pp. 50-51).

### Spiritual Healing

When Norman Cousins (1989) says that "belief becomes biology" he talking about how "an external suggestion can become an internal expectation, and that internal expectation can manifest in the body" (Radin, 1997, p. 148). Fifty years ago this idea was scientific heresy. Because of research studies of placebo effects, imagery and cancer, biofeedback, hypnosis, the role of cultural conditioning and private attitudes and acts of will on disease states, psychosomatic illness, psycho-neuro-immunology, and spontaneous remission of terminal diseases, the notion of mind-body interaction is now more commonly accepted. We still do not understand the precise biochemical and neurological actions that transduce and transmit mental intention to their precise bodily targets; nor do we know the limits of mental influence on the body. If the mind interacts with its own body (proximate mental healing), can it also interact with other physical bodies distant from it? Is there evidence, in other words, of spiritual healing (i.e., distant mental healing)?

**Mental healing and spiritual healing distinguished.** In most instances of what is called "mental healing" it is necessary for the person to believe in something in order for the healing to occur. That "something" may be a pill, a surgical procedure, a visualization technique, an electronic signal, a hypnotic suggestion, an authority figure, and even the control that such objects, procedures, or figures are believed to provide over one's disease state (Justice, 1987). Whether a person is an atheistic or agnostic, the healing powers of the body are released through belief. These forms of healing are sometimes distinguished from what is called "spiritual healing" in that the person does not have to believe in God or some "higher force" in order for them to work.

"Spiritual healing...employs a special type of mental thought called prayer, specifically directed to a Higher Power than man; and attributes ultimate responsibility for any resulting healing not to the human mind but to that Higher Power, often called God" (Schmicker, 2002, p. 162).

**Figure 2-9. Definitions of Spirit, Spiritual, Spirituality, Spiritual Care, Spiritual Awareness, Spiritual Well-Being, and Spiritual Healing**  
(Aldridge, 1993)

<b>Author</b>	<b>Description</b>
Benor D., 1990	"Healing is the direct influence of one or more persons upon another living system without using known physical means of interventions"
Cohen, J. 1989	"Spiritual healers believe they can influence the course of an illness by 'spiritual' or nonphysical means. Healing can be offered in person or at a distance, and does not require religious acceptance or belief by either party. It is a complement, not an alternative, to orthodox medicine."
Csordas T. 1983	"Four kinds of healing are practiced by charismatics. <i>Physical healing</i> is the one most widely known in American religious culture, and is associated with popular evangelists. <i>Spiritual healing</i> treats the soul that has been injured by sin. <i>The Healing of the Memories</i> , also called Inner Healing, treats emotional hurts and scars. <i>Deliverance</i> is the form of healing in which the adverse effects of demons or spirits on a person's behavior and personality are removed by expulsion of the spirits judged to be responsible."
Ellis, J., et al. 1991	"Spiritual well-being is the affirmation of life in a relationship with God, self, community, and environment that nurtures and celebrates wholeness."
Emblen, J. 1992	"Spiritual care includes helping people to identify meaning and purpose in their lives, maintain personal relationships, and transcend a given moment."
Fehring, R. et al., 1987	"Spiritual well-being is a personality attribute conceived of having one vertical dimension connoting one's perception of a relationship with God, and one horizontal dimension connoting one's perception of life-meaning or purpose or satisfaction with one's existence."
Glik, D. 1988	"In regards to healing, rituals, symbols, and myths serve to shift focus from self to the collectivity, from the particular to the whole, from one series of life events to the whole life, from the unique to the archetypal."
Griffith, E. 1983	"Healing is a natural ministry of the church and a church-based clinic could help people move toward a mature faith in God which, in turn, could influence bodily reactions in the direction of greater health."
Kuhn, C. 1988	"Spiritual elements are those capacities that enable a human being to rise above or transcend any experience at hand. They are characterized by the capacity to seek meaning and purpose, to have faith, to love, to forgive, to pray, to meditate, to worship, and to see beyond present circumstances."
Hiatt J. 1988	"The spiritual dimension, then, is that aspect of the person concerned with meaning and the search for absolute reality that underlies the world of the senses and the mind and, as such, is distinct from adherence to a religious system."
Reed P. 1987	"Spirituality is defined in terms of personal views and behaviors that express a sense of relatedness to a transcendental dimension or to something greater than the self."
Smyth P. et al., 1988	"Spiritual awareness is when others speak of the conviction that life has a purpose, of the search for meaning, of the attempt to interpret their personal illness in way that makes sense of their worldview."
Solfin J. 1984	"Mental healing is the practice of treating illness without a known physical curative agent. It is also known as psychic healing, spiritual healing, non-medical healing, shamanic healing, prayer healing, miracle healing, lay on of hands, paranormal healing, and magnetizing, although these terms are not interchangeable."



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**Many definitions of spiritual healing.** Spiritual healing has many definitions and called many things. **Figure 2-9** lists a selection of definitions that have been used in the research literature that have focused upon the intentional activity of the mind as a means of influencing physical systems such as the body at a distance (i.e., without using known physical means) (Aldridge, 1993). Other terms referring to spiritual healing include: “distant mental healing,” “prayer,” “faith healing,” “divine healing,” and “bioenergetic therapy.” This is distinguished from healing techniques in which there is direct contact between the practitioner and the patient, such as in the “laying-on-of-hands. In spiritual healing, as the term is used here, there is no direct physical contact between patient and practitioner – simply the direction of healing thoughts or intentions to a patient at a distance.

### **Figure 2-9.** **Definitions of Spirit, Spiritual, Spirituality, Spiritual Healing**

Several collections of studies on action-at-a-distance spiritual healing – Jerry Slofvin’s (1984) review of mental healing; Daniel Benor’s (1990, 1993a, 1993b, 1993c) review of clinical studies, Schouten’s (1993) studies of healers and psychics, Larry Dossey’s (1993) *Healing Words*, Richard Gerber’s (1988) *Vibrational Medicine*, and Robert Becker’s (1990) *Cross Currents* – extensively document what is currently known about nonlocal healing phenomena. The entire Fall 1993 issue of *Advances: The Journal of Mind-Body Health* (Vol. 9, No. 4). is devoted to the question of “Is There Evidence for Spiritual Healing”? This and other research indicates that spirituality and religiosity generally have a positive effect on health (see *American Psychologist*, 2003, Vol. 58, No. 1). There is also evidence for what Dean Radin (1997) calls “distant mental interactions” with living organisms, including cell cultures, bacteria, plants, and other living organisms (p. 149) (e.g., Joyce & Welldon, 1965; Loehr, 1969; Collip, 1969). Transpersonal psychologists tend to show greater attention to spirituality and spiritual healing in their clinical and experimental research than is true of orthodox conventional psychologists or health practitioners who operate solely within the biomedical model of health-illness.

As far as traditional biomedical and behavioral science is concerned, however, it is assumed that praying for a distant person is simply an expression of primitive, magical thinking, an irrational behavior motivated by religious belief in the face of modern medicine’s inability to cure many chronic health problems. Distant healing is impossible both in theory and in fact because mental action is nothing more than the by-product of brain activity confined within the skull, entirely localized and dependent upon the workings of the physical brain alone. To imagine that thought could affect a physical body at a distance without some sort of physical intervention or mechanism is no more than wishful thinking and the result of the brain’s irresistible drive to create meaning out of a basically meaningless situation (Crick, 1994; Newberg & D’Aquili, & Rause, 2001). To those who accept the metaphysical framework that supports such an assumption (i.e., that the only reality is physical reality), then such a belief may be logically unassailable. But does all evidence support belief in such a metaphysic or can a healer in location A affect the physiology of a patient at a distant location B without some sort of proximate physical or psychological intervention? Clinical and experimental data exists that suggests that it can and does happen (Slofvin, 1984; Benor, 1990, 1993a, 1993b, 1993c; Dossey, 1993).

### **Healing words: The power of prayer and the practice of medicine.**

For instance, Larry Dossey in his 1993 book *Healing Words* documents more than 56 double-blind, randomized control group experiments dealing with healing effects of prayer on cells, bacteria, plants, animals, and human beings showing statistically significant results out of the 131 studies reviewed describing controlled experiments on distant mental healing (see reviews provided by Benor, 1990, 1993a, 1992b, 1993c). The odds of obtaining 56 successful results out of 131 experiments are beyond a trillion to one. These studies constitute scientific proof for the healing power of prayer and the fact that *some* people *sometimes* improve dramatically following prayers. Obviously, the alteration in physiological processes that are observed in action-at-a-distance spiritual healing could not happen if our physical body did not have built-in capacities allowing it to occur.

**1988 Byrd study of distant healing on heart disease.**

A 1988 prospective, randomized, double-blind study conducted by California cardiologist Randolph Byrd on distant healing, for instance, provided positive support for the reality of distance healing. (Byrd, 1988). Three hundred and ninety-three randomly selected hospitalized coronary-care-unit patients at San Francisco General Hospital, matched in age and severity of condition, were randomly assigned to an prayed-for group (n = 192) or a unprayed-for control group (n=201). Each patient was assigned to three to seven “intercessors” - a network of prayer groups of various religious denominations around the country – who were given the first name, diagnosis, and general condition of their patient, and informed of any changes in the patients’ general condition. The participating Christians were asked to pray daily over a 10-month period for a rapid recovery, the prevention of complications and death, and a quick recovery of their patient.

“When the results were analyzed, Byrd found that the prayed-for subjects had significantly fewer complications while in the coronary care unit. Only three required antibiotics, compared with 16 in the control group. Six prayed-for patients suffered pulmonary edema while 18 in the other group experienced that complication. None of those receiving prayers needed intubation, compared with 12 of the unprayed-for (Justice, 1987, p. 284).

Thus, the prayed-for group less frequently required ventilatory assistance, antibiotics, and diuretics than did the patients in the control group. In general, 85 percent of the prayed-for group had no new diagnoses or medical problems, and required no new therapies during their hospital stay compared to 73 percent in the control group. Only 14 percent of the prayed-for group experienced additional service medical problems or died during their hospital stay compared to 22 percent in the unprayed-for control group.

The results of this study proved to be suggestive rather than conclusive, given the mere 8 percent difference between the prayed-for and unsprayed-for groups. Unfortunately no one monitored whether the prayers groups actually prayed as they were supposed to, what type of prayers were used by the prayer groups, and whether other people (e.g., friends, relatives) were also praying for the control group while the experiment was in progress (Dossey, 1993, pp. 179-186).

**1998 study of distant healing on AIDS patients.**

Michael Schmicker in his 2002 book *Best Evidence* describes a 1998 double-blind study on distant healing conducted at the California Pacific Medical Center with a population of San Francisco AID patients matched on age and severity of condition. Patients were randomly assigned to prayer treatment and no-prayer control groups. Forty experienced healers of different faiths from all over the country tried to influence from a distance the medical condition of the treatment group using whatever prayer ritual they found most appropriate. Results indicated that compared to the men in the control group, “those men treated with healing from a distance experienced significantly better medical outcomes and quality-of-life outcomes – fewer outpatient doctor visits, fewer hospitalizations, less severe illness and less emotional stress” (Schmicker, 2002, p. 166; Sicher, Targ, Moore, & Smith, 1998)

**1999 replication of the Byrd study.** In a 1999 study designed to replicate the Byrd findings, (Harris, 1999), 990 hospitalized coronary care unit (CCU) patients at Mid-America Heart Institute at St. Luke’s Hospital in Kansas City, Missouri, matched in age and severity of condition, were randomly assigned to a prayed-for group or a unprayed-for control group. A group of Roman Catholic and Protestant Christians who agreed with the following belief statement - “I believe in God. I believe He is personal and is concerned with individual lives. I further believe that he is responsible to prayers for healing made on behalf of the sick” - prayed for persons in the treatment group. When results were analyzed, Harris found that patients who were named in prayer did better.

“Patients prayed for stayed in the hospital the same average length of time as patients who weren’t prayed for, but their overall hospital experience was measurably better. Only 51 (10.9%) of the prayed-for patients required major surgery, whereas 76 (14.6%) of the control group (non-prayed for patients) did. In another measurement, only 12 (2.6%) of the prayed-for patients required intra-aortic balloon pumps while 20 (3.8%) of the control group did” (Schmicker, 2002, p. 167).

**Characteristics of healing-at-a-distance.** Much of the evidence indicates that “a simple attitude of prayfulness – an all-pervading sense of holiness and a feeling of empathy, caring, and compassion for the entity in need – seems to set the stage for healing” (Dossey, 1993, p. xvii). No particular prayer ritual is necessary (a simple “Thy Will Be Done” or “May the best possible outcome prevail” may be sufficient), flowing as it does from the depths of the unconscious. Healing can take place whether the prayed for person is a friend or a stranger, either locally on site or nonlocally at a distance. The person being prayed for does not even need to be consciously aware of that fact (after all, the physical processes of enzymes, bacteria, cells, seeds, plants, and animals have all shown to change as the result of prayer).

**Be careful what you pray for.** Although not all prayer is 100% effective, reaching “a maximum of 20%...even in the best of hands...and [being] more effective for some problems than others...it is not difficult to imagine how a 100 percent success rate for prayer would create unimaginable global havoc” (Dossey, 1993, pp. 2-3). In a subsequent 1997 book titled *Be Careful What You Pray For...You Just Might Get it: What We Can Do About the Unintentional Effects of Our Thoughts, Prayers, and Wishes* Dr. Dossey reveals the power of prayer to harm as well as to help.

**Eliminating alternative explanations.** As a mental action, the power of prayer to influence bodily processes at a distance suggests something important about the nature of life, mind and consciousness, and the transpersonal nature of the physical body. As psychiatrist Eric Leskowitz observes in his 1993 article titled “Spiritual Healing, Modern Medicine, and Energy”:

“Clearly the standard biomedical model of man as an isolated biologic machine is not adequate to explain these dramatic physical effects of absent prayer. Nor, in this case, is the common psychoanalytic view that prayer is simply a defense mechanism which decreases anxiety. Yet neither is the paradigm of psycho-neuro-immunology adequate, for it postulates mind-body connections mediated by cellular biochemistry, limited by physical constraints, and unable to span the boundaries of space and time set up in [these] studies. Hence, once one has convinced oneself that [these] studies [are] methodologically rigorous, one must find a more comprehensive model of reality to explain the surprising results” (Leskowitz, 1993, p. 51).

Neglecting this information results in an incomplete theology and a misshapen medicine, and it is bad science as well” (Dossey, 1993, p. 10).

### The Charisms of Catholic Saints and Mystics

Charismatic phenomena that are recognized by the Catholic Church are exceptional human experiences that frequently accompany mysticism and religious devotional practice. **Figure 2-10** lists some of the “charisms” or extraordinary phenomena identified by the *New Catholic Encyclopedia* that have been subjected to thorough investigations by church officials, medical researchers, and skeptical civil authorities not unlike the scrutiny that miracle cures at Lourdes have undergone.

#### Figure 2-10 Charismatic Phenomena Recognized by Catholic Authorities

Many saints and mystics of the world’s great religions have exhibited these dramatic psychophysical changes in many cultures and throughout history, observed by reliable witnesses and thoroughly investigated and documented by highly informed religious authorities and medical researchers in volumes of medical reports, ecclesiastical reviews, and investigative journalists’ accounts to uncover pious fraud or moderate uncritical belief.

“Taken as a whole, studies of Roman Catholic sanctity provide a unique body of evidence for human transformative capacities...Roman Catholic canonization records provide compelling evidence for several types of metanormal capacity, and they undoubtedly contain clues about extraordinary functioning that no one has yet pursued. Someday, perhaps, their immense store of first-hand reports will be searched more thoroughly for insights about psychosomatic transformation” (Murphy, 1992, pp. 478-481).

Jesuit Herbert Thurston wrote a scholarly book titled *The Physical Phenomena of Mysticism* (published posthumously in 1952) that provides an excellent summary of the canonization proceedings, psi research findings, and psychiatric interpretations related to the charisms of Catholic mystics and saints. Although the charisms of Catholic saints and mystics are not by themselves considered proof of sanctity by the Roman Catholic Church, they do demonstrate the extraordinary psychophysical transformations that accompany intense devotion and belief (Gowan, 1980; Talbot, 1991; Murphy, 1992; Thurston, 1952).

**Figure 2-10. Charismatic Phenomena Recognized by Catholic Authorities**  
(Murphy, 1992, p. 483; *New Catholic Encyclopedia*, 1967, vol. 10, pp. 173-174))

**Visions**, the perception of normally invisible objects.

**Locutions**, interior illuminations by means of words or statements, sometimes accompanied by a vision and seeming to proceed from the object represented.

**Reading of hearts**, telepathic knowledge of secret thoughts or mood without sensory cues.

**Incendium amoris**, burning sensations in the body without apparent cause. These include interior heat, usually a sensation around the heart, which gradually extends to other parts of the body; intense ardors (when the heat becomes unbearable and cold applications must be used); and material burning that scorches clothing or blisters the skin.

**Stigmata**, the spontaneous appearance of wounds and bleeding that resembles the wounds of Christ.

**Tears of blood and bloody sweat (hematidrosis)**, the effusion of blood from the eyes, as in weeping, or from the pores of the skin.

**Exchange of hearts**, the appearance of a pronounced ridge of flesh on a finger, representing a ring designating mystical marriage with Christ.

**Bilocation**, the simultaneous presence of a material body in two distinct places at once.

**Agility**, the instantaneous movement of a physical body from one place to another without passing through the intervening space.

**Levitation**, elevation of the human body above the ground without visible cause and its suspension in the air without natural support. It may also appear in the form of ecstatic flight or ecstatic walk.

**Compenetration of bodies**, when one material body appears to pass through another.

**Body incombustibility**, the ability of bodies to withstand the natural laws of combustibility.

**Bodily elongation or shrinking**.

**Inedia**, abstinence from all nourishment for great lengths of time.

**Mystical aureoles and illuminations**, radiance from the body, especially during ecstasy or contemplation, which is considered to be an anticipation of the Glorified Body.

**Blood prodigies, bodily incorruptibility, and absence of rigor mortis** in human cadavers.

## Chapter 2 - The Transpersonal Nature of the Physical Body

Several examples of charismatic-type phenomena are described briefly below that offer another line of evidence for the transpersonal nature of the physical body: *stigmata, blood prodigies, body incombustibility, inedia, invulnerability to injury, agility, physical materialization, and body elongation*

### Religious Stigmata

Of the 350 cases of religious stigmata that have been reported since the phenomenon was first reported to have occurred on the body of St. Francis of Assisi in 1224 AD, approximately 60 cases have been examined, documented, and verified by medical and religious authorities (Murphy, 1992, pp. 484-502). Religious stigmata involve the appearance on the body of bruises, welts, bleeding wounds on the hands, feet, chest, and head corresponding to the image of Christ's crucifixion wounds displayed in art, sculptures, religious artifacts, and written about in religious texts. Religious stigmata differ from so-called hysterical stigmata in that they are almost always accompanied by ecstasy and other mystical phenomena, whereas hysterical stigmata tend to occur in the context of emotional stresses. Nearly all stigmatists are religious persons, such as St. Catherine of Siena, but not all stigmatists have been saintly persons. Most authenticated cases of stigmata have occurred in women. Almost all stigmatists show wounds in their feet, hands, and lower chest; some have developed marks and deep indentations around their wrists. Unlike similar wounds caused by physical projectiles, stigmatists' wounds never become inflamed, infected, or putrified. Stigmata are provocative examples of cutaneous alterations brought about by strongly felt-remembered-thought-imagined ideas and how "deeply absorbed states of mind can facilitate significant bodily changes" (Murphy, 1996, pp. 484-502).

**Notable stigmatists.** Notable stigmatists whose wounds were extensively scrutinized, documented, and verified by medical and religious authorities include

- Anne Catherine Emmerich (an Austrian nun who exhibited bleeding wounds in 1812)
- Gemma Galgani (an Italian peasant whose bleeding wounds corresponded to a crucifix before which she was accustomed to pray)
- Louise Lateau (a Belgian woman who exhibited the stigmata from 1868 until her death in 1883)
- Marie-Julie Jahenny (a French peasant who exhibited the stigmata from 1873 until her death in 1894, and which included skin-writing of the words *O Crux Ave* with a cross and flower on her chest)

- Padre Pio (an Italian Capuchin monk who exhibited the stigmata from 1918 until his death in 1968)
- Theresa Neumann (a German woman who exhibited the stigmata from 1926 until her death in 1962).

Father Herbert Thurston's 1952 book titled *The Physical Phenomena of Mysticism* describes provides an excellent summary of the lives of each of these stigmatists and the mystical phenomena that accompanied the stigmata.

**The case of Therese Neumann.** One remarkable stigmatist that has been extensively studied by medical investigators is Therese Neumann (1898-1962). Paramahansa Yogananda (1893-1952) first revered holy man of India to set up permanent residence in the West, devotes an entire chapter (chapter 39) to the stigmatist Therese Neumann in his book *Autobiography of a Yogi* (1946/1974). He provides the following highlights of her life:

- (1) Therese, born on Good Friday in 1898, was injured in an accident at the age of twenty; she became blind and paralyzed.
- (2) She miraculously regained her sight in 1923 through prayers to St. Therese of Lisieux, "The Little Flower." Later Therese Neumann's limbs were instantly healed.
- (3) From 1923 onward, Therese has abstained completely from food and drink, except for the daily swallowing of one small concentrated wafer.
- (4) The stigmata, sacred wounds of Christ, appeared in 1926 on Therese's head, breast, hands, and feet. Every Friday she experiences the Passion of Christ, suffering in her own body all his historic agonies.
- (5) Knowing ordinarily only the simple German of her village, during her Friday trances Therese utters phrases which scholars have identified as ancient Aramaic. At appropriate times in her vision, she speaks Hebrew or Greek.
- (6) By ecclesial permission, Therese has several times been under close scientific observation. Dr. Fritz Gerlick, editor of a Protestant German newspaper, went to Konnersreuth to "expose the Catholic fraud," but ended up by reverently writing her biography" (Yogananda, 1946/1974, pp. 419-420).

**Strong faith, not divine intervention is the likely explanation of stigmata.**

Evidence that strong spiritual belief and faith, not divine intervention, is the cause of religious stigmata can be found in the fact that “the form, size, shape, and location of the wounds varies from stigmatist to stigmatist, an inconsistency that indicates they are not derived from a common source, i.e., the actual wounds of Christ” (Talbot, 1991, p. 109; Thurston, 1952). Some stigmatists show chest wounds on the left side, others on the right side (the Bible does not say which side the Roman thrust his spear); others show stigmata that resembled wounds on the statuettes they were accustomed to worship. Also all stigmatists since St. Francis exhibit nail wounds on their hands and feet as displayed in religious icons (instead of through their wrists which was the Roman custom for crucifixion, since the hands and feet would be incapable of supporting the weight of a body hanging on a cross). At the very least stigmata show “the effects mental images may have on local bodily functions” (Stevenson, 1997, p. 15).

Whatever the cause of the phenomenon (e.g., transformative self-suggestion in the guise of God’s intercession), stigmatists demonstrate the body’s malleability and responsiveness to strong imagery, emotions, and the will. Stigmatists demonstrate the transpersonal nature of the physical body in its ability to produce significant and *specific* bodily changes in response to compelling mental imagery (evocative artistic depictions of Christ’s crucifixion), a passionate and ardent desire to embody a religious ideal (sharing Christ’s ordeals), and deeply absorbed states of mind (rapturous trance states (Murphy, 1992, pp. 497-502).

**Blood Prodigies**

**Liquification of St. Januarius’s blood.** Human blood, once it dries up into a brown crusty substance, is not supposed to be able to become bright, red liquid again simply by having a group of religious devotees shouting at it. Yet this is precisely what has occurred in May and September most every year since 1389 at the Cathedral of San Gennaro, or St. Januarius. St. Januarius was beheaded by the Roman emperor Diocletian in AD 305 and, according to legend, some of his blood was collected as a relic at that time, and was hidden until the end of the thirteenth century when it was placed in a silver reliquary in the cathedral. Spectroanalysis of the liquid in 1902 confirmed that it was real blood, but how the intense devotion and belief of all the people witnessing the miracle makes it occur is impossible to explain by known scientific laws (Rogo, 1982, p. 79).

**Blood flowing upward counter to the force of gravity.**

Observations of stigmatist Therese Neumann’s blood-flowing wounds indicated that when blood flowed it always flowed downward toward her toes regardless of how her feet were positioned (Schimberg, 1947)! Numerous witnesses reported observing these gravity-defying flows of blood even when she was sitting up-right in bed with her toes up in the air -- the blood would flow upward and *counter to the force of gravity*. Other stigmatists were capable of this feat as well (Thurston, 1952).

**Body Incombustibility**

**Fire immunity throughout history.** Vincent Gaddis’s 1967 book *Mysterious Fires and Lights* and Father Herbert Thurston’s 1952 book *The Physical Phenomena of Mysticism* are two of the best accounts of the remarkable psychosomatic transformation of “invulnerability to fire” displayed by individuals throughout history. There is the Old Testament story of Shadrach, Meschach, and Abednego who survived the fiery furnace of Nebuchadnezzar (Daniel iii, 25-27). St. Francis of Paula’s (1508) held burning embers in his hands without being harmed. The Camisard leader, Claris, during the rise of the Huguenots against Louis XIV, in the presence of 600 persons, placed himself on top of a burning pyre, but remained unharmed throughout the event with no mark of fire on his clothes or hair. Gabrielle Moler’s, a Jansenist convulsionnaire, in the presences of hundreds of people, put her head into a roaring hearth fire and held it there without so much as singeing hair, eyelash or eyebrow. Ceylonese fire-walking rituals involve natives walking through thousand degree hot pits of flaming embers. In these dramatic manifestations of the transpersonal nature of the human body, the apparently “unbreakable” natural law that *fire burns human flesh* is transcended.

**Firewalking.** Firewalking is one of the most documented phenomenon associated with fire immunity in modern times (Gowan, 1980). Firewalking in Ceylon, for example, has been the subject of magazine articles authenticated with pictures (*Atlantic Monthly*, May, 1959; *National Geographic*, April, 1966) and accounts in academic journals (*Nature*, September 1935; *The Lancet*, 1935). Firewalking has occurred in every society in all ages and cultures from ancient to modern (Long, 1954). Many Western scientists have been not only eye-witnesses but even granted the power to participate themselves (Long, 1954). The effect has been so well-documented and is at such variance with our usual concepts of physical reality that it certainly deserves mention as another demonstration of human transformative capacity and of the transpersonal nature of the human body.

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**Inedia**

**Independence from food and drink.** Current medical knowledge states that a person cannot survive with water for more than 3 days and without food for 14 days. Water is constantly leaving the body through the process of dehydration with approximately 28 ounces of water being expelled daily through breathing and through the pores of the skin.

**The case of Sister Esperance of Jesus.** The charism of *inedia* – long abstinence from drink and food (Host excepted), sometimes without loss of weight or energy - has been established by ecclesiastical authorities of the Roman Catholic Church and medical groups who have scrutinized “heroic fasting,” often submitting individuals to around-the-clock observation and chemical analysis of their urine, blood, and vomit (Farges, 1926).

“In 1868 the abstinence of Sister Esperance of Jesus was officially confirmed by the Bishop of Ottawa, assisted by two physicians, one, Dr. Baubien, a Catholic, and the other, Dr. Ellis, a Protestant. She was subjected to most rigorous supervision for six weeks, locked in a room and guarded and watched by sisters who never left her. At the beginning of the experiment she weighed 113 pounds; at the end, in the presence of the Bishop of Ottawa, her weight had reached 124 pounds. The venerable Dr. Landry, Professor at the Faculty of Medicine of Quebec, who came to Royau in 1880, also testified to this in the presence of Dr. Imbert” (Farges, 1926, quoted in Gowan, 1980, p. 186).

**The case of Therese Neumann.** The more astonishing the claim, the greater the mistrust, suspicion, and disbelief was provoked, the more critical and severe was the investigation by the Church (Murphy, 1992, pp. 502-505). When the local bishop in Regensburg heard of Therese Neumann’s inedia, he sent a commission in 1927 to her home to observe her. According to Talbot’s (1991) account:

“From July 14, 1927, to July 29, 1927, and under the supervision of a medical doctor names Seidle, four Franciscan nursing sisters scrutinized her every move. They watched her day and night, and the water she used for washing and rinsing her mouth was carefully measured and weighed. The sisters discovered several unusual things about Neumann. She never went to the bathroom (even after a period of six weeks she had only one bowel movement, and the excrement, examined by a Dr. Reismanns, contained only a small amount of mucus and bile, but no traces of food). She also showed no signs of dehydration....And her weight remained constant; although she lost nearly nine pounds (in blood) during the weekly opening of her stigmata, her weight returned to normal within a day or two later. At the end of the inquiry Dr. Seidl and the sisters were completely convinced that Neumann had not eaten or drunk a thing for the entire fourteen days... Yet this was nothing for Neumann; *she did not eat or drink a thing for the next thirty-five years*” (Talbot, 1991, p. 153).

**Access to superordinary energies?** Apparently it is true that “Man shall not live by bread” (Matthew 4:4), but by some other subtle form of energy that flows into the human body to sustain it. Therese Neumann referred to this energy as “God’s light” or the Holy Ghost that divinely upholds all creation; Yogananda refers to this invisible energy as “vibratory cosmic universal life energy” (*Aum*). Theresa claimed the energy flowed into her body from the sun and air; Yoananda says it enters through the sixth spinal *charka* (Sanskrit for “wheel” or center of radiating life force) located at the back of the neck and the medulla oblongata and that is directly connected with the Christ Consciousness center (*Kutastha*) located in the so-called third eye between the eye-brows. According to Murphy’s (1992) account:

“Conceivably, the body has access to superordinary energies that can be triggered by religious passion. Though most people who have fasted for long periods have been sedentary or bedridden, some have been physically active. Heroic fasting suggests that the body can reconstitute its elements in extraordinary ways, dramatically altering its habitual physiological activity” (p. 505)

### **Invulnerability to Injury**

#### **The Jansenist miracles of 18th century France.**

Although not one of the charisms listed by the New Catholic Encyclopedia, the extraordinary psychophysical phenomena of “invulnerability to injury” can be regarded as another indication of the transpersonal nature of the physical body.

The phenomenon occurred in the late eighteen century and centered on the grave site of Francois de Paris, a saintly and revered deacon of the puritanical sect of Roman Catholicism known as Jansenism. Jansenism was a popular religious movement of the early seventeenth century whose leaders were renowned for perform miraculous healings. Shortly after Francois de Paris was buried in the parish cemetery of Saint-Medard, Paris, on May 1, 1727, miraculous healings began to occur near the tomb in which the lame walked, the blind could see, and the deaf could hear.

The mourning worshippers at the tomb soon began to experience another extraordinary phenomenon – a fitful and trancelike state of involuntary spasms and convulsions during which they were impervious to physical harm, including injury by fire, cuts or punctures with knives, swords, and hatches, strangulation, blows by metal rods and chains, and a host of other tortures. The frenzied gatherings, occurring day and night, were observed by thousands of witnesses from all over Europe for several years. They even drew the international attention of Scottish philosopher David Hume who wrote in his *Philosophical Essays*:

“There surely never were so great a number of miracles ascribed to one person as those which were lately said to have been wrought in France upon the tomb of Abbe Paris. Many of the miracles were immediately proved upon the spot, before judges of unquestioned credit and distinction, in a learned age, and on the most eminent theatre that is now in the world.”

**Two accounts of invulnerability to injury.** Michael Talbot (1991) summarizes particularly two fascinating accounts published in 1737 by a member of the Paris Parliament named Louis-Basile Carre de Montgeron who wrote four volumes about the miracles he witnessed near Abbe Paris’s tomb in a book titled *La Verite des Miracles*

“In one instance a twenty-year-old convulsionaire named Jeanne Maulet leaned against a stone wall while a volunteer from the crowd, ‘a very strong man,’ delivered one hundred blows to her stomach with a thirty-pound hammer (the convulsionaires themselves asked to be tortured because they said it relieved the excruciating pain of the convulsions). To test the force of the blows, Montgeron himself took the hammer and tried it on the stone wall against which the girl had leaned. He wrote, “At the twenty-fifth blow the stone upon which I struck, which had been shaken by the preceding efforts, suddenly became loose and fell on the other side of the wall, making an aperture more than a foot in size” (Talbot, 1991, p. 130).

“Montgeron describes another instance in which a convulsionaire bent back into an arc so that her lower back was supported by “the sharp point of a peg.” She then asked that a fifty-pound stone attached to a rope be hoisted to ‘an extreme height’ and allowed to fall with all its weight on her stomach. The stone was hoisted up and allowed to fall again and again, but the women seemed completely unaffected by it. She effortlessly maintained her awkward position, suffered no pain or harm, and walked away from the ordeal without even so much as a mark on the flesh of her back. Montgeron noted that while the ordeal was in progress she kept crying out, “Strike harder, harder.” (Talbot, 1991, p. 130)

A more detailed historical account of the mind-boggling events of healings, invulnerability to torture, fire immunity, clairvoyance, and instances of levitation reported to occur at the tomb of Francois de Paris in the cemetery of Saint-Medard can be found in Robert Kreiser’s 1978 book *Miracle, Convulsions, and Ecclesiastical Politics in Early Eighteenth-Century Paris*.



## Chapter 2 - The Transpersonal Nature of the Physical Body

### Physical Materializations

Another phenomena often associated with saints in Western and Eastern religions is materializations (the ability to materialize physical objects out of thin air) and bilocation (the ability to instantaneously transport one's body from one distant location to another). Michael Murphy in his 1992 book *The Future of the Body* discusses those charisms for which "there can be no reasonable doubt" (e.g., stigmata, inedia, luminous phenomena, incendium amoris, odors of sanctity and holy body fluids, incorruption, bodily elongation, levitation, telekinesis, extrasensory powers, immobility of the limbs and diminution of the senses in ecstatic rapture), but considers bilocation "impossible" and thus overlooks it in his treatment of the charisms of Catholic saints and mystics (Murphy, 1992, p. 484). Two case studies are described below: the holy man Sri Sathya Sai Baba and the psychic D.D. Home

#### **Modern miracles: The case of Sri Sathya Sai Baba.**

One of the more remarkable modern-day cases of materialization and bilocation on record are those produced by the Hindu holy man ("baba" and religious leader Sri Sathya Sai Baba (1926-present). Born in the small remote village of Puttaparti, in Southern India, Sathyanarayana Ratnakara Raju (a.k.a. Sathya Sai Baba) has been performing extraordinary feats of materializations ever since recovering from a near fatal scorpion sting at the age of 14. Out-of-doors, in full daylight, and observed by literally thousands of witnesses including magicians, scientists, highly educated physicians, governors, judges, college professors, Sai Baba has materialized a range of materials including lockets, pendants, rings, finely crafted jewelry, Indian delicacies and sweets, *vibuti* (sacramental ash), *amrith* (a honey-like substance) in vast quantities many times a day in various locations over the past 60 years without anyone ever detecting a hint of deceit, fraud, or trickery.

**Haraldsson's scientific report of Sai Baba.** A rigorous scientific report of extensive interviews of various witnesses of the paranormal phenomena performed by Sai Baba, supported by contemporary documents, dairies and letters to support the eyewitness testimony is provided by Elendur Haraldsson, professor of psychology at the University of Iceland, in his 1987 book, *Modern Miracles: An Investigative Report on Psychic Phenomena Associated with Sathya Sai Baba.* According to Karlis Osis, Research Fellow at the American Society for Psychical Research, who also investigated claims of Sai Baba's translocation of his body and of other objects and substances, declares that "the stories of Baba's paranormal phenomena describe powers of a magnitude, variety, and sustained frequency not encountered anywhere else in the modern world" ( Haraldsson, 1987,

p. 9). According to Haraldsson's account: "Many of these alleged miracles, we are told, resembled those we read about in the New Testament, such as multiplication of food, 'changing of water into wine,' wonderous healings, and the reading of a person's innermost thoughts at a first meeting" (p. 14).

#### **Materializations of assorted objects "out of thin air."**

Unlike the short-lived materializations attributed to the physical mediums of the 19th and early 20th century such as D. D. Home and Indridi Indridason, Sai Baba's materializations remain as solid objects, appearing out the swami's bare hand, except on the few occasions when he apparently caused them to disappear.

"Practically all who have met Baba believed they had observed materializations, and most had a locket or a ring of some kind they were proud to show us. Each treasure had reportedly appeared out the swami's bare hand, and he had made a present of it to them. These objects were varied and made of a range of materials, including gold and precious stones, some of the pieces being jewellery of exquisite quality" (Haraldsson, 1987, p. 29).

Materialized objects have consisted of both inorganic and organic (plant) material. They are produced invariably in full daylight or under normal lighting conditions.

**The charism of agility.** Some observers have witnessed Sai Baba controlling the rain, levitating, appearing to groups of people at two different places at the same time, and suddenly disappearing at one place and almost instantaneously at another. For instance, one witnessed reported the following incident:

"As we were approaching the river and passing a hill on our right side, he (Baba) would sometimes suddenly disappear. He would, for example, snap his fingers and ask those around him to do the same. And hardly had we snapped our fingers when he vanished from amongst us and we could see him on top of the hill waiting for us" (Haraldsson, 1987, p. 258)

**Tranformation of matter.**Baba has reportedly changed water into sweet liquids, changed water into petrol, changed leaves or pebbles into toffees and lockets, coffee into milk, sand into bronze figurines, pieces of granite into sugar-candy, and a stone into an apple. For instance, one witness reported:

“In full daylight at Horseley Hills, Baba gave me a rather flat stone of irregular size and asked me to throw it up in the air. I threw it high up, and he asked me to catch it when it came down. I was afraid the stone might hurt my hands. By the time I caught it, it was an apple. I gave the apple to Swami, who took a knife and cut it into pieces, and everyone got a piece of the size into which we normally cut apples. From this one apple he gave pieces to some 25 people. This was a medium-size apple; normally it might have sufficed for 8 to 10 people” (Haraldsson, 1987, p. 222).

**Multiplying food.** Witnesses report his multiplying food – both hot and scold, solid and fluid, homemade and even factory-produced - for large groups of people at a time. For instance,

“Usually, after a namkara [a name-giving ceremony for a newborn baby], it is auspicious to distribute some sweets. After producing the pendant (a golden medallion with a chian given to the baby), Baba called my wife over, saying: ‘Let’s have some sweets.’ He asked her to spread her palms to form a cup. Baba rubbed his palms together above hers and filled up both her hands with a powerlike sweet that we call crushed ladus. It took only a few seconds, and there was so much of it that it was pouring out of his hands like rain, making a mound perhaps half an inch higher than the upper part of her palms. Baba went around and distributed the sweet to the five or six people who were also present. There was enough for everyone, and a little more besides, so when he came to my wife, he told her: ‘See, a double share for you.’ It tasted very good” (Haraldsson, 1987, p. 211).

**Action-at-a-distance.** Objects or materials inexplicably appear from Sai baba’s hands, forehead, mouth, and feet. There is also some evidence that objects appear at some distance from him (e.g., when he tells a person to pick an apple from a nearby tamarind tree and the individual finds an apple on a branch of that tree). Vibuti has appeared in distant places, such as on photographs of Sai Baba that hung on walls or that stand on tables in private homes, in some cases oozing out of the photo on and off for several months.

**The case of Daniel Douglas Home** It was mentioned previously that “nearly all of the miracles performed by saints and wonder-workers of the world’s great religions have also been duplicated by psychics” (Talbot, 1991, p. 120). Of course, just because one action (e.g., psychic surgery, levitation, telepathic impressions) can be duplicated by a magician through hidden gizmos, diversion techniques, and sleight-of-hand does not mean that that is how the psychic surgeon or levitator or clairvoyant accomplishes the feat any more than a computer program that simulates human problem solving explains how human problem solving occurs in the work-a-day world. To believe otherwise is to assume that the simulation is the real thing, that the model is the thing modeled, that the translation is the original meaning, that the appearance is the reality. Whatever the mechanism behind the production of charisms, comparisons between the miracles performed by saints and the phenomena performed by gifted psychics, are informative.

**Never detected in fraud of any kind.** One of the most extensively studied physical mediums of the nineteenth century was Daniel Douglas Home (1833-1886) for whom a great deal of outstanding evidence from many different sources (domestic and foreign) has been generated documenting remarkable phenomena that he produced under a wide range of conditions in locations he never visited before and in other settings where he had no opportunity to prepare a trick, plant an apparatus, or conceal a confederate and that exceeded any technology of the period (e.g., levitating in good light and with ample opportunity to inspect him before, during, and after the levitation). “During the entire period of D. D. Home’s mediumship – a period of almost 25 years – he was never detected in fraud of any kind,” despite careful efforts to expose them or prevent them by Nobel laureates, judges, university professors, magicians, medical doctors, government officials, members of the Royal Society, skeptics, and persistent critics (Braude, 1997, p. 65).

**Catalogue of phenomena.** Stephen E. Braude in his 1997 book *The Limits of Influence: Psychokinesis and the Philosophy of Science*, catalogues the mind-boggling physical phenomena manifested by D.D. Home during his 25 years has a medium (and excluding the healings, messages from spirits, and trance-impersonations of dead persons known only to the sitters) (Braude, 1997, pp. 65-66)

- 1) Raps, or knocking sounds, heard not just in the séance table, but in all parts of the room, including the ceiling.
- 2) Object levitations and movements, including the complete levitation of pianos and the movement and complete levitation of tables with several persons on top.

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- 3) Tables would tilt or move sharply, although objects on the table would remain stationary. Sometimes the objects would alternatively move and remain in place in response to sitter's commands.
- 4) Alteration in the weight of objects. On command, objects would become heavier or lighter. Before Crookes measured the phenomenon with instruments, its typical manifestation was that a table would become either too heavy for one or more persons to tilt or lift, or at least more difficult to move than it was before.
- 5) The appearance of lights or luminous phenomena in various parts of the room.
- 6) The appearance of partially or fully materialized forms in various parts of the room.
- 7) Touches, pulls, pinches, and other tactile phenomena occurring while the hands of all present were visible above the table.
- 8) Auditory phenomena (e.g., voice, sounds), and also music occurring without instruments in various parts of the room. Odors, produced in the absence of any visible object with which they might be associated.
- 9) Earthquake effects, during which the entire room and its contents rock or tremble.
- 10) Hands, supple, solid, mobile and warm, of different sizes, shapes and colors. Although the hands were animated and solid to the touch, they would often end at or near the wrist and eventually dissolve or melt. Sometimes the hands were said to be disfigured exactly as the hands of a deceased ostensible communicator (unknown to Home) had been.
- 11) The playing of an accordion, guitar, or other musical instrument, either totally untouched (and sometimes while levitated in good light), or while handled in such a way as to render a musical performance on the instrument impossible.
- 12) The handling of hot coals, and the transfer of incombustibility to other persons and objects.
- 13) Elongations, in which the medium grew from several inches to more than a foot.
- 14) Levitation of the medium. This is perhaps the least well documented of Home's major phenomena, occurring (according to Home himself) only once in daylight.

Two unusual feats of body alteration related to Christian charisms will be briefly mentioned: elongation and body incombustibility.

**"Which of you by taking thought can add one cubit to your stature? (Matt. 6:27)."** Bodily elongation is a feat that has been performed by both holy and profane individuals and written about in both Hindu sources (elongation is a "siddhi" or paranormal ability described in Pantanjali's *Yoga Sutras*) and Christian sources (Fodor, 1966). Charles Richet, professor of physiology at the Faculty of Medicine in Paris and President of the Society for Psychical Research in 1895, reports in his 1923 book *Thirty Years of Psychical Research* reports that D.D. Home was able to perform this feat that had been witnessed by at least 50 people. Richet reported one particular episode: "That day Home's body was elongated... His ordinary height is five feet eight inches; he elongated to six feet five and one-half inches" (Richet, 1923, p. 486). Richet quotes from the first-hand eyewitness account of Lord Adare, son of the Earl of Dunraven, who observed the event that day:

"Levitations were frequent, and still more frequent the elongations, this latter a singular phenomena very susceptible of mistake, for which we have no parallel. Home was placed against the wall, Adare being in front of him; then his arms seemed to lengthen and his breast to swell. Home said to me, 'Adare, you see the extension is from the chest.' He again placed himself against the wall and extended his arms to their ordinary stretch. I made a pencil mark on the wall at the ends of his fingers. He then lengthened his left arm and I made a fresh mark; then his right arm, which I also marked. The total elongation, measured in this way, was nine and one-half inches" (Richet, 1923, p. 486).

**Body incombustibility.** The ability of bodies to withstand the natural laws of combustibility (also called "fire immunity") was described previously. "Among mediums none was more famous for handling fire with impunity than D.D. Home" (Fodor, 1966, p. 139). Sir William Crooks (1832-1919), President of the Royal Society, discoverer of the chemical element thallium, inventor of the radiometer and a form of the cathode ray tube called the "Crookes tube," was one of the nineteenth century's greatest physicists. Crooks witnessed Home handling fire on two or three occasions. On one occasion, also witnessed by Sir W. Huggins, a former president of the Royal Society, Crooks reports the following event after some accordion phenomena, a table levitation, and other manifestations

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“Mr Home again went to the fire, and after stirring the hot coals about with his hand, took out a red-hot piece nearly as big as an orange, and putting it on his right hand, covered it over with his left hand so as to almost completely enclose it, and then blew into the small furnace thus extemporized until the lump of charcoal was nearly white-hot, and then drew my attention to the lambent flame which was flickering over the coal and licking around his fingers; he fell on his knees, looked up in a reverent manner, held up the coal in front and said: “Is not God good? Are not His laws wonderful? (quoted in Braude, 1997, p. 79).

### Birthmarks Suggestive of Reincarnation

**Where reincarnation and biology meet.** In his two-volume, 2,080-page monograph titled *Reincarnation and Biology: A Contribution to the Etiology of Birthmarks and Birth Defects*, Ian Stevenson, professor of psychiatry and director of the Division of Personality Studies at the Health Sciences Center at the University of Virginia, reports on 225 highly detailed case studies correlating birthmarks and other physiological manifestations (e.g., birth defect) with children’s experiences of remembered past life events, particularly violent death (Stevenson, 1997a). A concise 240-page summary (including photographs) of 112 of those cases is provided by Stevenson in his book *Where Reincarnation and Biology Intersect* (Stevenson, 1997b).

**Why birthmark evidence is important to the case for reincarnation.** Stevenson has collected over 2,600 reported cases of past-life memories of which 85 detailed reports have been published. Children who claim to remember a previous life have been found all over the world: many in Hindu and Buddhist countries of South Asia, Shiite peoples of Lebanon and Turkey, and indigenous tribes of West Africa and northwestern North America; fewer in Europe, the United States, and Canada. Stevenson (1997b) asserts that cases involving birthmarks (that differ noticeably from the kind of birthmark that almost everyone has) and birth defects are especially important for the following three reasons (pp.2-3):

- 1) *The birthmarks and birth defects provide an objective type of evidence well above that which depends on the fallible memories of informants.* “For many of the cases, we have a medical document, usually a post-mortem report, that gives us a written confirmation of the correspondence between the birthmark (or birth defect) and the wound on the deceased person whose life the child, when it can speak, will usually claim to remember” (Stevenson, 1997b, p. 2).

- 2) *The birthmarks and birth defects derive importance from the evidence they provide that a deceased personality – having survived death – may influence the form of a later-born baby.*
- 3) *The cases with birthmarks and birth defects provide a better explanation than any other now available [e.g., genetic factors, viral infections, chemicals, chance, postnatal environment] about why some persons have birth defects when most do not and for why some persons have birth defects have theirs in a particular location instead of elsewhere.*

### **Key features of cases suggestive of reincarnation.**

Stevenson (1997b) describes how a case suggestive of reincarnation typically develops. A case may begin when a dying person expresses a wish to be reborn to a particular couple (prediction of rebirth), or when a person has a dream in which a deceased person appears and announces an intention to be reborn to particular parents (announcing dream). Shortly after the baby is born, its parents immediately notice the presence of a major birthmark. Soon after the child begins to speak, usually between the age of 2 and 4 years old, he or she speaks about a previous life, and continues to do so until he or she is about 5 to 8 years old, at which time the memories usually begin to fade away (or at least stops talking about them). Other key feature that vary from one culture to another are noted by Stevenson (1997b, pp.5-9)

- **Emotion intensity of memories.** “Most of the children speak about the previous life with an intensity, even with strong emotion, that surprises the adults around them. Many of them do not at first distinguish past from present, and they may use the present tense in reference to the previous life” (p. 5).
- **Death recall /family recognition** “The content of what the child states nearly always includes some account of the death in the previous life. This is particularly true if the death was violent, but occurs also – less frequently – when it was natural. Beyond that, the child usually speaks about the family of the previous life” (p. 5).
- **Person recognition.** “If the child has given sufficient and adequately specific details, especially of proper names and places, it is usually possible to identify a deceased person the facts of whose life closely matches the child’s statements” (p. 6)

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- **Object recognition.** “The child may also recognize spontaneously (or on request) various persons, objects, and places known to the previous personality” (p. 6).
  - **Behavioral memory.** “The child displays unusual behavior... that is unusual for the child’s family, but harmonious with what can be known or conjectured about the person of whom the child speaks” (p. 7).
  - **Phobias.** “Phobias, nearly always related to the mode of death in the previous life, occur in about 35% of the cases” (p. 7), often lasting into adulthood after the child can no longer remember memories of a prior life.
  - **Philias.** “Piliias take the form of a desire or demand for particular foods (not eaten in the subject’s family) or for clothes different from those customarily worn by the family members...also...cravings for addicting substances, such a tobacco, alcohol, and other drugs that the previous personality was known to have used” (p. 7), also often lasting into adulthood after memories of a previous life have faded.
  - **Skills.** “A few subjects show skills that they have not been taught (or sufficiently watched others demonstrating, but which the previous personality was known to have had” (p. 7)
  - **Sex-change types.** “In cases of what we call the ‘sex-change’ type, the child says it remembers a previous life as a person of the opposite sex. Such children almost invariably show traits of the sex of the claimed previous life. They cross-dress, play the games of the opposite sex, and may otherwise show attitudes characteristics of that sex” (p. 7).
  - **Unusual behaviors.** “Particularly vivid examples of unusual behavior occur in subjects who claim to remember previous lives as natives of a country different from that of their parents” (e.g., Burmese children who claim to have been Japanese soldiers killed in Burma during World War II displaying traits typical of Japanese people but not Burmese people) (p. 8).
  - **Nature of the death** “The deaths remembered by the children are predominantly violent. The overall percentage of violent deaths in the previous life is 51%... [This] percentage far exceeds those of violent death in the general population of the countries where the cases occur” (p. 8).
  - **Persons connected with the death.** “The children often remember the others persons concerned in the death – usually murderers. The children often show strong animosities and attitudes of vengefulness toward these persons, especially if they happen to meet them. The animosity may generalize to other members of the same group” (p. 8).
  - **Play activity.** “Many of the children express memories of the previous life in their play”(e.g., assuming the role during play activity of a school teacher or a garage mechanic whose life they remember)...A few children enact in their play the mode of death in the previous life” (e.g., play at drowning) (p. 8).
  - **Interval between death and rebirth.** “The range in the median length of the interval between the previous personality’s death and the subject’s birth extends from only 4 months among the Haida of northwestern North America to 34 months among the Igbo of Nigeria” (p. 9).
  - **Characteristics of birthmarks.** “Birthmarks differ from ordinary nevi in various ways...[especially] when we consider the cases of correspondences between two birthmarks and two wounds...Many of these (and other) birthmarks have unusual details in which they correspond to details of a relevant wound” (pp. 110-111).
- How a case is investigated.** When Stevenson investigates a case, he begins with an a series of interviews of the subject (i.e., the child if he or she will talk with him or who may be adult at the time of the interview), his or her parents, and other informed persons who can provide *firsthand* testimony about the subject’s statements and any unusual behavior (e.g., older siblings, grandparents, teachers). Birthmarks or birth defects are examined, sketched, and photographed. Written documents are obtained to provide exact records of dates (e.g., birth certificate, identity cards, diaries, horoscopes). Next the family of the claimed previous life is interviewed in a similar fashion who must be firsthand witnesses of what they describe and to ascertain any previous acquaintance between the two families or the possibility of some mutual acquaintance. In cases with birthmarks and birth defects, postmortem reports and other documents are obtained to establish the location of the wounds on the deceased person of the claimed previous life.

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<p><b><u>Reincarnation is the best explanation.</u></b> After normal (and paranormal) explanations for the case are systematically evaluated and ruled out (e.g., mistaken identification of the deceased person, chance correspondence of wound with birthmark, presence of a similar birth mark or birth defect in the family, the two families had knowledge of or contact with each other before the case developed, the child shows ability for extrasensory perception of the magnitude necessary for obtaining their information in this way, informants' descriptions of events are inaccurate, unusual behaviors or identity is imposed by the parents on the child to explain the birthmark, etc.), "the [indisputable] correspondence between wounds and birthmarks and the child's correct statements about the life of the deceased person usually leave no doubt that the correct previous personality has been identified" (Stevenson, 1997b, p. 11). Stevenson concludes:</p> <p>"I believe...that reincarnation is the best explanation for the stronger cases, by which I means those in which the two families were unacquainted before the case developed. It may well be the best explanation for many other cases also. Yet in saying that I think reincarnation is the best explanation for many cases, I do not claim that it is the <i>only</i> explanation. Further research may show that it is not even the best one. This is a matter about which my opinion should count for little. I regard my contribution as that of presenting the evidence as clearly as I can. Each reader should study the evidence carefully – preferably in the monograph- and then reach his or her own conclusion" (Stevenson, 1997b, pp. 112-113).</p>	<p style="text-align: center;"><b>What Does It All Mean?</b></p> <p>This chapter briefly reviewed some of the best scientific evidence for the existence of the following mind-body phenomena:</p> <ul style="list-style-type: none"> <li>➤ Placebo effect</li> <li>➤ Imagery healing</li> <li>➤ Biofeedback</li> <li>➤ Hypnosis</li> <li>➤ Cultural beliefs and personal attitudes</li> <li>➤ Acts of will</li> <li>➤ Multiple Personality Disorder</li> <li>➤ Spontaneous remissions</li> <li>➤ Miraculous cures</li> <li>➤ Intercessory Prayer</li> <li>➤ Stigmata</li> <li>➤ Blood prodigies</li> <li>➤ Body incombustibility</li> <li>➤ Inedia</li> <li>➤ Invulnerability to injury</li> <li>➤ Physical materialization</li> <li>➤ Body elongation</li> <li>➤ Birthmarks suggestive of reincarnation</li> </ul> <p>Scientific evidence for the power of the mind – using the placebo effect, visualization, biofeedback, hypnosis, and cultural training and socialization – to affect bodily processes is extensive and is relatively accepted by open-minded transpersonal psychologists, psychiatrists, and medical researchers.</p> <p>The ability of some individuals to alter the so-called "laws" of physics when they display extraordinary psychophysical plasticity in MPD, heal themselves spontaneously or "miraculously," alter parts of the body to make them conform to the wounds of the Crucifixion, make themselves immune to fire, able to live for years without eating or drinking, invulnerable to physical injury, materialize organic and inorganic objects "out of nothing", and elongate their body provides some indication of <i>the degree to which</i> mental images in a person's mind may affect changes one's own physical body.</p> <p>Blood prodigies, intercessory prayer and birthmarks suggestive of reincarnation provide an indication that mental images in one person's mind may affect changes in <i>another</i> person's body and require further understanding and, perhaps, a new model of the nature of physical reality and human personality action.</p>
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### The Physical Reality of Thought.

Most college students learn about the physical reality of thought and emotion in the biological chapters of general psychology textbooks that describe the electrical and chemical foundations of experience and behavior (i.e., the structure of neurons, how neurons communicate, neural and hormonal systems, brain structures and functions, and how neurotransmitters influence attention, thoughts, emotions, and behavior). They learn how the smallest neuron within our body contributes to our psychological and emotional experience. They learn how “our proud human consciousness rests upon the vast ‘unconscious’ integrity of our physical being” (Roberts, 1981b, p. 31).

They also learn about *health psychology* and how psychological and behavioral factors directly and indirectly influence physical health and illness. They may learn, for instance, how the *behavior* of aerobic exercise (jogging) reduces the *psychological* experience of depression by its direct *physiological* effect on the autonomic nervous system (increasing arousal) and neurotransmitters (increasing serotonin levels) (Jacobs, 1994). Most of us are aware how physical reactions influence psychological states as anyone who drinks alcohol, takes psychotherapeutic drugs, or eaten a satisfying meal can testify.

**The interaction of thought and body.** Students of psychology also learn that is not just that thoughts and emotions have an electrical and chemical reality in addition to their recognized mental aspects, as of course they do, but that thoughts and emotions also trigger electrical and chemical reactions in the body. Each one of our thoughts and emotions represent a an eliciting stimulus that trigger our physical actions, directly affecting the behavior of our body, bringing about changes in our autonomic nervous system, through its sympathetic and parasympathetic divisions, and in the glands of our endocrine system, altering our entire physical body at any given time. Our bodies are changed biologically by our thoughts, as anyone has felt nervous over an upcoming exam, anxious about a public presentation, or upset over an argument with a friend can testify. The body responds to our thoughts, feelings, and beliefs that form the interior environment of concepts. Dreams and thoughts and psychological experiences all have an electrical and chemical reality that becomes retained in electrically and chemically coded data within the cells. This means thoughts interact with the body and become part of it.

The transactional relationship between body → mind and mind → body operates according to what Elmer Green, pioneer in the development of proprioceptive feedback theory and biofeedback techniques, called the “psychophysiological principle:”

Every change in the physiological state is accompanied by an appropriate change in the mental-emotional state, conscious or unconscious, and conversely, every change in the mental-emotional state, conscious or unconscious, is accompanied by an appropriate change in the physiological state (Green, Green, & Walters, 1970, p. 3)

In other words, the effects of the body are felt in the mind and the effects of the mind are felt in the body. According to Elmer Green and associates, it is the psychophysiological principle that makes psychosomatic self-regulation possible. It is also what made Mr. Wright’s placebo healing response possible as well.

As electrical and chemical actions, thoughts and emotions directly affect the physical health of the body system. Beliefs that foster apathy, despair, or hopelessness are biologically destructive, causing the body to automatically suppress the immune system and lower bodily defenses, change body chemistry and alter hormonal balances, stressing the body’s vitality and natural defense system and initiating disease conditions (Herbert & Cohen, 1993). Health psychology shows that how we physiologically react to environmental stressors depends on how we psychologically appraise them which, in turn, influences how we behaviorally cope with them (Lazarus & Folkman, 1984).

How one responds – intellectually, emotionally, or spiritually – to one’s problems has a great deal to do with the way the human body functions. One’s confidence or lack of it, in the prospects of recovery from serious illness affects the chemistry of the body. The belief system converts hope, robust expectations, and the will to live into plus factors in any contest of forces involving disease (Cousins, 1981, p. 205)

In terms of the body's health and illness, then, our mental states are indeed highly important. A person's private experience of health and illness occurs not only within the context of his or her personality type, personal habits, and levels of social support (Taylor, 2002), but basically cannot be separated from the larger framework of his or her philosophic and religious beliefs, cultural and political environment, psychological and sociological status. The individual's personal experience of health and illness must be viewed in the light of all these issues. The question of health and illness simply cannot be answered from a biological standpoint.

Our spiritual and psychological abilities add a dimension to our life and experience that is biologically pertinent. Placebos demonstrate that there is no real separation between mind and body. Our mind is as natural as our body; our body is as spiritual as our mind. Body and spirit dwell in a natural framework. Your thoughts and emotions are as natural as the cells within your body, as any portion of your body, and as real. Our thoughts and emotions are a part *of* nature and not apart *from* nature

Do not think of the mind as a purely mental entity and of the body as a purely physical one. Instead, think of both mind and body as continuing, interweaving processes that are mental and physical at once. Your thoughts actually are quite as physical as your body is, and your body is quite as nonphysical as it seems to you're your thoughts are. You are actually a vital force, existing as part of your environment, and yet apart from your environment at the same time (Roberts, 1997, p. 131).

A transpersonal psychology of mind-body communication and healing recognizes that the same power that moves your mind forms your body. It acknowledges that there is no difference between the energy that shapes your ideas and that heals your finger. Consciousness is not limited within the skull but circulates throughout the entire body. You don't just have a body, you are your body. Your body is your spirit in flesh. The spirit speaks with a physical voice and the physical body is a creation of the spirit. While we are physical creatures in the three-dimensional world of time and space; there is no division between the mental and the physical.



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<p style="text-align: center;"><b>PNI</b></p> <p>Through what biological pathways do these psychodynamic, cognitive, environmental and phenomenological variables work their magic? The biological approach called psycho-neuro-immunology (PNI) that specializes in the study of the interactions between the mind (psycho-), central nervous system (neuro-), and the immune system (immunology) provides some answers.</p> <p><b>Figure 2-3</b> summarizes seven kinds of experimental evidence that identify specific linkages among behavioral, neural, endocrine, and immune functions by which mind modulation of body functions is thought to occur (Adler, Felton, &amp; Cohen, 2000).</p>	<p>involved numerous academic disciplines working in collaboration, including: biochemistry, biophysics, endocrinology, immunology, microbiology, neurobiology, neuropharmacology, pathology, physiology, psychiatry, and psychology. A number of diverse strategies have generally proven to have a positive effect in modulating immune function response, including relaxation, hypnosis, exercise, classical conditioning, self-disclosure, perceived coping self-efficacy, and cognitive-behavioral interventions (Kiecolt-Glaser &amp; Glaser, 1992).</p>
<p><b>Figure 2-12</b> <b>Evidence for Mind-Body Communication in the Immune System</b></p>	<p>Modern research in psycho-neuro-immunology (PNI) has discovered that body tissues and organs distant from the brain produce and have receptors for brain neurotransmitters (e.g., endorphins originally thought to be present only in the brain are produced by various parts of the body that have receptors to receive them as well) (Pert, 1997). Such discoveries coupled with the evidence of human transformative capacity in studies of hypnosis, the placebo effect, multiple personalities, spiritual and miraculous healing indicate that a strong distinction between the brain and the body is no longer tenable.</p>
<p>The findings of psychoneuroimmunology and related fields reveal: (1) the highly interactive, feedback-laced nature of psychophysiological functioning; (2) multiple ways in which particular alterations of consciousness, behavior, bodily structure and processes are mediated; and (3) the immense specificity with which significant changes are happening, moment by moment, throughout the nervous, endocrine, and immune systems (Murphy, 1992, p. 23).</p> <p>PNI documents how mind and body operate as a single, integrated system. It indicates possible physical mechanisms and pathways by which mind-body communication and healing may occur. It helps us understand how Mr. Wright's autonomic-endocrine-immune systems could be activated by his belief in a cure and reveals human nature's capacity for creative, transformative change with appropriate focus and belief.</p> <p><b>Psychoneuroimmunology..</b> Psychoneuroimmunology (PNI) has demonstrated the existence of bidirectional communication pathways between the central nervous system (the brain via the hypothalamus-pituitary-adrenal axis) and the body's immune system, involving responses of many cells to multiple stimuli, with each providing important regulatory control over the other (Ader et al., 2000). The observation that various stresses (such as final examinations) can alter immune system functioning indicates that biochemical links established between the immune and nervous systems are also pathways for inner communication of thoughts, feelings, expectations, desires, fears, and beliefs. The establishment of a reciprocal relationship between the immune system and behavioral, psychological, and social factors have</p>	<p>Candace Pert, research professor at the department of physiology and biophysics at Georgetown University Medical Center has written that there is a "need to start thinking about how consciousness can be projected into various parts of the body" (Pert, 1986, p. 16).</p> <p>New work is now in progress that does not regard religious belief or placebos simply as mere "artifact" variables in investigations of healing whose effects are to be minimized or controlled but are instead to be understood and used (e.g., Sobel, 1990).</p> <ul style="list-style-type: none"> <li>• The <i>American Psychologist</i> in 2003, for instance, published a series of articles summarizing scientific research on the effects of religious belief on health (Miller &amp; Thoresen, 2003; Powell, Shahabi, &amp; Thoresen, 2003; Seeman, Dubin, &amp; Seeman, 2003; Hill &amp; Pargament, 2003).</li> <li>• Physician Larry Dossey in his 1993 book <i>Healing Words: The Power of Prayer and the Practice of Medicine</i> documents controlled scientific experiments that strongly support the power of prayer to positively affect <i>at a distant</i> high blood pressure, heart attacks, head aches, and anxiety, including the activity of enzymes, growth rates of leukemic white blood cells, mutation rates of bacteria, germination of seeds and growth rates of plants, firing rate of pacemaker cells, healing rates of wounds, the size of tumors, time requires to awaken from anesthesia, and hemoglobin levels and rates of hemolysis of red blood cells.</li> </ul>

**Figure 2-12. Evidence for Mind-Body Communication in the Immune System**

(adapted from Ader, Felton, &amp; Cohen, 2000; Rossi, 1986, pp. 152-155)

- ✓ Neuroanatomic and neurochemical evidence for the stimulation of lymphoid tissue (bone marrow, thymus gland, spleen, tonsils, lymph nodes, etc.) through the action of neurons of the sympathetic nervous system, that portion of the autonomic nervous system that is responsible for arousing the body and mobilizing its energy in stressful situations. This sympathetic innervation of primary and secondary lymphoid organs means that mind (via the central nervous system) has direct physical access for influencing all organs of the immune system.
- ✓ Observations that destroying or electrically stimulating areas within the hypothalamus result in activation of the immune system, and conversely, activation of the immune system results in inhibition or stimulation of the hypothalamus. Since the hypothalamus directs body maintenance activities (eating, drinking, body temperature, sexual arousal, heart rate, blood pressure), helps govern the endocrine system via the pituitary gland, and is linked to emotion and regulated by higher brain centers via connections with the limbic system, the intercommunications between the immune system and the hypothalamus may be open to influence by the mind.
- ✓ Evidence that white blood cells of the immune system called lymphocytes bear receptor sites both for a variety of hormones that are secreted into the bloodstream by the endocrine system and for neurotransmitters that transmit neural impulses within the autonomic nervous system which controls the glands and muscles of internal organs. There is also evidence that lymphocytes, themselves, are capable of producing neuropeptides (complex molecules secreted by the brain, spinal cord, glands, abdominal tissue, and organs) that circulate in the blood and lymph systems. This means that all of the changes produced in the autonomic and endocrine systems by the mind through hypnosis, biofeedback, and placebo response may be communicated to the immune system as well, and vice versa.
- ✓ The findings that activation of the immune system changes the level of circulating hormones and neurotransmitters, and conversely, alteration of the level of circulating hormones or neurotransmitters modifies activity of the immune system.
- ✓ Data documenting that a variety of behavioral manipulations such as classical conditioning and hypnosis are capable of influencing various parameters of immune functioning. For instance, when the presentation of a neutral, distinctively aromatic scent (e.g., mint), the conditioned stimulus (CS), if followed by injection of a drug that induces a temporary gastrointestinal upset and activates immunologic response (e.g., chemotherapy), individuals will learn, in a single trial, not only to avoid the mint scent – a conditioned olfactory aversion -- but also show conditioned enhancement of a variety of specific and nonspecific immune responses when the CS is subsequently presented – a conditioned immunological response.
- ✓ Research showing that psychosocial factors (social support, social isolation, crowding, noise) have the potential to influence the susceptibility to and/or the progression of a variety of pathological anatomic, cellular, and chemical bodily processes, including infectious diseases such as tuberculosis and pneumonia, autoimmune diseases such as asthma and rheumatoid arthritis, and neoplastic diseases involving abnormal tissue formation.
- ✓ Experimental and clinical studies in which psychological factors such as “stress” and depression have been shown to be capable of influencing immune responses and the onset of disease processes, depending on the individual’s perception of and capacity to cope with the quantity and quality of the stressful circumstances and the quality and quantity of immunogenic stimulation.

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- A variety of intervening variables have been investigated as possible explanations for producing healing placebo effects including classical conditioning (Wickramasekera, 1980), changes in response expectancy (Kirsch, 1990) and transformation of meaning (Frank & Frank, 1991).

While necessarily speculative at this time, further work drawing upon transpersonally-oriented mind-body therapies (e.g., Achterberg, 1985; Gawain, 1979; Houston, 1982; Lawlis, 1996; Leonard & Murphy, 1995; Maltz, 1960; Masters & Houston, 1978; Rossi & Cheek, 1988; Walsh, 1999) could provide additional evidence of the extent to which a change in inner focus and belief may be translated into positive immunological changes and improvements in health.

**Psychoneuroimmunology..** PNI studies how the mind (psycho), the brain and nervous system (neuro), and the immune system (immunology) interact. Research indicates that there is a “psychosomatic communication network” operating that links thoughts and emotions with the body and that this is how *mental healing* works, how something purely mental – thoughts, beliefs, meaning, intent, feelings – can have powerful physical effects on the body, powerful enough to eliminate warts, kill the tumor, lower blood pressure without drugs or surgery. Materialism was the predominant philosophy of Western medicine. Now PNI has encouraged a shift toward dualism, seeing mind and body as isomorphic aspects of each other.

**Molecules of emotion.** In 1972 neuroscientist Candace Pert, former Chief of the Section on Brain Chemistry of the Clinical Neuroscience Branch at the National Institute of Mental Health, discovered the existence of opiate receptors in the brain. Later her work led her to discover the existence of neuropeptide receptors on immune cells. Neuropeptides are molecules the brain uses to communicate. Previously, neuropeptide receptors could only be found in the brain. The existence of these receptors on the cells in our immune system (along with other research done that demonstrated the immune system could be conditioned) provided hard evidence that the immune system was not separate but an extension of the brain. Neuropeptides have been found throughout the body implying the existence of a vast mind-body communication network linking mind and body together.

In a recent 1997 book titled *Molecules of Emotion: Why You Feel the Way You Feel*, Candace Pert describes how our thoughts and beliefs, wishes and intentions create our emotions. These emotions, in turn, trigger the release of neuropeptide molecules that then travel throughout the body affecting the autonomic, endocrine, and immune systems causing physical changes in the body (Pert, 1997). Pert believes that it is our emotions that are the bridge between non-physical thought and the body.

If the body is conscious, then how conscious is it? What sorts of communications occur within the body? PNI has identifies some of the likely pathways that body system communicate with each other. How deep and extensive are these communications in fact? From the transpersonal perspective of Seth-Jane Roberts (1997):

“Each most microscopic portion of the body is conscious, strives toward its own goals of development, and is in communication with all other parts of the body... The molecules and even the smaller aspects of the body act and react, communicate, cooperate with each other, and share each other’s knowledge, so that one particle of the body knows what is happening in all other parts. Thus, the amazing organization usually works in a smooth, natural fashion” (Roberts, 1997, pp. 15-16)

We have seen how thoughts and beliefs, wishes and intentions, feelings and emotions can have powerful effects on the body and briefly noted how PNI has made major steps in helping us understand the mechanisms the mind uses to control the body. The astounding things the mind can do to modulate the immune system (imagery), negate the effects of drugs (MPD), melt tumors (placebos), heal wounds with great rapidity (miraculous cures), override our genetic programming (hypnosis), reshape living flesh (stigmata) suggests that each of us, ideally, possess the ability to influence our health and control our physical body. Transpersonal psychology, and transpersonal medicine in particular, seeks to explore and harness these talents, powers, and abilities each of us to some degree possess.

Our thoughts and beliefs, purposes, and intentions, expectations and wishes, fears and desires, images and attitudes, prejudices and faith are the important mental elements that provide clues to what we need to be aware of and acquire mastery over if we are to learn how to acquire and use these “transpersonal” powers and abilities.

### **The Power of Your Subconscious Mind**

**Power of the subconscious mind.** The power of the subconscious mind is the best explanation for many of these phenomena. The story of Mr. Wright, for instance, demonstrates the biological importance of ideas and the power of belief and the ability of the subconscious mind to regulate important “involuntary” autonomic (sympathetic and para-sympathetic) and immunological body functions when coupled with volition (i.e., conscious intent, purpose, expectation, and will). Obviously, it was not the worthless drug, Krebiozen that restored the abilities and functions of his body to its normal state of efficiency and good health. “It was his imagination aroused to an intense degree, plus the confident expectancy of a perfect healing. Imagination was joined to faith or subjective feeling, and the union of the two brought about a healing through the power of his subconscious mind” (Murphy, 200, p. 52).

“The greatest force in the human body is the natural drive of the body to heal itself – but that force is not independent of the belief system, which can translate expectations into physiological change. Nothing is more wondrous about the fifteen billion neurons in the human brain than their ability to convert thoughts, hopes, ideas, and attitudes into chemical substances. Everything begins, therefore, with belief. What we believe is the most powerful option of all” (Cousins, 1981, p. 205)

**The power of belief at the service of the subconscious mind.** If Mr. Wright had fully believed in the power of some saint’s bones or the healing properties of magnets, he would have gotten the same results. *Anything* that leads a person to honestly and fully believe in the theory or method or process will make a healing more likely. It is not the thing believed that heals or harms, but the belief, faith, and confident expectancy in the mind that acts as a powerful suggestion to the subconscious, releasing its healing potency. That healing power may be called by many different names – God, nature, life, creative intelligence – and the healing process may be described by different methods – qong, acupuncture, naturopathy, chemotherapy – but in reality they are simply different ways of referring to the healing potency residing in the subconscious mind.

The Buddhist, the Christian, the Moslem, and the Jew may all get answers to their prayers, in spite of the enormous differences among their stated beliefs. How can this be? The answer is that it is not because of the particular creed, religion, affiliation, ritual, ceremony, formula, liturgy, incantation, sacrifices, or offerings, but solely because of belief or mental acceptance and receptivity about that for which they pray (Murphy, 2000, p. xvii).

The law of belief, when harnessed to the power of the subconscious mind, becomes a working hypothesis for understanding the transpersonal psychological mechanism operating during mind-body healing. This conscious belief → subconscious mind principle points the way to a practical approach for building a new transpersonal understanding of mind-body communication and healing.

Placebos provide ample proof that expectations can have an effect on body chemistry and on the autonomic nervous system...and that what passes through the mind can produce alterations in the body’s chemistry. These facts also indicate that the same pathways that come into play through the use of placebos can be activated without placebos. The main ingredient is the human belief system (Cousins, 1991, p. 19).

In other words, it was Mr. Wright’s subconscious mind that did the healing, not the thing that he believed in. Mr. Wright’s belief in Krebiozen awakened and harnessed the powers of his subconscious mind – that vast storehouse of memory, that power that “involuntarily” controls one’s heartbeat and circulation of blood, that “mindlessly” regulates one’s digestion and respiration and elimination, that “mechanically” transmutes food into bone and blood and flesh, that “unconsciously” controls all the vital processes and functions of one’s body, that “unknowingly” grew one’s body from an infant to an adult – that then responded accordingly, in line with his conscious beliefs and expectations to activate his ever-present healing system, and a healing occurred.

## Chapter 2 - The Transpersonal Nature of the Physical Body

**The Conscious and Subconscious Minds**

**The subconscious mind exists with the conscious mind to contend with.** The body and the subconscious mind exist with the conscious mind to contend with. The subconscious mind and the cells that compose our body does not try to make sense of the philosophical and religious belief that pervade the social, cultural, political world. They rely upon the interpretation of the conscious mind that produces an inner environment of thoughts and concepts to which our subconscious mind and body responds.

The quality of our mental and physical health is formed through the subjective realities and energies of our feelings and cognitive constructs. Our conscious mind directs our attention toward sensations that occur in three-dimensional time and space, interprets those sensations into perceptions, organizing those perceptions into concepts, categories, and schemas. The subconscious mind and body depends upon those interpretations.

**The subconscious mind is conscious.** The subconscious is not simply a cardboard figure, however, or an ignorant machine that can be pushed around and bullied to carry out the orders of the outer ego. The nature of identity is far more mysterious than that. According to the transpersonal theory of Seth-Jane Roberts,

“The conscious ego rises indeed out of “the unconscious”, but the unconscious being the creator of the ego, is necessarily far more conscious than its offspring. The ego is simply not conscious enough to be able to contain the vast knowledge that belongs to the inner conscious self from which it springs” (Butts, 2002, p. 435).

In these terms, then, the subconscious mind *is* conscious. Just as our usual, waking conscious mind is directed by an outer ego, so is the inner subconscious mind directed by what may be termed an *inner ego* that organizes what psychodynamic-oriented psychologists, such as Jung, would call unconscious material. There is an inner ego or inner self that is the organizer of “unconscious” experience. The subconscious, subliminal stream of consciousness is complicated, richly creative, infinitely varied, purposeful, and highly discriminating. It is hardly “unconscious.” The waking ego is simply not aware of it because the memory of it is blocked out of memory from normal waking consciousness

**The subconscious mind and physical body share a deeper source.** The healing potency of the subconscious mind itself is the product of an even greater, inner consciousness with far more sense of identity and purpose. The subconscious mind, like the conscious reasoning mind with which we are most familiar, rises from of a deeper source which might be called the whole self or soul.

**Indirect evidence for the soul.** Dossey states that the empirical evidence surrounding intercessory prayer provides “indirect evidence for the soul” (Dossey, 1993, p. 6). Psychiatrist Daniel Benor and psychotherapist Rita Benor in a 1993 article “Spiritual Healing, Assuming the Spiritual is Real” concur (Benor & Benor, 1993, p. 22) . They identify three *theoretical* approaches to the transpersonal or spiritual nature of the body:

- Since Einstein proposed that matter and energy are interchangeable, the body may be perceived and understood as energy rather than matter;
- There is evidence for the existence of an energy body which surrounds and interpenetrates the physical body (Benor, 1993a, 1993b; Gerber, 1988; Kuntz, 1985; Leadbeater, 1980; Moss, 1979);
- The survival of a spirit after death.

Psychiatrist Daniel Benor and psychotherapist Rita Benor also refer to six lines of *research evidence* supporting the spirituality of the body:

- Out-of-body experiences (Monroe, 1973; Rogo, 1978; Osis & McCormick, 1980);
- Psychic phenomena (Nash, 1986; Tart, Puthoff, & Targ, 1979); Jahn & Dunne, 1987)
- Near-death experience (Moody, 1975; Morse, 1990; Ring, 1984)
- Death bed experiences (Osis & Haraldsson, 1977)
- Bereavement apparitions
- Reincarnation research (Stevenson, 1974; 1987; Woolger, 1987).

**The spirituality of the body.** Both spirituality and religiosity can be viewed as attempts by individuals to draw upon a source of energy that lies beyond yet within the human psyche – a source of aliveness and vitality that also lies within the body. In these terms, spiritual healing is more than psychological healing since it *intends* and *means to* draw upon the psyche's Source for its power and effect (whatever name or label is given to that Source). Just as the body has biochemical components whose source arise from underlying bioenergetic components, those bioenergetic components in turn arise from a source out of which all energy comes. As expressed from the transpersonal viewpoint of Seth-Jane Roberts:

“As the present life of any individual rises from hidden dimensions beyond those easily accessible in physical terms, and as it draws its energy and power to act from unconscious sources, so does the present physical universe as you know it arise from other dimensions, have its source, and derive its energy from deeper realities” (Roberts, 1972, pp. 237-238).

“Nature, without nature's source, would not last a moment” (Roberts, 1979, frontpiece). In these terms, spiritual healing, when it occurs, is an expression of energy, and the energy is “spiritual” because of its source.

Unconditional love and compassion have been proposed to be “important etiological components of an effective spiritual healing encounter” (Wirth, 1993, p. 74). In making such claims, researchers are not anthropomorphizing biomagnetic field interactions or attributing human feelings to life energies, but simply acknowledging that the trait of love (with its corollary desire to communicate and join with the beloved) does not belong to humans, or even to animals, alone, but is the result of energy's characteristics.

### **Meaning, love, and energy.**

Physician Larry Dossey in his 1991 book *Meaning and Medicine* reports laboratory and clinical studies that indicate that *meaning* is the key mechanism that accounts for healing breakthroughs to occur and for disease conditions to install themselves in the body. The mind is not the only thing that responds to meaning, however. As all the previous phenomena illustrate, the body responds to meaning as well. Meaning, in other words, is simultaneously both a mental and a physical characteristic.

Another word for meaning is *information*. Thought is a carrier of information just as the genes of the body are carriers of information. The information contained in a thought (the inner mental aspect) is simultaneously an electro-chemical event (the other physical aspect). Meaning (or information) has both these aspects. Information can also be conceived in terms of *energy*. The information (or energy) that moves our thought is the same information (energy) that heals our finger.

Meaning, in other words, is not simply subjective, but objective as well. The information contained in a computer chip, for instance, actively directs the flow of electrical current through the computer. The active use of information characterizes the behavior of all physical things from the electron to the cell. This means that the ability to respond to meaning is not simply a human attribute but is a characteristic of energy and matter itself.

### **Science may assume metaphysical explanations are required.**

Orthodox Western science often assumes that “miraculous” cures or successful experiments on distant intercessory prayer necessarily involve the concept of a divine or supernatural being having produced the desired results or else assume that such phenomenon requires a temporary suspension of nature itself by some outside supernatural action. This presupposition creates a conundrum for the researcher trying to identify the factors that may possibly influence inexplicable cures and effective prayers. For instance, consider a quote from the article “Experiments on Distant Intercessory Prayer: God, Science, and the Lesson of Massah” that appeared in the *Archives of Internal Medicine* (Chibnall, Jeral, & Cerullo, 2001):

“If prayer is a metaphysical concept linked to a supernatural being or force, why would its efficacy vary according to parameters such as frequency, duration, type or form? ... Why, then, attempt to explicate it as if it were a controllable natural phenomenon? ... There is no reasonable construct to which to link prayer because of, we would argue, its very nature” (Chibnall, Jeral, & Cerullo, 2001, p. 2530).

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**Transpersonal Nature of the Physical Body**

**Natural processes we do not yet understand.** The materializations associated with the modern-day marvel Sathya Sai Baba especially challenge our conventional ideas about the nature of physical reality. His reported ability to be two places at once or to momentarily vanish and instantly reappear a hundred years or more away implies that our bodies are not the mere objects that we imagine or conceive them to be, but are even capable of transcending conventional limitations of space and time. The laws of physics (at least those which are revealed to us by our scientific method) are apparently not set in stone and are not as limited as our method of knowing reveals them to be. The extraordinary psychophysical phenomena examined in this chapter may simply be due to natural processes we do not yet understand. “There is nothing abnormal in the world- there is only the lack of understanding the normal” (Swami Puri).

**Supernatural intervention not required** All of the phenomena surveyed in this chapter are obviously natural and inherent in the body structures; they could not happen unless there were biological processes that allowed for such performances. Understanding these mind-body phenomena, therefore, does not require metaphysical concepts linked to a supernatural being or force or the suspension of so-called natural law. A transpersonal interpretation of the cures at Lourdes, for instance, would not necessarily posit that any known laws of physics were violated. They could well be due to the accelerated healing capacity of the body’s normal processes of organic repair that were activated by the individual’s faith and belief in the healing power of Lourdes.

**Suspension of natural law not required.** A transpersonal perspective toward spiritual healing, miraculous cures, charismatic phenomena, and other related extraordinary events does not require the assumption of a temporary suspension of nature by divine intervention. If health is a natural state of our being, then “‘miraculous’ healings are simply instances of nature unhampered” (Roberts, 1979, p. 330). As St. Augustine put the matter: “Miracles do not happen in contradiction to nature, but only in contradiction to that which is known to us of nature.” “What we see is not nature, but nature exposed to our method of questioning” (Werner Heisenberg).

**Psychic or supernatural explanation preferred?**

A parapsychological explanation for extraordinary phenomena that occur within the context of mysticism or religious events should not be ruled out *a priori*. *Most of the reported miracles performed by saints throughout history in all of the world’s great religions have also been performed by psychics.* Many stigmatists including Padre Pio and Therese Neumann were renowned for their psychic abilities. Satya Baba, a contemporary mystic, is renowned for performing many of the miracles that have traditionally been attributed to Jesus (e.g., multiplication of loaves and fishes). Proposing a supernatural cause is a less accurate representation of the facts than supposing that the “miracles” are produced by powers and abilities that lie deep in the human psyche that are latent within all of us or as a result of the collective psychic powers of large numbers of devote worshippers, intense faith, and fervent belief (Thurston, 1952; Rogo, 1982; Gowan, 1980; Murphy, 1992).

**A transpersonal interpretation of a spiritual event.** The term “religious experience” includes transpersonal experience; but there are certain types of religious experiences that do not meet the criteria for being transpersonal (Anthony, Ecker, and Wilber, 1987). The apparition of the Virgin Mary at Medjugorje would certainly be considered a religious experience. Would it also be considered a transpersonal experience? In certain terms, the apparition of the Virgin Mary *may* represent a transpersonal event “in which the sense of identity or self [of the six young people at Medjugorje] extends beyond the individual or personal to encompass wider aspects of humankind, life, psyche, and cosmos” (Walsh & Vaughn, 1993a, p.3), but is this all that is happening? How does the universe participate in the creation of this event? What role does Being play in the manifestation of this transpersonal event? Would it be legitimate (and possible) for a transpersonal psychologist to offer a transpersonal interpretation of an obviously religious and spiritual event (such as the apparition at Medjugorje) without appearing to proselytize a transpersonal theology? **Figure 2-11** provides one provocative interpretation of the Medjugorje phenomenon from the unique transpersonal perspective of Seth-Jane Roberts.

**Figure 2-11**  
**Miracle at Medjugorje**

**Figure 2-11. Miracle at Medjugorje**

(Roberts 1981a, 1981b)

In June, 1981, the Blessed Virgin Mary, Mother of Jesus the Christ, began appearing to a group of young people in a remote mountain village in Yugoslavia. How would such an event be interpreted from a transpersonal perspective?

First of all, it is important to acknowledge that conventional religious concepts and rational true-or-false approaches can make interpretations of such highly creative and important phenomena as happened at Medjugorje extremely difficult. Living as we do in the modern scientific age, we search for certainties and are taught from childhood to consider physical facts as the only criteria of reality. We seem to think that if we can name and label exceptional events such as occur at Medjugorje a “miracle” or a “supernatural religious event,” on the one hand, or as a “schizophrenic delusion” or “serotonin hallucination,” on the other, then they will be more acceptable and real. The ordinary ego-directed mind wants its truths labeled, and clothed in the clear-cut contrasts of good or bad, true or false, black or white. Often this presents us with an irreconcilable dilemma because we are then put into the position where we must prove that the outside source of the “miracle at Medjugorje” – the Virgin Mary, Christ, or God the Father – really exists, or lose faith in the phenomenon, and face the fact that our perception and understanding is not infallible. The revelatory nature of the knowledge emerging from these six youths’ experience seems so supernormal because they (and we) try to view it from the perspective of normal waking consciousness and our usual work-a-day world. We naturally interpret its manifestation and any symbolic meaning it may have in the light of our beliefs of good and evil, the possible and the impossible.

We cannot understand what the Medjugorje phenomenon is unless we understand the nature of personality and the characteristics of consciousness.

From a transpersonal perspective, calling exceptional events such as occur at Medjugorje either a “miracle,” and “supernatural religious event,” or as “schizophrenic delusion” or “serotonin hallucination,” remain rather conventional interpretations of greater truths about ourselves. The visions of these six youths may represent messages from multidimensional aspects of ourselves (being as we are a portion of All That Is) to selves who are in space and time. The Virgin Mary personality may represent a deep part of the structure of the psyche of the six youths *as well as* a definite personification of a multi-reality consciousness (or Virgin Mary entity). The messages they receive would represent the encounter of their personalities with the vast power of their own psyche in dramatized form with the source of their being (or “God” if you prefer), *personified* according to the ideas of these six young people. Note that such an interpretation of this important event, does not deny the validity or significance of the phenomenon, nor claims that the six young people are making it all up, nor that it proceeds *from* them alone.

When people pray or have authentic mystical experiences, it is important to recognize that, psychologically speaking, they are still working through areas of the psyche. At some indescribable point, the psyche *may* open up into levels of being, reality, experience, or understanding usually unavailable to ego-directed awareness, and personify itself to get its message across, dramatizing itself through the creativity of the percipient’s beliefs and personality. The symbolization and personification is important psychologically. Quite legitimate and valid psychological experiences of basically independent, alternate realities become clothed in the garb of very limited, conventional images and ideas.

The six youths at Medjugorje have personified their experience in conventional religious terms, while instinctively sensing its multidimensional nature. The valid and significant creative material, the psychic content, becomes changed by the beliefs, symbols, ideas, and intents of the conscious mind of these six visionaries who must interpret the information they receive.



**Figure 2-11. Miracle at Medjugorje (continued)**

(Roberts 1981a, 1981b)

Cognitive psychology reveals how schemata can limit our understanding of events, situations, and other people, and how we, in turn, often limit our own experience to fit the schemata what we have. This applies to self-schemata as well. Most people do not understand their own inner reality and many individuals have been taught to mistrust themselves. After all, the unconscious self, from the Freudian perspective, is acknowledged to be devious, capable of the most insidious subconscious fraud, and filled with infantile impulses that cannot be trusted. Revelatory material then must erupt *as if* it came from an outside source.

On an inner level, the six youths of Medjugorje are perceiving something different and of significant importance to them, for beyond the boundaries of the known self, intuitive and revelatory knowledge springs into their existence to expand their conscious knowledge and experience. Yet mixing with *their* type of life space, imprinted by *their* psychological field, and sifted through the personalities of the percipients, the phenomenon - the appearance of the Blessed Mary - appears in line with the six youth's ideas of Christianity and personality, *even though the phenomenon's own reality might exist in different terms entirely.*

It may be that personifications of such entities as manifested in the "Virgin Mary" personality usually come through only as caricatures of their real natures because of our beliefs about the nature of *personhood*. The individual psyches of the six Medjugorje youths likely deflects and distorts the "Virgin Mary" personality to some degree and *reflects it through their own nature* as it expresses itself through them. The religious concepts of these six youths, in other words, form a grid or net or webwork of beliefs through which their deepest perceptions flow.

It is through the rather *conventional* Catholic image of the Virgin Mary that they have interpreted whatever manifestations their own psyche may have presented themselves with. The problem that is forever upon us is in making the symbolic personifications literal (for has not science taught us that only the literal fact is true?). The problem is never looking behind the symbolism of the communication, beyond the personification of the inner morality play that is the "Miracle at Medjugorje" for Catholics world-wide, for the greater meanings beneath.

As Jung clearly understood, the "Virgin Mary" personality is a symbol (or archetype) for other dimensions of our own personality. Its language is not literal truth in limited positivistic true or false terms. The symbols of the Medjugorje vision are *a reality in an inner order of events that can only be stated symbolically in our own three-dimensional physical world* of space and time. There is an inner and outer order of events.

The vision of the six youths of Medjugorje presents some very private information from that inner order. But like a round peg trying to fit a square hole, the resulting translation gives us events squeezed out of shape to some degree, as the six youths superimpose one kind of reality over another, interpreting one kind of information from the inner order *in terms of* the outer one, with all of its quite conventional beliefs, symbols, ideas, and images, altering it to some extent. The experience of these six youths become tinged with the entire bag of concepts and beliefs they hold, influenced by the religious and cultural beliefs of our time.

### Resistance of Science

#### **Why investigate the reality of fictions?**

As far as official, mainstream psychology is concerned, phenomena such as the miraculous cures of Lourdes, intercessory prayer at-a-distance, the various charisms (body incombustibility, edenia, invulnerability to injury, blood prodigies), the materializations of Satya Baba and D.D. Home, the birthmarks suggestive of reincarnation, and so forth cannot possibly exist given the nature of reality and human personality action presumed by the materialistic philosophy of mechanistic science.

**The phenomena don't fit the philosophy.** In those terms, our bodies are nothing more than a complex combination of atoms and molecules, chemical neurotransmitters and hormones, cells and organs and nothing more. Physical illnesses (cancer, ulcers, allergies, warts, heart disease) have purely physical causes (diet, smoking, lack of exercise, viruses, bacteria, faulty genes, hormonal imbalance) and are cured by physical means alone (drugs or surgery). Mental, nonphysical thoughts and feelings simply cannot interact with or affect or influence the processes of insentient, physical entities such as the body because it seemingly violates scientific laws of cause-and-effect.

**Not understanding how something works doesn't mean it isn't real.** It is ridiculous to believe that a worthless sugar pill, for instance, can produce the same *physical* effects in the body as a "real" drug that has taken many years and millions of dollars to develop and test by reputable pharmaceutical companies approved by the Food and Drug Administration. Such mind-body effects when they appear to occur must be the result of faulty observation, fraud, trickery, deceit, or a simple fluke, a random event in an impersonal universe with neither reason nor meaning nor purpose. Viewed as contaminating nuisance factors and confounding variables that need to be controlled rather than encouraged, many hospital doctors, nurses, and medical researchers tend to ignore, overlook, or deny the therapeutic value of powerful self-healing processes (Goodwin, Goodwin, & Vogel, 1979). As Larry Dossey in his 1993 book on spiritual healing titled *Healing Words: The Power of Prayers and the Practice of Medicine* states: "A body of knowledge that does not fit with prevailing ideas can be ignored as if it does not exist, no matter how scientifically valid it is" (p. xv).

**Evidence is extensive.** Clinical and laboratory evidence is extensive, however, that mind-body events such as placebos, miraculous healings, multiple personality disorders, spontaneous remissions, biofeedback, hypnosis, and mental imagery may involve any system of the body – nervous, endocrine, cardiovascular, respiratory, digestive, renal, and immune – and influence the prognosis of any physical disorder – epilepsy, cerebral palsy, parkinsonism, multiple sclerosis, Huntington's disease, polio, paraplegia, diabetes, atherosclerosis, rheumatic fever, high blood pressure, anemia, hay fever and asthma, viral and bacterial infections, gastroenteritis, diarrhea, peptic ulcer, hepatitis, urinary tract infection, kidney failure, impotence, AIDS, inflammatory response, and even the expression of genes (see for example, O'Regan & Hirshberg, 1993; Murphy, 1992; Justice, 1987; Moyers, 1995; Achterberg, 1985; Targ & Katra, 1999).

**Explanations still sought.** A remarkable range of changes and alterations in biological states and traits occur during phenomena that have been variously referred to as "placebo effects," "spontaneous remissions," "spiritual and miraculous cures," "multiple identity states," "therapeutic hypnosis," and "biofeedback". These terms, of course, do not explain how the phenomena of mind-body communication and healing occur. They are but descriptive labels and designations applied to the phenomena. The underlying processes of mind-body communication and healing are still subject to hot debate within the medical community and mainstream psychological science. In ignoring or minimizing the power of the placebo effect as a mere artifact in pharmacological research, however, to take just one example, psychological science risks losing a deeper understanding of the true potential of one of the most powerful therapeutic psychological interventions available to humankind – the belief that our body does indeed have the power and capacity to heal itself.

**Scientific arrogance and the power of prior belief.** The history of science is full of examples in which seemingly impossible phenomenon became possible and eventually accepted as facts within currently accepted scientific frameworks through a "paradigm shift" (a paradigm is "the entire collection of beliefs, values, and problem-solving methods and models shared by the members of a given scientific community") (Kuhn, 1962, p. 175). The existence of the subconscious and its corollary phenomenon of hypnosis, for instance, was vilified, ridiculed, and scorned by skeptical orthodox psychological science for over 100 years as being an obviously false, absurd, and mistaken idea and impossible phenomenon before a shift in beliefs, values, and problem-solving methods lead to its acceptance as bona

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fide phenomena in the history of psychological science (Ellenberger, 1970). When first proposed to the scientific community, Harvey's theory of blood circulation was called "crack-brained," Jenner's small-pox vaccination was rejected, Louis Pasteur's germ theory met hostility, Lister's introduction of antiseptics was ignored, Thomas Edison's demonstration of the phonograph and invention of the incandescent light bulb were declared preposterous, Wegner's theory of "continental drift" was ridiculed, Einstein's General Theory of Relativity was declared incomprehensible and contradictory to common sense, and so on (Milton, 1996). "Yet the history of science itself demonstrates how often yesterday's heresies turn into today's orthodoxy" (Schmicker, 2002, p. 32)

### The Varieties of Anomalous Experience

**Varieties of anomalous experience.** Many of the phenomena mentioned in this chapter are noteworthy because they seem to defy the laws of nature as understood in Cartesian-Newtonian science. Mainstream psychology would regard them as "anomalies" (Cardena, Lynn, & Krippner, 2000). They are noteworthy, however, not because they *are* anomalies that require explanation within the Cartesian-Newtonian paradigm of modern science, but because they suggest that the Cartesian-Newtonian paradigm itself requires revision in explaining how non-anomalous instances of healing occur. Unusual observations and experimental data are regarded as "anomalous" until theoretical frameworks change. Anomalous experience and behavior always provides genuine science an opportunity to enlarge its net of evidence and web of assumptions through which it views the nature of physical and psychological reality.

Science itself must change, as it discovers that its net of evidence is equipped only to catch certain kinds of fish, and that it is constructed of webs of assumptions that can only catch certain varieties of reality, while others escape its net entirely (Roberts, 1981, p. 137).

The recognition, acknowledgement, and acceptance by mainstream psychology of exceptional human experiences and human transformative capacity as an extension of *normal* human personality action will require a change of belief, values, and problem-solving methods that honors the full range of human experience and behavior. According to transpersonal psychologist Frank Lawlis, edition of the 1996 book *Transpersonal Medicine: A New Approach to Healing Body-Mind-Spirit* believes that "any medicine that does not honor and engage the transpersonal dimensions of human experience is limited and incomplete" (Lawlis, 1996, p. xiii).

**Open Mind.** Educational psychologist John Curtis Gowan in his 1980 book *Operations of Increasing Order and Other Essays on Exotic Factors of Intellect, Unusual Powers and Abilities, Etc. (as Found in Psychic Science)* provides a compilation of amazing accounts of body powers and abilities that should not be able to happen if our currently understanding of "natural" law is correct. The fact that such phenomena have been consistently reported in all cultures for centuries by persons and groups of persons who have otherwise lived truthful and in some cases saintly lives, given them some degree of face validity, and ought not to be dismissed out-of-hand as simply delusions, fraudulent, and lies. As William James once remarked in the context of "supernatural" phenomena such as clairvoyance and apparitions that were being investigated by the London "society for Psychical Research" at the time: "It is a field in which the sources of deception are extremely numerous. But I believe there is no source of deception in the investigation of nature which can compare with the fixed belief that certain kinds of phenomena are *impossible*" (quoted in McDermott, 1968, p. 787). To ignore or dismiss this evidence in such a prejudicial way would be unscientific.

**Conceptual and methodological difficulties.** Part of the difficulty lies in the *conceptual* and *methodological* confusion that surrounds spiritual healing (Krippner & Villolodo, 1976). The basic concept of "spiritual healing" is ambiguous because a wide variety of practices are associated with it such as touching or passing the hand over the patient (e.g., Therapeutic Touch), invocation of spirit guides or deceased ancestors (e.g., shamanism), praying to God and the Saints (e.g., prayer healing), Reiki, Resonance Balancing, and so forth (Solfin, 1984). Different approaches in the practice of "transpersonal medicine" require that a broader and clearer definition of healing be adopted.

The methodological difficulty lies in defining some theory capable of explaining the agencies of action by which healing occurs. Some researchers claim the patient's belief in the process is key, others say that neither patient belief nor expectancy is important, it is the healer's intention and expectancy that is key. Still others say intention and communication of love and compassion are fundamental in the spiritual healing process. Some say a belief in God or some Higher Power is key, while still others assert that concentration on a source of healing outside oneself misses the true point that all healing (spiritual, mental, emotional, physical) originates from within the body that requires the healing.

As Daniel Wirth states in his 1993 article titled “Implementing Spiritual Healing in Modern Medical Practice” reminds us:

“The field of spiritual healing must continue to gather objective physiological data using both the double-blind randomized reductionistic model as a new approach suggested by Myers & Benson (1992) which incorporates predictability, measurability, and reproducibility to gauge psychological and spiritual health factors. In order for a claimed fact to be verified, it must be possible to predict the outcome of a measurement done on specified parameters with specified instruments and those measurements must be reproducible” Wirth, 1993, p. 76).

### **White Crows Abounding**

**White crows abounding.** From the viewpoint of transpersonal psychology, understanding the phenomena described in this chapter as demonstrations of the power of the subconscious mind – Mr. Wright’s placebo healing response, the effects of mental images on local bodily functions using creative visualization and biofeedback, physical changes that do not correspond to known configurations of nerves or blood vessels in the skin using hypnosis, voodoo death, transcendence of the usual parameters of physiological functioning through acts of will, changing “unchangeable” bodily processes in MPD, the body’s innate healing ability demonstrated in spontaneous remissions, scientifically inexplicable “miraculous” cures of Lourdes, healing-at-a-distance using intercessory prayer, bodily changes corresponding to mental images in stigmata, blood prodigies, body incombustibility, inedia, invulnerability to injury, physical materializations, body elongations, and birthmarks suggestive of reincarnation – events that are not supposed to exist but do anyways – points the way to a practical approach for facilitating mind-body communication and healing in a controllable, predictable, and explainable way.

It is not easy for a physical healing to be proclaimed a miracle by the Roman Catholic Church. The major miracle as far as orthodox Western science is concerned is that the phenomena described in this chapter exist at all. When we learn that something that science tells us cannot happen but does anyway, we should again take note of William James’s famous statement to the effect that it takes only one single white crow – one counterexample – to prove that not all crows are black.

“If you will let me use the language of the professional logic-shop, a universal proposition can be made untrue by a particular instance. If you wish to upset the law that all crows are black, you mustn’t seek to show that no crows are black; it is enough if you prove one single crow to be white” (Murphy & Ballou, 1973, p. 41).

“As in the case of subliminal perception, all that is needed is one solid finding to change the way we think about the mind” (Kihlstrom, 1984, p. 117). We need only one verified case of spiritual or miraculous healing in which fraud, mistaken diagnosis, and other “normal” explanations are ruled out to cast doubt on the principle that “miracles” are impossible and do not exist. The fact of the matter, at least in the case of Lourdes cures and their medical assessment, is that we have not one but 64 white crows; in the case of correlating children’s birthmarks with the location of the wounds on the deceased person of the claimed previous life we have 225 white crows. We also have a D. D. Home, a Sathya Sai Baba, a Theresa Neumann, a Vittorio Michelli, a Miss Beauchamps, a Mirin Dajo, a Jack Schwarz, a Mr Wright, and a fishskin boy, as other “white crows.”

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### REVISIONING THE MIND-BODY PROBLEM

Understanding the nature of mind and body has been problematic for traditional psychology for over 100 years. During that time two main theories (with numerous derivative theories) have evolved to explain the power of the mind to affect the workings of the physical body and the relationship between the physical reality of human thought and its recognized mental aspects. These two theories are called “monism” and “dualism.” The modern form of the mind-body problem has been succinctly expressed by Wilder Penfield in his 1975 book *The Mystery of the Mind: A Critical Study of Consciousness and the Human Brain*.

“Is the mind merely a function of the brain? Or is it a separate but closely related element?... Do brain-mechanisms account for the mind? Can the mind be explained by what is now known about the brain? If not, which is the more reasonable of the two possible hypotheses: that man’s being is based on one element, or on two” (Penfield, 1975, pp. x, xiii)?

**Monism and dualism defined.** Monism is the metaphysical theory that our being is based on one fundamental element – matter. Dualism is the metaphysical theory that our being is based on two fundamentally different elements: matter and mind. Monism asserts that mind (or consciousness) *is* matter (or brain). The two are identical. There is only one reality – the physical one – which is represented by two conceptual systems called “mind” and “body” that can be distinguished only in experience or by abstraction. Dualism asserts that mind (or consciousness) *is not* matter (or brain). The two are ontologically different entities (i.e., belonging to different orders of reality) basically independent of one another that can be distinguished not only in experience or by abstraction but as a matter of empirical fact.

#### **Differing Views of the Mind-Body Relationship**

Within the two main metaphysics of monism and dualism, there multiple and diverse variations (Hergenhahn, 2002). Dualists can be either epiphenomenalists (Hobbes, 1658), interactionists (Descartes, 1641), identists (Russell, 1915), parallelists (Spinoza, 1665), or pan-experientialism (Whitehead, 1929). Monists can be either materialists (Democritus, 400 B.C.) or idealists (Berkeley, 1710).

**Three primary data of experience.** We each have our own consciousness. This is a primary datum of experience. We each have direct experience of our own “stream of consciousness,” to use the phrase of William James, the great American psychologist. Only a fool would deny the existence of his own experience, or say that ideas are nonexistent or deny their importance. Even Rene Descartes (1596-1650), the French mathematician and philosopher who first divided reality into a world of concepts and a world of flesh, could not deny the phenomenological fact: “Cogito, ergo, sum.”

We also know we each have our own body. This is the second primary datum of experience. We can see it, touch it, smell it, hear it, taste it, weigh it, measure it, and count it, things we cannot do with an idea or a thought. We have been taught since childhood that our body is composed of something called “physical matter” - the basic “stuff” of the universe of which all physical objects in three-dimensional space and time are constituted. There is no difference, basically speaking, between my body, a rock, a frog, or a star.

We know further that mind interacts with the body and that the body reciprocally interacts with the mind. This is the third primary datum of experience. The scientific evidence for the phenomena discussed in the previous section - the placebo response, imagery effects, biofeedback, hypnosis, and psychosomatic illness, for instance – demonstrates the transactional relationship between mind and body and that has been mapped out by research in psychoneuroimmunology (PNI).

Mind exists. Body exists. Mind and body interact. So what’s the problem?

**Monism vs. dualism compared.** David Ray Griffin, professor of philosophy of religion at the School of Theology at Claremont in California, discusses the problem in two elegantly written books: *The Reenchantment of Science: Postmodern Proposals* (1988) and *Parapsychology, Philosophy, and Spirituality: A Postmodern Exploration* (1997). The problem is the way that mind and body are understood in both monism and dualism. Monism says that mind is all matter; dualism says that mind has no matter, and *both say that body has no mind*.

Monism fails to acknowledge the nonphysical nature of thought; dualism fails to acknowledge the physical reality of thought. Whereas dualism denies matter to mind, monism denies mind to matter – only mind experiences, not matter.

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The problem with monism is not that it recognizes the unity of mind and body, but that it fails to recognize their differences. The problem with dualism is not that it recognizes the differences between mind and body, but that it fails to recognize their unity.

The virtue of monism is its recognition of the physical reality of thought. The virtue of dualism is its recognition of the basically independent nature of mind (or consciousness). The failure common to both monism and dualism is its inability to acknowledge that the body possesses its own consciousness that is as alive and vital, though different in focus, as our normal waking one.

**Mechanism, materialism, and reductionism.** In its attempt to resolve the difficulties implicit in both monism and dualism, contemporary mainstream psychology still labors under a *mechanistic, materialistic, and reductionistic* metaphysics that makes it difficult for many psychologists to even examine the evidence of the human mind's power to heal, change, and transform the physical, material body and thus the course of a physical disease or illness.

**Mechanism: The notion of insentient matter.**

According to postmodern philosopher David Ray Griffin: *The common problematic aspect of both monism and dualism lies in their notion of matter: Matter (and by implication the body and the rest of the physical universe) is composed of inert elements that are themselves lifeless, devoid of experience or sentience – “vacuous actuality,”* to use Whitehead's phrase. “The similarity between dualism and materialism is no accident. The latter is simply a decapitated version of the former, having retained the former's ‘nature’ while lopping off its ‘mind’” (Griffin, 1997, p. 111). The body is an inert, passive, insentient machine that operates with clockwork precision and efficiency – no more and no less.

David Ray Griffin in his 1988 book, *The Reenchantment of Science*, proposes an interesting historical account of how a mechanistic notion of the human body developed within both monism and dualism for theological and sociological reasons (rather than for empirical reasons) out of the theistic and supernaturalistic framework of the times. Both Church and State sought to preserve the sociopolitical order by defending the authority of the Bible. The Bible asserted that rulers were appointed by an omnipotent, omniscient, and thoroughly transcendent God that was not immanent but wholly external to the world and who imposed motion and laws upon it from without, and occasionally suspended those laws to perform miracles. The mechanistic conception of the human body was used both by monists to support the doctrine of inert, passive, lifeless matter on the one hand, and by dualists to support the doctrine of the immortal soul, on the other.

The mechanistic view of body (and matter and nature) was used by both monists and dualists to argue for the existence of God and defend the existence of miracles as supernatural phenomena. Allowing hidden (occult) powers to act within matter - or qualities of subjectivity, awareness, purpose, value, ideals, and creativity that could be taken to be divine - could be used to deny the miracles reported to be supernaturally caused. If the body - and the physical world - was devoid of self-motion, then there had to be a cosmic supernatural being to have put it into motion and to explain the attraction of bodies and cohesion of atoms.

“In opposing pantheistic or panentheistic worldviews in which God was immediately present to and in all things....by eliminating all feeling as well as divinity and creativity from nature,...[mechanistic philosophy sanctioned] the uninhibited exploitation of nature for human ends, such as mining and vivisection” (Griffin, 1988, p. 11).

In the mechanistic philosophy of nature proposed by materialist monism we have the origins of the modern “disenchantment of the world” that was originally part of a dualistic/theistic vision of reality (Griffin, 1988).

**Materialism.** Materialism in the narrow sense asserts that whatever exists is material or physical; if it is not material or physical, then it does not exist. The only way for mind to exist is if it is a sub-class of physical events (reductionistic materialism). Materialism in the broader sense asserts that matter is in some way “primary” or “most fundamental” reality; nonmaterial mind may exist even if it is *not* a sub-class of physical occurrence, and it may interact with body (interactionism) or it may not (epiphenomenalism), but mind cannot exist without matter, although matter can exist without mind.

**Reductionism.** Every modern introductory psychology textbook speaks of the “foundations” of human psychology in terms of its biological counterparts. Neurons are “the building blocks of the nervous system... Neurons hold the secret of how the brain works and, in turn, the nature of human consciousness” (Smith, Nolen-Hoeksema, Fredrickson, & Loftus, 2003, p. 32). Neurotransmitters “help explain a range of psychological phenomena...For example, researchers might attempt to explain the normal ability to recognize faces solely in terms of neurons and their interconnections in a certain region of the brain” (Smith et al., 2003, pp. 62, 14). As one highly-regarded general psychology textbook put it:

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“The push for reductionism (i.e., reducing psychological notions to biological ones) goes on at an ever-increasing rate. For many topics in psychology, we now have both psychological explanations and knowledge about how the relevant psychological concepts are implemented or executed in the brain.... This kind of biological knowledge typically falls short of total reductionism, but it is still very important” (Smith et al., 2003, p. 14).

The reductionist metaphysic that characterizes mainstream psychology’s philosophy of science is also reflected in its research methodology.

“It reflects the non-ecological assumption that things are essentially independent of their environments, so that the scientist abstracts from nothing essential in...removing cells from the human body; it reflects the reductionistic assumption that all complex things are really no more self-determining than the elementary parts in isolation” (Griffin, 1988, p. 27).

Thus, parts may be removed (ablated), destroyed (lesioned), electrically or chemically stimulated, or photographed (PET, fMRI) in isolation to infer the psychological significance of specific biological structures and processes for the whole organism. Complex psychological phenomena may be reduced to selected variables that are isolated and then manipulated or controlled in artificial laboratory demonstrations to identify those aspects of the phenomenon that are predictable, repeatable, and controllable. Such an approach can be misleading in that it leads us to believe that bodily processes operate in isolation from one another when in fact they do not. “The typical view, held as recently as [1984] was that the immune system was a closed system” (Maier, Watkins, & Fleshner, 1994, p. 1004). This faulty understanding of the immune system was a direct consequence of the reductionist research methodology employed.

### **Assumptions of orthodox Western psychology.**

Transpersonal psychologist Charles Tart (1975/1992, pp. 61-111) states in his book *Transpersonal Psychologies: Perspectives on the Mind from Seven Great Spiritual Traditions.*, that orthodox Western psychology is based upon a number of these mechanist, materialist, and reductionist metaphysical assumptions which often go unquestioned and may take on the appearance of unquestionable fact in the minds of many mainstream psychologists. These assumptions of orthodox Western psychology include the belief that

- The body is a relatively passive servo-mechanism for carrying out the orders of the nervous system
- The physical body is the only body we have.
- Physical death is the final termination of human consciousness.
- Consciousness is produced by the activity of the brain, and therefore the activity of consciousness is identical with the activity of the brain.
- Psychological energy is completely derived from physical energy, as expressed in physiological processes of the body.
- Each person is isolated from all others, locked within his or her own nervous system.
- We are completely determined by our genetic inheritance and environment.
- We exist in relative isolation from our surrounding environment. We are essentially independent creatures.
- We are our body and nothing more.
- We can understand the nature of reality without understanding ourselves. (Tart, 1975/1992, pp. 61-111)

### **Why God won’t go away: Brain science and the biology of belief.**

The application of this philosophy of science to a transpersonal topic is illustrated by psychologists’ Andrew Newberg, Eugene D’Aquili, and Vince Rause 2001 book *Why God Won’t Go Away: Brain Science and the Biology of Belief*. In the chapter titled, “Brain Machinery: The Science of Perception” Newberg et al. (2001) declare that:

“The *brain* is a collection of physical structures that gather and process sensory, cognitive, and emotional data; the *mind* is the phenomenon of thoughts, memories, and emotions that arise from the perceptual processes of the brain. In simpler terms, brain makes mind. Science can demonstrate no way for the mind to occur except as a result of the neurological functioning of the brain....Neurologically speaking, the mind cannot exist without the brain, and the brain cannot exist without striving to create the mind” (p. 33).

In a subsequent chapter titled: “Brain Architecture: How the Brain Makes the Mind” Newberg et al. (2001) focus on describing how brain structures give rise to the phenomenon of spiritual experiences and comment on the reality-status of the “object” (noema) of those acts of experiencing (noesis).

“There is no direct, objective experience of reality. All the things the mind perceives – all thoughts, feelings, hunches, memories, insights, desires, and revelations – have been assembled piece by piece by the processing powers of the brain from the swirl of neural blips, sensory perceptions, and scattered cognitions dwelling in its structure and neural pathways. Neurology makes it clear: There’s no other way for God to get into your head except through the brain’s neural pathways. Correspondingly, God cannot exist as a concept or as a reality anyplace else but in your mind” (p. 37).

**Prologue.** Let us take a closer look at the implicit assumptions about the nature of physical reality and human personality action that underlie contemporary orthodox, Western psychology, so that we may go beyond them. To start, we will examine why dualism and monism as traditionally conceived are inadequate for understanding the outer limits of the human mind’s power to heal, change, and transform the physical, material body. We will then examine the physical and nonphysical reality of thought and discuss how the problems of *emergence* and *interaction* that plague monism and dualism are avoided in an alternative understanding of the mind-body relationship called *panpsychism*. Panpsychism is an alternative philosophical position that best addresses the common and distinctive problems of dualism and monism and is more adequate to the facts of experience. As expressed from the unique transpersonal perspective of Seth-Jane Roberts:

“The [body] is... not only conscious, but *conscious of itself*; both as an individuality apart from [the mind], and as an individuality that is *a part of* [the mind]. It is continually aware, both of this apartness and unity-with. The [mind] is not continuously...aware of anything. It frequently forgets itself. When it is swept up in a strong emotion it seems to lose itself. There is unity but no sense of apartness. When it most vigorously maintains its sense of individuality it is not longer aware of unity-with. The [body] however is always aware of both aspects of its reality (Butts, 2002, pp. 435-436).

An alternative non-Newtonian, non-Cartesian view of the human body will be discussed that incorporates an understanding of modern physical theory to explain the biological importance of ideas and the spirituality of creaturehood. Physically we are more than we know. There is always more going on than ordinary sense data show. “Everything that is apparent three-dimensionally has an inside source, out of which its appearance springs” (Roberts, 1979, p. 340). The remainder of the section will discuss the nature of this “inside source”.

### Cartesian Dualism

Historically, the classical form of dualism can be traced to French mathematician and philosopher Rene Descartes (1596-1650) who formulated the doctrine about the nature of physical reality called Cartesian Dualism. Cartesian Dualism is the belief that reality is divided into two types of substances: a world of concepts (mind) and a world of flesh (body). This division is Cartesian Dualism.

**Descartes insisted that mind and body were strictly separate.** Mind and body were completely different in every possible way. The body was spatial (took up space), temporal (ages, dies, and decays), completely devoid of sentience (awareness or experience), whose workings could be explained in mechanical terms (mechanically caused). Being passive, the body’s motivating power always came from outside (externally motivated), and functioned completely independent of the mind. The mind, on the other hand, was nonspatial, nontemporal, ideal- and value-laden, purposefully acting on the basis of innate ideas, self-determining and internally motivated by acts of will, and connected to the physical body via the pineal gland. Philosophy David Ray Griffin explains:



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The dualistic view...posits an absolute difference in kind between entities that experience and those that do not. The former have an “inside” and exercise final causation, whereas purely material entities are all “outside” and operate entirely by efficient causation (Griffin, 1997, p. 122).

**Dualists come in many varieties.** Dualists attempt to explain reality in terms of two fundamental basically independent elements: matter and ideas. Bodily and mental events are different and separate. Once it is assumed that both physical and mental aspects of reality exist, then the question arises about their relationship. Dualists can be epiphenomenalists, interactionists, parallelists, or identists (also called “double aspectism”).

**Dualism contends that human beings possess a mind as well as a body.** We each have our own consciousness and we each have our own body, and they are fundamentally different from each other. Outside observers can observe that body takes up space, has weight, mass, and can be measured using physical tools. Only a person can experience the private contents of his or her own mind (e.g., consciousness, awareness, feelings, thoughts, sensations, dreams). The dentist can see the cavity in my tooth and correlate that with the pain I feel, but the dentist cannot see or experience that pain. You can see my face turn red, and watch me shake my fist but only I can experience the anger I feel. A psychologist might chart my brain waves, but only I perceive my dreams.

### Epiphenomenalism

**Dualistic epiphenomenalism** hypothesizes that ideas (mind) are by-products (epiphenomena) of matter (brain processes), just as heat is a by-product of the flickering flame of a burning candle. Bodily processes cause mental events but mental events cannot cause behavior. Consciousness is just some kind of parallel passive “epiphenomenon” or impotent by-product of nerve-cell activity, mere echoes or shadows of bodily processes, that may or may not be identifiable with specific physiological processes.

It is assumed in epiphenomenalism that there is an “enormous gulf, an “impassable chasm,” “a gap that cannot be bridged” between phenomena as radically different as physical brain events on the one hand and non-physical, psychological events like sensations, meaning, and will on the other (Tyndall, 1965). According to W. K. Clifford, a 19th century mathematician and philosopher, “The only thing which influences matter is the position of surrounding matter or the motion of surrounding matter.” But if the body can influence the mind, why cannot the mind influence the body? If our scientific conclusions about the brain (even the theory of epiphenomenalism itself, for example) are themselves merely the result of brain processes, then such conclusions would not be based on logic but simply, in the words of J. B. Pratt, “the way our mechanical brains constrain us to think.”

The fact of experience that our mind acts upon the brain to produce voluntary movement or may be impeded from such action by the brain no matter how strong the intent to act may be is dogmatically denied by epiphenomenalists (e.g., Beloff, 1962; Searle, 1992). They assert that since mental events like thoughts and planning and meaning-making are not of the material world and take up no space, they cannot by their very nature cause changes in that world, not even in the brain. Any voluntary movement is completely dependent on brain activity. The experience we have that it is thought or will that controls our actions is an illusion caused by neural events. There is the observable behavior that we can see from the third-person perspective, and there is the mental event that we cannot see that is automatically gives the impression that we are causing it from the first-person perspective, but is actually merely associated with, but not a cause of, that movement. The mental event that we experience causing the movement is not a real cause of our outward movement, but simply *the same event looked at from two different perspectives*. Consciousness is just an “inner aspect” of the brain processes. When the nerve cells fire to produce any movement, we automatically perceive that we are causing it. It is a false impression, however, caused by the brain. Identist dualists confidently expect and promise that everything from creativity to joy, from love to belief in God, will be someday explained by nerve-cell activities.

### Interactionism

**Dualistic interactionism** hypothesizes that mind (ideas) can influence body (behavior) and body can influence mind. It seems reasonable to assert that mind and body mutually interact. On the one hand, cavities cause pain, electromagnetic waves striking the cones in my retina leads to visual sensations of color, and alcohol consumption leads to changes in awareness. On the other hand, hopelessness depresses the immune system, embarrassment leads to blushing, fear to trembling, and the intention to answer a ringing telephone leads to the appropriate action. This is the position taken by Descartes and Freud.

**Interactionism baffles philosophers and scientists.** The fact that mind and body interact with one another seems an obvious fact of our experience, but trying to explain how this occurs has baffled philosophers and scientists since Descartes first divided reality into a world of concepts and a world of flesh. How exactly are electromagnetic waves that are detected by the retina and transduced into neural impulses (sensation) organized and interpreted into meaningful experience (perception)? How exactly does an intention or act of the will instantaneously set in motion the multitudinous physical actions that culminate in walking across the room to pick up the telephone? We may be aware of the contents of a specific thought but are totally unaware of how the process of thinking itself occurs (being largely unconscious). How can something that does not take up space (mind) move something that does (body)? One would expect to find some sort of break at the end of physiological processes where the physical event (sensation) become translated into the non-physical event (perception), but no such a interruption or discontinuity in physiological processes are ever observed to occur.

### Parallelism

**Dualistic parallelists** (also called “psychophysical parallelism”) hypothesize that both mind (mental events) and body (bodily responses) independently and simultaneously (or in parallel) arise in response to environmental events. Like epiphenomenalism, mental states exist and do not exert any influence over our bodies, but neither does the body exert causal effect on the mind. There is no causal connection between the light that strikes my eye and the sensation I experience, simply an acausal, synchronistic temporal association or concomitance.

### Identism

**Dualistic identism** (also called “double aspectism”) hypothesizes that mind and body are two aspects of the same event, just as “heads” and “tails” are two sides of the same coin, and cannot be separated. Fechner and Wundt held this theory. Mind and body are ultimately the same events, two “aspects” of the same reality; the same things “viewed” from different angles or known in different ways. Mental states are the private or “inner” nature of publicly observable or “outer” brain processes. Like a curved line that is convex on one side and concave on the other with no causal connection between them, so it is with concave mind and convex body, according to Fechner. Like the same mountain viewed from two different directions, the mind and body are the same thing viewed from different angles.

### Modern Versions of Dualism

Modern versions of Cartesian Dualism can be found in the writings of Sir John Eccles (Eccles, 1970, 1974, 1994; Popper and Eccles, 1977), Wilder Penfield (1975), and Roger Sperry (1969).

**Sir John Eccles.** Physiologist Sir John Eccles who was awarded the 1963 Nobel Prize in Medicine and Physiology for explaining how nerve impulses are transmitted from neuron to neuron is an example of a contemporary *interactional dualist* who believes that mind and brain are two fundamental elements that interact one upon the other (Eccles, 1970, 1974, 1994). He acknowledges the fact that we can direct our brain to make any movement we wish by simply thinking a thought. From the first-person point of view our minds act on our brains. They are two fundamental elements. The difference between the mind and brain and the fact that they are not identical is dramatically experienced, for instance, by individuals with spinal cord injuries and those who are afflicted with diseases such as Parkinsonism that involve a general slowing down and weakening of bodily movement accompanied by involuntary muscle tremors. For such afflicted individuals the performance of voluntary movement or any planned action is extremely difficult, no matter how strong the desire, purpose, will, or intent may be. There is the immensely complex neural action of the brain that interposes itself as a barrier between the intention to act and the act itself.

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Building upon the differences he observed between conscious experience and what goes on during neurological processing, Eccles reasons that such differences occur because of a fundamental ontological difference between conscious experience and the matter-energy world. Supposing the body to consist only of physical energy and the mind, being nonphysical, to embody no physical energy, Eccles argues for the existence of “critically poised neurons” that require only a “vanishing small” amount of energy (similar to the role assigned by Descartes to the pineal gland) that are the sites at which mind (totally devoid of physical energy) interacts with the body (totally constituted by physical energy) (Eccles, 1974, p. 100).

**Wilder Penfield.** “Can the mind be explained by what is known about the brain? If not, which is the more reasonable of the two possible hypotheses: that man’s being is based on one element, or on two?” (Penfield, 1975, p. xiii)?

Penfield eventually came to the conclusion from his studies of the brain that the mind has a distinct reality from the body, through intimately related to and dependent on the body.

“For myself, after a professional lifetime spent trying to discover how the brain accounts for the mind, it comes as a surprise now to discover, during this final examination of the evidence, that the dualist hypothesis seems the more reasonable of the two possible explanations... What a thrill it is, then, to discover that the scientist, too, can legitimately believe in the existence of the spirit!” (p. 85)

Mind is a very distinctive reality, something in its own right, which did things with brain mechanisms in its own way, which has “energy” of its own.

“The mind must be viewed as a basic *element* in itself. One might call it a *medium*, an *essence*, a *soma*. That is to say, it has a *continuing existence*... The mind has energy. The form of that energy is different from that of neuronal potentials that travel the axone pathways” (Penfield, 1975, pp. 48, 81).

Consciousness, or mind, is something not reducible to brain mechanisms. “The mind is a separate but related element... attached to the action of a certain mechanism within the brain” (Penfield, 1975, p. 85)

“After years of striving to explain the mind on the basis of brain-action alone, I have come to the conclusion that it is simpler (and far easier to be logical) if one adopts the hypothesis that our being does consist of two fundamental elements... Because it seems to me certain that it will always be quite impossible to explain the mind on the basis of neuronal action within the brain, and because it seems to me that the mind develops and matures independently throughout an individual’s life as though it were a continuing element, and because a computer (which the brain is) must be programmed and operated by an agency capable of independent understanding, I am forced to choose the proposition that our being is to be explained on the basis of two fundamental elements” (Penfield, 1975, p. 80).

The neuron, brain, body is a physical representation, a particular code that “stands for” thought, represents thought, transmits thought while not containing thought.

“The mind vanishes when the highest brain-mechanism ceases to function due to injury or due to epileptic interference or anesthetic drug..... What happens when the mind vanishes? There are two obvious answers to that question... two alternatives – whether man’s being is to be explained on the basis of one or two elements. If the first alternative is chosen, the mind no longer exists when it vanishes, since it is only a function of brain action. Mind is recreated each time the highest brain-mechanism goes into normal action. In this case, one must try to see the mind as the action of a specialized mechanism of the brain... Or, if one chooses the second, dualistic alternative, the mind must be viewed as a basic element in itself. One might then call it a medium, an essence, a soma. That is to say, it has a continuing existence. In this basis, one must assume that although the mind is silent when it no longer has its special connection to the brain, it exists in the silent intervals and takes over control when the highest brain-mechanism does go into action... Does this seem to be an improbable explanation? It is not so improbable, to my mind, as the alternative expectation – that the highest brain mechanism should itself understand, and reason, and direct voluntary action and decide where attention should be directed and what the computer must learn, and record, and reveal on demand” (Penfield, 1975, pp. 81-82).

"The mind directs, and the mind-mechanism executes. It carries the message. As Hipocrates expressed it so long ago, "the brain is messenger" to consciousness. Or, as one might express it now, the brain's highest mechanism [i.e., "the integrative neuronal action, which makes consciousness possible is localized in the higher brain-stem rather than in the cerebral cortex," p. 83] is the "messenger" between the mind and the other mechanisms of the brain...As Aristotle expressed it, the mind is 'attached to the brain'...Or, to express it another way, the highest brain-mechanism is the mind's executive. Somehow, the executive accepts directions from the mind and passes it on to various mechanisms of the brain...These two, the highest mechanisms and the sensory-motor mechanism, coordinate sensory-input and motor-output in accordance with the purpose and the direction-of-attention of the mind" (Penfield, 1975, pp. 46, 84)

**Roger Sperry's "Emergent Interactionism"**. Roger Sperry, the California Institute of Technology neuroscientist whose split-brain research earned him a Nobel Prize in 1981, in 1969 proposed a solution to the mind-body problem he called "emergent interactionism" or "idealistic materialism" as a compromise between idealism (or mentalism) or the hypothesis that consciousness (mind) creates form (brain) and materialism or the hypothesis that form (brain) creates consciousness (brain). "A mutual interdependence is recognized...The neurophysiology...controls the mental effects, and the mental properties in turn control the neurophysiology" (Sperry, 1969, p. 534). "Emergent interactionism" is a combination form of epiphenomenalism and interactionism asserting that "the conscious phenomena of subjective experience do interact on the brain processes exerting an active causal influence" while also maintaining that the mind is not a thing but incidental to the body (Sperry, 1969, p. 533).

"Elemental physiological aspects of brain activity are used to build...emergent qualities of awareness... Unifying forces [within the brain] cause a pattern of excitatory events to function as an entity in brain dynamics...[allowing] the brain process...[to be] able to detect and to react to the pattern properties of its own excitation...detect[ing] the overall qualities of different kinds and species of cerebral process and respond[ing] to these as entities rather than to their individual cellular components" (Sperry, 1969, pp. 534-535)

### **Sperry: Mind is still an epiphenomenon of the brain**

"Larger circuit-system configurations...have their own dynamics in cerebral activity with their own qualities and properties. They interact causally with one another...It is the emergent dynamic properties of certain of these higher specialized cerebral processes that are interpreted to be the substance of consciousness" (Sperry, 1969, p. 534). ... The conscious properties of cerebral patterns are directly dependent on the action of the component neural elements" (Sperry, 1969, p. 534)

### **Sperry: Mind is different from brain.**

"At the same time the conscious properties of brain excitation are conceived to be something distinct and special in their own right. they are "different from and more than" the collected sum of the neuro-physico-chemical events out of which they are built...Conscious properties of the brain processes are more molar and holistic...and transcend the details of nerve impulse traffic in the cerebral networks in the same way that the properties of the organism transcend the properties of its cells" (Sperry, 1969, p. 533)

**Sperry: No independence of mind from brain.** While on the one hand accepting the existence of "potent mental forces that transcend the material elements in cerebral function," emergent interactionism on the other hand denies that "these mental forces can exist apart from the brain processes of which they are a direct property" (Sperry, 1969, p. 534). Consciousness is still regarded as "properties of cerebral patterns" and as sustained by physio-chemical processes. Without the action of the component neural elements, subjective mental phenomena become extinguished and disappear.

"Consciousness [is] an integral part of the brain process itself and an essential constituent of the action...Conscious experience...is...a dynamic emergent property of cerebral excitation. As such, conscious experience becomes inseparably tied to the material brain process with all of its structural and physiological constraints" (Sperry, 1969, p. 533) ....

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**Sperry: Mind can causally affect the brain.**

“Just as the holistic properties of the organism have causal effects that determine the course and fate of its constituent cells and molecules, so in the same way, the conscious properties of cerebral activity...have analogous causal effects in brain function that control subset events in the flow pattern of neural excitement” (Sperry, 1969, p. 533).

Sperry qualifies his remarks about the effects that conscious experience can affect underlying brain functioning, however.

**Sperry: Mind cannot intervene, interfere, or disrupt physiological processes, only “supervene.”**

“When it is inferred that conscious forces shape the flow pattern of cerebral excitation, it is not meant to imply that the properties of consciousness intervene, interfere, or in any way disrupt the physiology of brain cell activation. The accepted biophysical laws for the generation and transmission of nerve impulses...are in no way violated...Although the mental properties in brain activity...do not directly intervene in neuronal physiology, they do *supervene*,...as a result of higher cerebral interactions that involve integration between large processes and whole patterns of activity,...the more elemental physio-chemical forces, just as the properties of the molecules supersede the nuclear forces in chemical interaction” (Sperry, 1969, pp. 533-534).

“The subjective mental phenomena are conceived to influence and to govern the flow of nerve impulse traffic by virtue of their encompassing emergent properties [arising from the interaction and integration of larger circuit system configurations of higher specialized cerebral processes]...Individual nerve impulses...are simply carried along or shunted this way and that by the prevailing overall dynamics of the whole active process (in principle – just as drops of water are carried along by the local eddy in a stream) (Sperry, 1969, p. 534).

**The Problems with Dualism**

**Separation from nature.** People who believe Cartesian Dualism generally think that ideas have little to do with the living flesh. They think of their hair, hands, heart, and brain as natural events, while not considering their thoughts, emotions, ideals, and values as natural events in the same terms. After all, the flesh seems physical and ideas do not. It becomes difficult to see how there can be any valid interactions between emotional states and physical ones. Considering their body as physical and a part of nature and ideas as mental and apart from nature, when they identify themselves with their minds, they come to feel separated from their body and from nature itself. Nature and spirit become divided and becomes the context in which they encounter the events of their lives. Our bodies were relegated to nature, and our minds and souls to God.

**Separation from one’s own body.** Having artificially separated themselves from nature, Cartesian Dualists do not trust it, but often experience it as an adversary. To some degree or another, people who believe Cartesian Dualism come to feel divorced from their bodies, treating it as if it *were* a machine with interchangeable parts, effectively separating themselves from their own bodies and bodily processes as if they somehow stood apart from them. Losing their sense of identification with their body and their sense of having any control over their health, illness becomes something that is thrust upon them by some impersonal force they are powerless to control.

**The problem of interaction.** For spiritualist dualism the main logical problem is that of “interaction”: How can living consciousness interact with “dead” physical matter? How can these totally unlike things (body of flesh and mind of spirit) causally interact with each other? The fact of experience is that nonphysical things like ideas, beliefs, purposes, plans, fears, desires, intentions, expectations, values, and ideals do exist, do play a part in bringing about physical change in the world, in important and significant ways. The question is: How does this happen?

**The ghost in the machine.** Gilbert Ryle (1949/1963), in his book, *The Concept of Mind*, describes the solution to the mind-body problem posed by Cartesian Dualism as creating yet another problem: the problem of “the ghost in the machine”: How could a ghost (or spirit), a purely nonphysical entity, possibly interact with a body (or matter), understood as composed of insentient, inert, passive, lifeless machine-parts? Obviously, mind and body *can* interact because they *do* interact. But *how* do they? Unfortunately, we become caught in a logical conundrum as soon as we claim that mind and body are so completely different – “two authentic orders of existents with completely independent ontologies” (Eccles, 1994, p. 167) - that they could not possibly interact. Descartes and his followers (Malebranche, Leibniz, Berkeley, Reid) “solved” the problem by appealing to supernatural intervention (omnipotent God) to permit or cause the interaction.

**Fuzzy “dividing” line between mental and physical things.** . Descartes drew the absolute line between experiencing and nonexperiencing entities at humans; animals were mere machines with no feelings. We now hold this view as implausible given the facts of ethology, comparative psychology, and neurology. Drawing an absolute line between those actions and events, bodies and things that can be described in nonsentient terms alone and sentient terms alone seems arbitrary in light of current scientific evidence. Crystals and DNA molecules, for instance, show signs of memory; atoms and molecules have propensities toward selectivity and significance. Cells recognize invading viruses and store memories of previous encounters. Chemical elements show affinities toward certain kinds of molecular arrangements and not others. Organ and cell, bacterium and virus, DNA and RNA, molecule and atom also seem to possess their own rudimentary, codified awareness and memory. As Griffin (1997) observes: “Given the fact that humans (and at least many animals) are *not* fully explicable physicalistically, would it not be strange if the rest of the universe *were* (p. 124)?

### Monism

Galileo, Newton, Boyle, and other scientists of the 17th and 18th century, however, wondered “Why should the human mind be the only thing in the physical world that cannot be understood in physical terms?” The solution they decided upon was to regard mind and body as somehow identical (monism) – the mind is actually nothing more than an aspect of brain functioning. Materialist monism avoids dualism’s problem of interaction by affirming the identity of mind and body.

**Monists** attempt to explain reality in terms of one fundamental element. Monists can be either idealists or materialists.

**Monistic idealism** hypothesizes that ideas (or consciousness) are the fundamental element and that everything in the universe, including atoms and molecules, cells and viruses, plants and animals, and human bodies are a creation of consciousness (mind).

**Monistic materialism** hypothesizes that matter is the fundamental element and that everything in the universe, including cognitions, emotions, and behavior can be explained in terms of matter. All psychological terms refer to nothing more than bodily reactions of some kind.

- “Body am I entirely, and nothing more; and soul is only the name of something in the body” (Nietzsche, German philosopher).
- “A man is what he eats” (Feuerbach, German philosopher).
- “Thought is a secretion of the brain” (Cabanis, 18th century physiologist).
- “The relation between thought and the brain is roughly of the same order as between bile and the liver or urine and the bladder” (Vogt, German biologist)

It has long been a principle in physiological psychology that mind is nothing more than the result of the activity of the brain. Matter is the only reality, and therefore everything must be explained in terms of matter. Matter alone is real; a human being is simply his body. Sperry in 1969 described the prevailing view of twentieth century science:

“Most investigators of cerebral function will violently resist any suggestion that the causal sequence of electro-physico-chemical elements in the brain... could in any way be influenced by conscious or mental forces.... It is the working man’s faith in the neuroscience – that goes back to near the turn of the century - that a complete objective explanation of brain function is possible in principle without any reference to the subjective mental phenomena. Whatever the stuff of consciousness, it is generally agreed in neuroscience that it does not interact back causally on the brain’s electrophysiology or its biochemistry” (Sperry, 1969, pp. 532).

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On this view, all psychological terms such as creativity, love, awareness, purpose, meaning really refer to some kind of physiological events or processes. The psyche (mind) has no actuality in its own right, distinct from the brain. Experience is thought to be entirely a product of the brain. As philosopher of mind John Searle (1992) put it: "Consciousness gets squirted out by the behavior of the brain" (p. 112). Like heat from a flame, consciousness emerges out of the fiery concatenation of brain chemicals; when the brain dies so is the consciousness to which it has given birth extinguished forever. Mind is really only as an effect, not a cause. Consciousness is simply one more "material property" of the brain (Searle, 1992, p. 55). The self becomes "a mental representation...assembled from the bits of raw sensory data" combined by the left and right orientation association areas of the posterior sections of the parietal lobe (Newberg & D'Aquili, 2001, p. 28-29).

The quality of mind called "consciousness" emerged out of brain evolution just as the quality of "wetness" of water emerged out of a particular combination of hydrogen atoms and oxygen atoms, neither of which of themselves possess the quality of wetness of water. Sensations and perceptions, learning and memory, thought and language, personality and psychological disorders, social influence and relations are nothing more than physical states of brain processes or a particular configuration of neurons - none of which possess consciousness of any sort to any degree.

Some materialist monism avoids dualism's problem of where to "draw the line" between sentient and insentient things by not drawing a line at all – insentience goes all the way up! They deny that psychological language need be used at all when talking about experience and behavior. These "eliminative materialists" would have us all talk entirely in behavioristic or neurological terms (i.e., in terms of stimulus-response action patterns or specific neurotransmitters or neuronal action potentials).

Other materialist monists acknowledge the existence of mind as an epiphenomenon of brain activity as well as its interactive effect on the brain ("downward causation") but everything sent down from the psyche to the brain has been previously sent up from the brain. In this version of monism, mind is not a distinct entity at all but simply one more link in the deterministic chain of cause and effect produced by the brain's emergent properties. Decision making activity may be an effect of physical brain processes, but that activity is not autonomous or free to exert influence on the brain, otherwise its independence of brain processing would have to be recognized, and a form of dualism acknowledged. The alleged identity of matter and experience does not go both ways, therefore. All experience has matter but not no matter has experience. Philosopher Herbert Feigl observes an implication of this position - the fact that "nothing in the least like a psyche is ascribed to lifeless matter" makes the language of psychology applicable "only to an extremely small part of the world" (Feigl, 1960, pp.32, 33).

Another variant version of epiphenomenalism called "functionalism" regards the material components of the brain as relatively unimportant in the emergent of mind – it is how the components are organized that matters and makes all the difference between mineral, vegetable, and animal bodies. An analog may be drawn from the field of genetics. All genetic material is composed of the same four nucleotide bases: adenine, thymine, guanine, and cytosine. It is the appropriate sequence of bases on each chromosome (matter) that constitutes the genetic code (mind), just as the requisite sequence of physical letters constitutes the code for information transmitted by the letters. Another analog is often drawn between the software program of a computer (mind) and the hardware components of the computer (brain). In all such cases, the gestalt that emerges from a particular configuration of elements has no identity apart from the elements that compose it.

A contemporary example of epiphenomenalism can be found in Andrew Newberg and Eugene D'Aquili's 2001 book on the neurophysiology of spiritual experiences titled *Why God Won't Go Away: Brain Science and the Biology of Belief*.

*Mind* is the phenomenon of thoughts, memories, and emotions that arise from the perceptual processes of the brain. In simpler terms, brain makes mind. Science can demonstrate no way for the mind to occur except as a result of the neurological functioning of the brain. Without the brain's ability to process various types of input in highly sophisticated ways, the thoughts and feelings that constitute the mind would simply not exist. Conversely, the brain's irresistible drive to create the most vivid, sophisticated perceptions possible means that it cannot help but generate the thoughts and emotions that are the basic elements of mind. Neurologically speaking, then, the mind cannot exist without the brain, and the brain cannot exist without striving to create the mind....Mind needs brain, brain creates mind, and...the two are essentially the same entity seen from different points of view (Newberg and D'Aquili, 2001, pp. 33-34).

**Advantages of monistic materialism.** Monistic materialism is parsimonious in that it reduces everything to one ultimate reality, it avoids the mind-problem bridging the "chasm" between body and mind since they are already "of one piece," and it does away with the mystery of immaterial forces (such as the immortal soul or God) operating the physical universe.

### Problems with Materialist Monism

**The problem of emergence.** This “solution” to the mind-body problem, however, has problems of its own. If the body is an insentient, inert, passive, lifeless machine – *a dualistic premise that the monists uncritically accepted* – then how does insentient brain give rise to sentient mind? How can lifeless, inert, passive physical matter gives rise to creative, active, living consciousness? David Ray Griffin (1997) asks:

Materialists typically speak of the brain as composed of ‘insentient neurons.’ What can it mean to say that our mind is identical with the brain – that is, that our *experience* is somehow *identical* with a large *aggregation of nonexperiencing things*? Nothing that we know about these neurons from biology and brain physiology explains why the joint activity of such entities should give rise to conscious experience (p. 119).

Although the problem of explaining how conscious experience emerged out of insentient matter in the first place is a problem not only for materialists but for dualists as well, the reasons that materialists give for rejecting dualism are evocative. “[W]hat sort of chemical process could lead to the springing into existence of something non-physical? No enzyme can catalyze the production of a spook!” (Smart, 1979, p. 168-169). “Emergence of mind from no mind at all is sheer magic” (Wright, 1977, p. 82). Given the phenomenological fact that ideas (and therefore mind) exist, this form of materialism obviously requires rethinking.

#### **Equating mind and matter is a categorical mistake.**

How can two things that are totally identical things emerge as distinctly different phenomenonal events in our conscious experience? David Ray Griffin (1988) observes that the identist solution to the mind-body problem proposed by monism involves a “the category mistake;” that is “mind” and “body” are two different conceptual terms referring to two different types of experiential data (Ryle, 1949/1963). Things which appear to us from without as perceptual images differ from things as they appear to us from within using mental imagery. The phrase “mental processes” does not mean or refer to the same kind of thing as “physical processes” even though the two topics can be labeled with the same word – “processes.” To think so is to overlook differences between the word and the experience it names. To argue that mind (one quality) emerged out of body (another quality) confuses two different experiential matters under

a single category. A thing that appears as something “for itself” (mind) is categorically different from a thing that appears as something “for others” (body). The emergence of something with experience out of something that is totally devoid of experience is a categorically different kind of emerging.

**Primary vs. secondary qualities denied.** In denying the distinction between mind and brain, materialist monism denies the distinction between primary qualities (attributes of physical things) and secondary qualities (attributes of sensory perception).

**Division between theory and practice.** In denying a distinction between mind and brain, materialist monism creates a dualism between theory that says all motivating power comes from the outside and our everyday practice of living as if we are free, autonomous, self-determining individuals.

#### **Denial of autonomy, self-determination, values.**

Griffin (1988) points out that the monist supposition that our bodies is comprised of matter that is in itself devoid of awareness, memory, or experience logically requires them to deny the existence of an experiencing mind, on the grounds that to grant such a theory requires an interaction between experiencing and nonexperiencing things, and imply a sort of dualism. In denying the distinction between mind and brain, material monists are logically forced to also deny that our conscious experience has any degree of autonomy or self-determination or that “once [consciousness] has been squirted out, it then has a life of its own” because that would logically imply that “consciousness could cause things that could not be explained by the causal behavior of the neurons” (Searle, 1992, p. 112). Materialist monism maintains that nothing but material things exist (or their epiphenomenal aspects and qualities). This also rules out not only the nonmaterial mind also all nonmaterial entities called “values” (e.g., truth, beauty, goodness) that exist somehow prior to human experience.

#### **Denial of sentience in matter is pure metaphysical speculation.**

Essential science does not deny the reality of the directly known. The one thing we know directly is our own conscious experience. We do *not* know the objects of the physical world, except as transduced and mediated through our central nervous system and cognitive interpretative frameworks. We do not know objects in themselves, only how they appear. Materialist’s supposition that physical objects in and of and for themselves are composed of “dead” matter is a result of pure metaphysical speculation, just as the dualist’s supposition that brain cells are ontologically different in kind from our conscious experience is pure metaphysical speculation.



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**Materialists are really dualists in disguise.** Griffin (1997) observed that materialist monists who take an epiphenomenal viewpoint regarding the nature of mind are really cryptodualists. While thinking of matter exclusively as totally devoid of experience, they also acknowledge that things with experience also exist. The world is composed of experiencing and nonexperiencing things. Experience as far as the monists are concerned, however, does not go both ways. Consciousness is a feature or property of the brain without making the brain conscious.

In some instances, in their effort to avoid the problems inherent in the traditional Cartesian dualistic view while simultaneously recognizing the need to acknowledge the phenomenological facts of conscious experience, materialists seem forced to attribute those qualities that are usually attributed to the mind or self or personality, to the brain instead. It is not the mind that has the ability to form intentions, retrieve memories, make plans, and process information but the brain instead. Neuropsychologists are then forced to talk about “the ability of the attention area (of the brain) to form intentions and act upon them” and “the brain’s irresistible drive to create...means that it cannot help but generate thoughts and emotions” (Newberg & D’Aquili, 2001, pp. 30, 33). The brain almost seems live with purposes and intents of its own. But neither do they want to slip into a form of panpsychism and attribute mind to matter, and so they remain stuck with the classical mind-body problem unresolved.

Neurology cannot completely explain how such a thing can happen – how a nonmaterial mind can rise from mere biological functions; how the flesh and blood machinery of the brain can suddenly become “aware.” Science and philosophy, in fact, have struggled with this question for centuries, but no definitive answers have been found, and none is clearly on the horizon (Newberg and D’Aquili, 2001, p. 32)

The reason no answers have been found is that the problem itself is based on faulty premises (i.e., that matter is mindless). As writer and mystic Jane Roberts (1970, 1972, 1986a) points out, it is a metaphysical, scientific, and creative error to separate matter from consciousness.

**Materialism is motivated by the need to explain, control, and predict reality.** The philosophical position of materialist monism is motivated by a desire to have a completely explicable, predictable, controllable reality understood strictly in three-dimensional physical terms. Such a physical reality contains no inherent consciousness or subjectivity of any kind, no possibility for paranormal influences (“action at a distance”), no possibility of life after death.

**Materialism mistakenly assumes a form of “naïve realism” (i.e., what you see is what it is)** Modern day materialism has carried forward the false analogy that the way a thing appears on the outside is the way it appears on the inside. If something appears to be inert, hard, stable, solid, immovable, “dead” on the outside extrinsically, then that is the way it is on the inside intrinsically. Griffin (1997) notes that

“the most important philosophical implication of quantum physics, [as] philosopher of science Milic Capek (1991) has argued, is that it has shown the falsity of the analogy assumed by [both] Descartes and Newton between inert matter as it appears to our senses and the ultimate units of which it is composed” (Griffin, 1997, p. 134).

Quantum physics has shown that physical matter does not inherently possess the qualities of solidity, color, stability, inertness that we perceive it to have using our physical senses. From the transpersonal perspective of Seth-Jane Roberts:

You observe the outside aspect of objects. Your physical senses permit you to perceive the exterior forms to which you then react, but your physical senses to some extent force you to perceive reality in this manner, and the inside vitality within matter and form is not so apparent. ...Physical form is one of the camouflages that reality adapts. The camouflage is real, and yet there is a much greater reality within it – the vitality that gave it form. Your physical senses then allow you to perceive the camouflage, for they are attuned to it in a highly specialized manner. But to sense the reality within the form requires a different sort of attention, and more delicate manipulations than the physical senses provide” (Roberts, 1972, pp. 12-13)

**Category mistakes.** The view that all psychological terms (e.g., creativity, love, self) really refer to some kind of physiological event or process has been criticized by psychologist David Bannister as involving what Gilbert Ryle (1949) called a “category mistake” - that is, mistaking two things as similar that are actually categorically different (e.g., confusing galvanic skin response as a physiological index of anxiety with the psychological experience of anxiety, or defining psychological terms in physiological concepts as in “the biochemical basis of indecision,” or describing physiological processes in psychological terms “the brain sees and recognizes color” or “the brain can outwit a natural time delay between the moment visual information hits the retina and the recognition of that information by higher brain regions”).

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Factually, “psychological and physiological concepts stem from such different semantic networks that they cannot be meaningfully related into a subsystem,” any more than chemistry and sociology or biology and astronomy can be meaningfully related to develop, say, a chemical sociology or a biological astronomy (Bannister, 1958, p. 229). Physiology and psychology deal with different domains of experience. Neither the psychological activity of “doing neuroscience research” nor the social situation of “being a physiologist” are a legitimate part of the subject matter of physiological psychology. “Self” is not a physiological concept, it is a purely psychological one. Psychology and physiology are logically distinct construct systems in their own right because they deal with radically different phenomena and with theoretical explanatory systems that employ language constructs that are semantically unrelated.

Monistic materialism is not an accurate representation of the facts of experience. To say that all psychological terms really refer to nothing more than bodily reactions of some kind is to make what Gilbert Ryle (1949) called a “category mistake.” The brain can be publicly observed, it occupies space, and can be dissected and weighted and bottled. None of this is true of our thoughts or emotions.

Although thoughts and emotions may accompany brain processes, this does not mean that they *are* brain processes. To say that thought is really made of brain processes is as logical as saying that apples are really made of oranges. A person's awareness of yellow, for instance, is not the same thing as the movement of the visual signal from the retina to the 300 million nerve cells in the primary visual cortex and out again to the extrastriate cortex with its immensely complex induction of millions of neuronal discharges through numberless complicated pathways and branchings of thousands of pyramidal cells projecting out into hundreds of cortical columns or more. It makes sense to talk about neural impulses in terms of “fast” or “slow” or “excitatory” or “inhibitory”, but it makes no sense to talk about the awareness of yellow in those terms. Conversely, we can describe our experience of yellow as “vivid”, “clear,” “pleasant,” “calming” but it such terms could not sensibly be applied to description of neural transmissions. When you burn your hand on hot stove, the pain you feel is nothing like that described in textbooks of neuropsychology.

### The Physical Reality of Thought.

Most college students learn about the physical reality of thought and emotion in the biological chapters of general psychology textbooks that describe the electrical and chemical foundations of experience and behavior (i.e., the structure of neurons, how neurons communicate, neural and hormonal systems, brain structures and functions, and how neurotransmitters influence attention, thoughts, emotions, and behavior). They learn how the smallest neuron within our body contributes to our psychological and emotional experience. They learn how “our proud human consciousness rests upon the vast ‘unconscious’ integrity of our physical being” (Roberts, 1981b, p. 31).

They also learn about *health psychology* and how psychological and behavioral factors directly and indirectly influence physical health and illness. They may learn, for instance, how the *behavior* of aerobic exercise (jogging) reduces the *psychological* experience of depression by its direct *physiological* effect on the autonomic nervous system (increasing arousal) and neurotransmitters (increasing serotonin levels) (Jacobs, 1994). Most of us are aware how physical reactions influence psychological states as anyone who drinks alcohol, takes psychotherapeutic drugs, or eaten a satisfying meal can testify.

**The interaction of thought and body.** Students of psychology also learn that is not just that thoughts and emotions have an electrical and chemical reality in addition to their recognized mental aspects, as of course they do, but that thoughts and emotions also trigger electrical and chemical reactions in the body. Each one of our thoughts and emotions represent a an eliciting stimulus that trigger our physical actions, directly affecting the behavior of our body, bringing about changes in our autonomic nervous system, through its sympathetic and parasympathetic divisions, and in the glands of our endocrine system, altering our entire physical body at any given time. Our bodies are changed biologically by our thoughts, as anyone has felt nervous over an upcoming exam, anxious about a public presentation, or upset over an argument with a friend can testify. The body responds to our thoughts, feelings, and beliefs that form the interior environment of concepts. Dreams and thoughts and psychological experiences all have an electrical and chemical reality that becomes retained in electrically and chemically coded data within the cells. This means thoughts interact with the body and become part of it.

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The transactional relationship between body → mind and mind → body operates according to what Elmer Green, pioneer in the development of proprioceptive feedback theory and biofeedback techniques, called the “psychophysiological principle.”

Every change in the physiological state is accompanied by an appropriate change in the mental-emotional state, conscious or unconscious, and conversely, every change in the mental-emotional state, conscious or unconscious, is accompanied by an appropriate change in the physiological state (Green, Green, & Walters, 1970, p. 3)

In other words, the effects of the body are felt in the mind and the effects of the mind are felt in the body. According to Elmer Green and associates, it is the psychophysiological principle that makes psychosomatic self-regulation possible. It is also what made Mr. Wright’s placebo healing response possible as well.

As electrical and chemical actions, thoughts and emotions directly affect the physical health of the body system. Beliefs that foster apathy, despair, or hopelessness are biologically destructive, causing the body to automatically suppress the immune system and lower bodily defenses, change body chemistry and alter hormonal balances, stressing the body’s vitality and natural defense system and initiating disease conditions (Herbert & Cohen, 1993). Health psychology shows that how we physiologically react to environmental stressors depends on how we psychologically appraise them which, in turn, influences how we behaviorally cope with them (Lazarus & Folkman, 1984).

How one responds – intellectually, emotionally, or spiritually – to one’s problems has a great deal to do with the way the human body functions. One’s confidence or lack of it, in the prospects of recovery from serious illness affects the chemistry of the body. The belief system converts hope, robust expectations, and the will to live into plus factors in any contest of forces involving disease (Cousins, 1981, p. 205)

In terms of the body’s health and illness, then, our mental states are indeed highly important. A person’s private experience of health and illness occurs not only within the context of his or her personality type, personal habits, and levels of social support (Taylor, 2002), but basically cannot be separated from the larger framework of his or her philosophic and religious beliefs, cultural and political environment, psychological and sociological status. The individual’s personal experience of health and illness must be viewed in the light of all these issues. The question of health and illness simply cannot be answered from a biological standpoint.

Our spiritual and psychological abilities add a dimension to our life and experience that is biologically pertinent. Placebos demonstrate that there is no real separation between mind and body. Our mind is as natural as our body; our body is as spiritual as our mind. Body and spirit dwell in a natural framework. Your thoughts and emotions are as natural as the cells within your body, as any portion of your body, and as real. Our thoughts and emotions are a part *of* nature and not apart *from* nature

Do not think of the mind as a purely mental entity and of the body as a purely physical one. Instead, think of both mind and body as continuing, interweaving processes that are mental and physical at once. Your thoughts actually are quite as physical as your body is, and your body is quite as nonphysical as it seems to you’re your thoughts are. You are actually a vital force, existing as part of your environment, and yet apart from your environment at the same time (Roberts, 1997, p. 131).

A transpersonal psychology of mind-body communication and healing recognizes that the same power that moves your mind forms your body. It acknowledges that there is no difference between the energy that shapes your ideas and that heals your finger. Consciousness is not limited within the skull but circulates throughout the entire body. You don’t just have a body, you are your body. Your body is your spirit in flesh The spirit speaks with a physical voice and the physical body is a creation of the spirit. While we are physical creatures in the three-dimensional world of time and space; there is no division between the mental and the physical.

<p style="text-align: center;"><b>PNI</b></p> <p>Through what biological pathways do these psychodynamic, cognitive, environmental and phenomenological variables work their magic? The biological approach called psycho-neuro-immunology (PNI) that specializes in the study of the interactions between the mind (psycho-), central nervous system (neuro-), and the immune system (immunology) provides some answers.</p> <p><b>Figure 2-3</b> summarizes seven kinds of experimental evidence that identify specific linkages among behavioral, neural, endocrine, and immune functions by which mind modulation of body functions is thought to occur (Adler, Felton, &amp; Cohen, 2000).</p>	<p>involved numerous academic disciplines working in collaboration, including: biochemistry, biophysics, endocrinology, immunology, microbiology, neurobiology, neuropharmacology, pathology, physiology, psychiatry, and psychology. A number of diverse strategies have generally proven to have a positive effect in modulating immune function response, including relaxation, hypnosis, exercise, classical conditioning, self-disclosure, perceived coping self-efficacy, and cognitive-behavioral interventions (Kiecolt-Glaser &amp; Glaser, 1992).</p>
<p><b>Figure 2-12</b> <b>Evidence for Mind-Body Communication in the Immune System</b></p>	<p>Modern research in psycho-neuro-immunology (PNI) has discovered that body tissues and organs distant from the brain produce and have receptors for brain neurotransmitters (e.g., endorphins originally thought to be present only in the brain are produced by various parts of the body that have receptors to receive them as well) (Pert, 1997). Such discoveries coupled with the evidence of human transformative capacity in studies of hypnosis, the placebo effect, multiple personalities, spiritual and miraculous healing indicate that a strong distinction between the brain and the body is no longer tenable.</p>
<p>The findings of psychoneuroimmunology and related fields reveal: (1) the highly interactive, feedback-laced nature of psychophysiological functioning; (2) multiple ways in which particular alterations of consciousness, behavior, bodily structure and processes are mediated; and (3) the immense specificity with which significant changes are happening, moment by moment, throughout the nervous, endocrine, and immune systems (Murphy, 1992, p. 23).</p> <p>PNI documents how mind and body operate as a single, integrated system. It indicates possible physical mechanisms and pathways by which mind-body communication and healing may occur. It helps us understand how Mr. Wright's autonomic-endocrine-immune systems could be activated by his belief in a cure and reveals human nature's capacity for creative, transformative change with appropriate focus and belief.</p> <p><b>Psychoneuroimmunology..</b> Psychoneuroimmunology (PNI) has demonstrated the existence of bidirectional communication pathways between the central nervous system (the brain via the hypothalamus-pituitary-adrenal axis) and the body's immune system, involving responses of many cells to multiple stimuli, with each providing important regulatory control over the other (Ader et al., 2000). The observation that various stresses (such as final examinations) can alter immune system functioning indicates that biochemical links established between the immune and nervous systems are also pathways for inner communication of thoughts, feelings, expectations, desires, fears, and beliefs. The establishment of a reciprocal relationship between the immune system and behavioral, psychological, and social factors have</p>	<p>Candace Pert, research professor at the department of physiology and biophysics at Georgetown University Medical Center has written that there is a "need to start thinking about how consciousness can be projected into various parts of the body" (Pert, 1986, p. 16).</p> <p>New work is now in progress that does not regard religious belief or placebos simply as mere "artifact" variables in investigations of healing whose effects are to be minimized or controlled but are instead to be understood and used (e.g., Sobel, 1990).</p> <ul style="list-style-type: none"> <li>• The <i>American Psychologist</i> in 2003, for instance, published a series of articles summarizing scientific research on the effects of religious belief on health (Miller &amp; Thoresen, 2003; Powell, Shahabi, &amp; Thoresen, 2003; Seeman, Dubin, &amp; Seeman, 2003; Hill &amp; Pargament, 2003).</li> <li>• Physician Larry Dossey in his 1993 book <i>Healing Words: The Power of Prayer and the Practice of Medicine</i> documents controlled scientific experiments that strongly support the power of prayer to positively affect <i>at a distant</i> high blood pressure, heart attacks, head aches, and anxiety, including the activity of enzymes, growth rates of leukemic white blood cells, mutation rates of bacteria, germination of seeds and growth rates of plants, firing rate of pacemaker cells, healing rates of wounds, the size of tumors, time requires to awaken from anesthesia, and hemoglobin levels and rates of hemolysis of red blood cells.</li> </ul>

**Figure 2-12. Evidence for Mind-Body Communication in the Immune System**

(adapted from Ader, Felton, &amp; Cohen, 2000; Rossi, 1986, pp. 152-155)

- ✓ Neuroanatomic and neurochemical evidence for the stimulation of lymphoid tissue (bone marrow, thymus gland, spleen, tonsils, lymph nodes, etc.) through the action of neurons of the sympathetic nervous system, that portion of the autonomic nervous system that is responsible for arousing the body and mobilizing its energy in stressful situations. This sympathetic innervation of primary and secondary lymphoid organs means that mind (via the central nervous system) has direct physical access for influencing all organs of the immune system.
- ✓ Observations that destroying or electrically stimulating areas within the hypothalamus result in activation of the immune system, and conversely, activation of the immune system results in inhibition or stimulation of the hypothalamus. Since the hypothalamus directs body maintenance activities (eating, drinking, body temperature, sexual arousal, heart rate, blood pressure), helps govern the endocrine system via the pituitary gland, and is linked to emotion and regulated by higher brain centers via connections with the limbic system, the intercommunications between the immune system and the hypothalamus may be open to influence by the mind.
- ✓ Evidence that white blood cells of the immune system called lymphocytes bear receptor sites both for a variety of hormones that are secreted into the bloodstream by the endocrine system and for neurotransmitters that transmit neural impulses within the autonomic nervous system which controls the glands and muscles of internal organs. There is also evidence that lymphocytes, themselves, are capable of producing neuropeptides (complex molecules secreted by the brain, spinal cord, glands, abdominal tissue, and organs) that circulate in the blood and lymph systems. This means that all of the changes produced in the autonomic and endocrine systems by the mind through hypnosis, biofeedback, and placebo response may be communicated to the immune system as well, and vice versa.
- ✓ The findings that activation of the immune system changes the level of circulating hormones and neurotransmitters, and conversely, alteration of the level of circulating hormones or neurotransmitters modifies activity of the immune system.
- ✓ Data documenting that a variety of behavioral manipulations such as classical conditioning and hypnosis are capable of influencing various parameters of immune functioning. For instance, when the presentation of a neutral, distinctively aromatic scent (e.g., mint), the conditioned stimulus (CS), if followed by injection of a drug that induces a temporary gastrointestinal upset and activates immunologic response (e.g., chemotherapy), individuals will learn, in a single trial, not only to avoid the mint scent – a conditioned olfactory aversion -- but also show conditioned enhancement of a variety of specific and nonspecific immune responses when the CS is subsequently presented – a conditioned immunological response.
- ✓ Research showing that psychosocial factors (social support, social isolation, crowding, noise) have the potential to influence the susceptibility to and/or the progression of a variety of pathological anatomic, cellular, and chemical bodily processes, including infectious diseases such as tuberculosis and pneumonia, autoimmune diseases such as asthma and rheumatoid arthritis, and neoplastic diseases involving abnormal tissue formation.
- ✓ Experimental and clinical studies in which psychological factors such as “stress” and depression have been shown to be capable of influencing immune responses and the onset of disease processes, depending on the individual’s perception of and capacity to cope with the quantity and quality of the stressful circumstances and the quality and quantity of immunogenic stimulation.

- A variety of intervening variables have been investigated as possible explanations for producing healing placebo effects including classical conditioning (Wickramasekera, 1980), changes in response expectancy (Kirsch, 1990) and transformation of meaning (Frank & Frank, 1991).

While necessarily speculative at this time, further work drawing upon transpersonally-oriented mind-body therapies (e.g., Achterberg, 1985; Gawain, 1979; Houston, 1982; Lawlis, 1996; Leonard & Murphy, 1995; Maltz, 1960; Masters & Houston, 1978; Rossi & Cheek, 1988; Walsh, 1999) could provide additional evidence of the extent to which a change in inner focus and belief may be translated into positive immunological changes and improvements in health.

**Psychoneuroimmunology..** PNI studies how the mind (psycho), the brain and nervous system (neuro), and the immune system (immunology) interact. Research indicates that there is a “psychosomatic communication network” operating that links thoughts and emotions with the body and that this is how *mental healing* works, how something purely mental – thoughts, beliefs, meaning, intent, feelings – can have powerful physical effects on the body, powerful enough to eliminate warts, kill the tumor, lower blood pressure without drugs or surgery. Materialism was the predominant philosophy of Western medicine. Now PNI has encouraged a shift toward dualism, seeing mind and body as isomorphic aspects of each other.

**Molecules of emotion.** In 1972 neuroscientist Candace Pert, former Chief of the Section on Brain Chemistry of the Clinical Neuroscience Branch at the National Institute of Mental Health, discovered the existence of opiate receptors in the brain. Later her work led her to discover the existence of neuropeptide receptors on immune cells. Neuropeptides are molecules the brain uses to communicate. Previously, neuropeptide receptors could only be found in the brain. The existence of these receptors on the cells in our immune system (along with other research done that demonstrated the immune system could be conditioned) provided hard evidence that the immune system was not separate but an extension of the brain. Neuropeptides have been found throughout the body implying the existence of a vast mind-body communication network linking mind and body together.

In a recent 1997 book titled *Molecules of Emotion: Why You Feel the Way You Feel*, Candace Pert describes how our thoughts and beliefs, wishes and intentions create our emotions. These emotions, in turn, trigger the release of neuropeptide molecules that then travel throughout the body affecting the autonomic, endocrine, and immune systems causing physical changes in the body (Pert, 1997). Pert believes that it is our emotions that are the bridge between non-physical thought and the body.

If the body is conscious, then how conscious is it? What sorts of communications occur within the body? PNI has identifies some of the likely pathways that body system communicate with each other. How deep and extensive are these communications in fact? From the transpersonal perspective of Seth-Jane Roberts (1997):

“Each most microscopic portion of the body is conscious, strives toward its own goals of development, and is in communication with all other parts of the body... The molecules and even the smaller aspects of the body act and react, communicate, cooperate with each other, and share each other’s knowledge, so that one particle of the body knows what is happening in all other parts. Thus, the amazing organization usually works in a smooth, natural fashion” (Roberts, 1997, pp. 15-16)

We have seen how thoughts and beliefs, wishes and intentions, feelings and emotions can have powerful effects on the body and briefly noted how PNI has made major steps in helping us understand the mechanisms the mind uses to control the body. The astounding things the mind can do to modulate the immune system (imagery) , negate the effects of drugs (MPD), melt tumors (placebos), heal wounds with great rapidity (miraculous cures), override our genetic programming (hypnosis), reshape living flesh (stigmata) suggests that each of us, ideally, possess the ability to influence our health and control our physical body. Transpersonal psychology, and transpersonal medicine in particular, seeks to explore and harness these talents, powers, and abilities each of us to some degree possess.

Our thoughts and beliefs, purposes, and intentions, expectations and wishes, fears and desires, images and attitudes, prejudices and faith are the important mental elements that provide clues to what we need to be aware of and acquire mastery over if we are to learn how to acquire and use these powers and abilities.

## Chapter 2 - The Transpersonal Nature of the Physical Body

### The Nonphysical Reality of Thought

We are all directly, immediately, and intimately familiar with the nonphysical reality of our private thoughts and emotions, dreams, and expectations, purposes and intents. We can try to convey an idea to others through word and action, and feel its effects, but we cannot see it or hold it or point to it as we can a cup or a rock or a table. Thoughts obviously do not take up space as neurons do that you can pile one upon the other, measure and weigh. As C.G. Jung (1960) said:

Psychic contents are non-spatial except in the particular realm of sensation. What bulk can we ascribe to thoughts? Are they small, large, long, thin, heavy, fluid, straight, circular, or what? If we wished to form a living picture of a non-spatial, fourth-dimensional being, we could not do better than to take thought for our model (pp. 347-348).

Physical instruments can probe your brain and measure neurotransmitter levels of serotonin, dopamine, ACH, and GABA at various synapses, but if I want to find out what your thoughts are, I cannot find out by examining your brain – I have to communicate with you and you have to me. Brain imaging devices (e.g., PET, fMRI, EEG, SPECT scans) can discover every single thing about what every single atom and molecule in your brain is doing but will tell me nothing about the specific contents of a single thought.

Even though neuroscientists cannot discover any one idea, emotion, or dream location residing in the brain cells, no one would say that ideas, emotions, and dreams are nonexistent for that reason, or deny their importance. In fact, it is inner experience that must come first and that gives importance to facts about brain, for those “facts” would have little meaning without the initial experience that they seek to explain.

No diagram of the brain will capture the interaction between a person and a flower that happens when we see, smell, and touch a rose. All the accumulated knowledge obtained by learned science about how the eye sees cannot convey the aesthetic experience of a beautiful sunset. All the brain- facts about how the ear functions do not and cannot add up to the direct sense encounter of one person with a piece of beautiful music.

Just as the data known about how the brain works cannot be translated directly into a diagram of your inner experience, the experience of your own mind cannot be translated directly into the data we know about the factual brain. For instance, we do not experience the stimulation of receptors in our retina or the transmissions of neural impulses along our optic nerve or the firing of neurons in our striate cortex, we experience a perceptual image. Our lived experience with its thoughts and feelings, symbols and meanings, purposes and intents (i.e., our mind) does not “look” like a neuron or like a big, crumpled gray and white mellen (i.e., our brain). Mind and brain don’t look or feel the same at all.

The only way we can see our outer brain as an object is to cut open our skull, get a mirror, and view it mediated by our outer senses – the eyes of flesh. The brain may be “inside” your skull, but we are still dealing with another level of “outsideness.” Using our inner senses, the mind’s eye, we experience our private thoughts and feelings far more directly, immediately, intimately. The greater “withinness” of mind is not to be found any place inside its brain. The closest point to this withinness is our own consciousness.

One might say that the brain is what consciousness looks like from the outside (its surface structure). The mind is what consciousness looks like from the inside (its deep structure). The physical brain is the nonphysical mind in electro-chemical clothing; they are not the same thing.

Consider the following phenomenon. British neurologist John Lorbor has studied children with hydrocephalus (water on the brain) – a condition in which an abnormal build-up of cerebrospinal fluid occurs in the brain. As a result of this condition, children no longer possess an entire cerebral cortex (i.e., the portion of the brain believed to be the seat of consciousness). The skull may be lined with only a thin layer of cells a millimeter or so thick with the rest of the cranium being filled with cerebrospinal fluid. Dr. Lorbor has found that, despite the absence of “virtually no brain,” the mental development of the children appears normal (Lewin, 1980). Perhaps our mind and consciousness and everything that we have been taught to identify as our “Self” is not as much a result of brain state activity as we think.

According to Michael Talbot, in his 1986 book, *Beyond the Quantum: How the Secrets of the New Physics Are Bridging the Chasm Between Science and Faith*:

Lobor has since gone on to discover numerous other individuals who function normally but possess no brain. For example, in an article published in *Science* in 1980, science writer Roger Lewin reported that at the Children's Hospital in Sheffield, Lobor has done more than 600 such scans on patients with hydrocephalus. In the study, he divided the patients into four groups: those with nearly normal brains, those with cerebrospinal fluid filling 50 to 70 percent of the cranium; those in which it fills 70 to 90 percent; and the most severe group, those in which cerebrospinal fluid fills 95 percent of the cranium. In the last group, which comprised just less than 10 percent of the study, half of the individuals were severely mentally disabled, but the remaining half possessed IQ's greater than 100 (pp. 87-88).

What could possibly explain such a phenomenon? There are other reported cases where surgeons have removed the entire left hemisphere of persons suffering from epilepsy, a procedure called "brain hemispherectomy," with no dramatic changes resulting in personality, language, or memory (Shulins, 1987). This remarkable phenomenon is usually interpreted as evidence of the brain's plasticity and the ability to shift functions from one side of the brain to the other, especially in children below the age of 6. Is this what happened in Lorbor's remarkable patients with hydrocephalus? Did the lower brain structures (e.g., limbic system or brain stem) take over the functions of the deteriorated higher cortical areas in those most severe hydrocephalic patients with IQs over 100?

The hypothesis of brain plasticity does not take us far in explaining the mind-boggling case reported by Michael Sabom, M.D. in his 1998 book, *Light and Death: One Doctor's Fascinating Account of Near-Death Experiences*. Pam Reynolds was a 35-year old woman in Atlanta, Georgia who had an aneurysm in the wall of a large artery at the base of her brain that had swollen to such a large size that its safe removal by standard neurosurgical techniques was impossible. The only way the aneurysm might be successfully removed without rupturing was by a surgical procedure known as *hypothermic cardiac arrest* that "would require that her body temperature be lowered to 60 degrees, her heartbeat and breathing stopped, her brain waves flattened, and the blood drained out of her head" (Sabom (1998, p. 37). All body and chilled before being returned to her body

vital signs and brain functions were continuously monitored during the one hour and 25 minute craniotomy procedure. The warm blood that was removed from her lowering the core body temperature to 60 degrees Fahrenheit. Cardiac arrest was induced with massive doses of potassium chloride. Brain stem function totally shut down. It was at this point that "the head of the operating table was tilted up, the cardiopulmonary bypass machine was turned off, and the blood drained from Pam's body like oil from a car....With the blood drained from her body, the aneurysm sac collapsed like a deflated balloon...and [was] excised. The cardiopulmonary bypass machine was then turned back on and warm blood began to be reinfused into Pam's empty body" (Sabom, 1998, p. 43). With additional warming and refusion of blood, brain wave activity and normal cardiac rhythm recommenced.

What is remarkable about Pam's experience was not that she survived such a daring surgical procedure, but that during the entire time, although she was totally unconscious and "her electroencephalogram was silent, her brain-stem activity was absent, and no blood flowed through her brain" (Sabom, 1998, p. 49), she reported having an out-of-body experience and an awareness of events what were occurring in the operating room! As Pam's attending surgeon, Dr. Robert Spetzler, Director of Barrow Neurological Institute in Phoenix, Arizona, said: "If you would examine that patient from a clinical perspective during that hour, that patient by all definition would be dead. At this point there was no brain activity, no blood going to the brain. Nothing. Nothing. Nothing" (Sabom, 1998, p. 5). As Neal Grossman (2002) remarked about the case:

A brain in this state cannot create any kind of experience. Yet the patient reported a profound NDE (near death experience). Those materialists who believe that consciousness is secreted by the brain, or that the brain is necessary for conscious experience to exist, cannot possibly explain, in their own terms, cases such as this. An impartial observer would have to conclude that not all experience is produced by the brain, and that therefore the falsity of materialism has been empirically demonstrated (Grossman, 2002, p. 31).



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### Two Analogies

Two analogies might make the hypothesized relationship between the physical brain (surface structure) and the nonphysical mind (deep structure) clearer.

**Thought-word analogy.** The first analogy draws its inspiration from Noam Chomsky (1965), influential theorist in modern linguistics and developer of transformational grammar, and Jane Roberts (1972, pp. 71-74), noted mystic and writer.

Chomsky devised a linguistic model that proposes that every sentence of every natural language has two distinct representations. The surface structure is represented by the physical words that are actually spoken or written. The deep structure is the nonphysical representation of the meaning of the words. The ways in which surface structure appearances can differ in their associated deep structure meanings (e.g., “Nothing is better than something”) is the research domains of transformational grammarians. In this analogy, the physical brain is like the words (surface structure) that are used to tell of an experience (deep structure) of the mind.

On the one hand, we feel we express our experience directly through our words, aware of all the muscular actions and bodily reactions that accompany our speech; we hear the words and recognize their appropriateness as a more or less approximate expression of our thoughts and feelings. Our physical subjective experience is so involved with word thinking, it is almost impossible for us to conceive of an experience that is not thought-word oriented or structured through verbal patterns. In this analogy, mind (thought) is structured and expressed by the brain (word) just as thought is structured and expressed by the words used to convey it.

On the other hand, the words used to tell of an experience obviously are not the experience that they attempt to describe. The thoughts or feelings and the words are not the same thing. The words are not your thoughts or feelings, and so there must be gap between your thought and your expression of it. The actual words convey or transmit information, but the information and the words that are used to communicate it are two different things.

The same relationship between thought and word applies as you read the words on this page. The words upon the page have the physical reality only of black marks on white paper. The letters that compose the words are symbols that have agreed upon meanings connected with them. If you do not know English, you would not be able to decipher the symbols and the words would be meaningless to you. The information that is being transmitted therefore is not an attribute of the letters or the words themselves. The symbols – the letters – are not the information – which they attempt to convey.

The information is not contained in the written letters any more than the thought or feeling is contained in the spoken phonemes. The printed (or spoken) word does not contain information – it transmits information. The page is simply a carrier of information; the information it conveys is invisible. Where is the information that is being transmitted, then, if it is not upon the page? The words transmit information which resides within the self.

In an analogous fashion, mind expresses itself directly through the brain, and is structured through the brain's actions and reactions. The brain is used to express the mind, but the brain is not the mind that it conveys. Like mental images, though they occur within the physical skull, the images are not in themselves physical. The images, like words and brain, are only the physical symbols of inner knowledge; they are not the knowledge but the symbols of them.

**Television set/program analogy.** The second analogy is inspired by the works of Stanislov Grof, co-founder with Abraham Maslow of the field of transpersonal psychology and pioneer researcher of psychedelic states of consciousness, and biologist Rupert Sheldrake, former director of studies in biochemistry and cell biology at Cambridge University, and originator of the controversial “hypothesis of formative causation” based on investigations of plant development and the processes of ageing and regeneration.

In this analogy, the brain is likened to a television (TV) set and the mind to its television programming. A mass of clinical and experimental data from neurology and psychiatry demonstrate that traumas, tumors, and infections in specific areas of the physical brain can result in distinct and characteristic changes in the functioning of mind and body (e.g., seizures, hallucinations, amnesia, aphasia). These observations are usually interpreted as scientific proof that brain *is* mind, that mind is nothing more than an epiphenomenal by-product generated by

brain processes, or that the self is simply the accidental personification of the body's biological mechanism (see for example, Crick, 1994; Damasio, 1994; LeDoux, 2003). Transpersonal psychologist, Stanislav Grof, in his 1985 book, *Beyond the Brain: Birth, Death and Transcendence in Psychotherapy*, offers an alternative interpretation of the facts by drawing our attention to the similarity between the effects of brain damage and a malfunctioning television set.

"The quality of the picture and sound is critically dependent on proper functioning of all components, and malfunction or destruction of some of them will create very specific distortions. A television mechanic can identify the malfunctioning component on the basis of the nature of the distortion and correct the problem by replacing or repairing the hardware in question. None of us would see this as a scientific proof that the program must therefore be generated in the television set .... Yet this is precisely the kind of conclusion mechanistic science has drawn in regard to brain and consciousness" (Grof, 1985, p. 22).

Transpersonal biologist, Rupert Sheldrake, in his 1990 book, *The Rebirth of Nature: The Greening of Science and God*, extends Grof's TV analog to address observations of genetic mutations and explain neuroscience's recurrent failures to discover memory traces residing in the brain cells and inability to find any given memory location within the brain itself.

A search inside your TV set for traces of the programs you watched last week would be doomed to failure for the same reasons: the set tunes into TV transmissions, but does not store them (p. 93) .... [Moreover] damage to some parts of the circuitry can lead to loss or distortion of pictures; damage to other parts can make the set lose the ability to produce sounds; damage to the tuning circuit can lead to loss of the ability to receive one or more channels. But this does not prove that the pictures, sounds and entire programs are stored inside the damaged components (p. 94) .... Genetic mutations can affect this tuning process, and the ability of the organism to develop ... just as changes in condensers or other components of a TV set can affect its tuning to particular channels, or affect the reception of programs – the sounds or pictures may be distorted, for example. But just

because mutant components can affect the picture and sounds produced by the TV receiver, this does not prove that the TV programs are programmed by the set's components and generated inside the set. No more does the fact that genetic changes can affect the form and behavior of organisms prove that their form and behavior are programmed by the genes (p. 90).

In these terms, consciousness is not *in* the brain any more than the TV program is in the TV components or the thought is in the written letters or in the spoken words. The brain does not *contain* consciousness any more than the TV set contains the TV program it transmits or the printed line contains the information it conveys. Consciousness operates *through* body structures and is neither contained in, nor created by, nor emergent from the brain. The brain transmits the mind. The mind it transmits is invisible. Where is the mind that is being transmitted, then, if it is not contained within the brain? The brain transmits the mind which resides within multidimensional reality. We express ourselves through our brains just as we express ourselves through our bodies. Consciousness does not disappear with the death of the brain. It is simply no longer able to display itself. Although the TV set is turned off and the program cannot be displayed, the program still exists in the airwaves. Likewise, although a damaged brain can no longer display consciousness, this doesn't mean it doesn't continue to exist.

### Localization of Memories

**Where in the brain are thoughts and memories stored?** There has been ongoing debate within biological psychology about whether thoughts and memories (called *engrams*) are localized and have specific locations somewhere in the brain cells or are diffused throughout the cortex, limbic, and brain stem structures.

**Memories are localized.** Evidence in support of memories being localized at specific brain sites was provided by the work of neurosurgeon Wilder Penfield who is famous for having mapped out the sensory and motor strip areas of the cerebral cortex by electrically stimulating portions of the exposed brain of conscious patients who were undergoing surgery for epilepsy. Penfield discovered in the 1920's that by electrically stimulating the temporal lobe areas (the region of the brain behind the temples and above the ears) of the exposed cerebral cortex (which has no pain receptors and thus does not feel pain directly as long as the scalp and skull have been anesthetized) of conscious patients who

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were undergoing brain surgery for the relief of epileptic seizures, memories of past episodes from their lives could be re-experienced and reported (Penfield, 1975). Not every epileptic patient reported memories when a particular area of the cortex was stimulated, and results could not be duplicated in nonepileptic patients, but those epileptic patients that did report memories reported the same memory being evoked whenever he touched the same spot of the temporal lobe was electrically stimulated.

**Memories are diffused.** Early evidence in support of diffusion of memories was provided by the work of neuropsychologist Karl Lashley who trained rats to run a maze, surgically removed various portions of their brains, retested them to see if the rat's memory of their maze-running learning was eradicated, and discovered that no matter what portions of their brains he cut out, their memory remained stubbornly intact. "Even after removing as much as 90 percent of the rat's visual cortex (the part of the brain that receives and interprets what the eye sees), he found [the rat] could still perform tasks requiring complex visual skills. Similarly, research conducted by [Karl] Pribram revealed that as much as 98 percent of a cat's optic nerve can be severed without seriously impairing its ability to perform complex visual tasks" (Talbot, 1991, pp. 18-19).

If memories are not localized at specific brain sites, then the only other alternative was that they were somehow distributed throughout the brain as a whole. Supporting this conclusion was the clinical observation that patients who suffered brain damage either through accident, stroke, viral infection, or surgery rarely suffered the loss of *specific* memories. Damage to large sections of the brain might cause memory to become generally hazy (e.g., not recognizing all the members of one's family or recall of a novel one has read), but *selective memory loss* for, say, half the members of an individual's family or half of the novel they read, rarely if ever occurred.

**Supplementary motor area.** How are thoughts turned into action? Neurosurgeon William Penfield identified a small area on the upper midsurface of the cerebral cortex just anterior to the motor strip that he called "the supplementary motor area" or SMA. The SMA has been shown to become activated moments prior to the execution of a bodily movement as measured by blood flow activity in nerve cells. After injecting a radioactive tracer into a person's internal carotid artery, the radioactive pattern of underlying brain activity is recorded by 254 Geiger counters arranged in a helmet that the participant wears while performing a learned repetitive finger-thumb movement task for 60 seconds.

The repetitive task required a great deal of concentration to perform. It required the person to touch his or her thumb to each finger in turn for a 60 second period following a distinct pattern: 2 touches to the first finger, 1 to the second, 3 to the third, 2 to the fourth; and then reverses the pattern: 2 touches to fourth finger, 3 to the third, 1 to the second, and 2 to the first. Both the SMA and the motor cortex showed large increases in nerve-cell activity compared to baseline.

The participant is then asked to *think* of the thumb-finger movements in the correct sequence without carrying them out. While there is no increase in neural activity in the motor cortex, the SMA showed almost as large an increase in activity as when the movements are being performed. What these results indicate is that *when a person is only intending to carry out a voluntary act, these thoughts will activate neural events in the SMA and nowhere else.*

Electroencephalo- graphic (EEG) recordings of electrical signals taken for the scalps of participants during performance of this task confirmed this finding and indicated that the first electrical sign of nerve-cell activity (called "the readiness potential") just prior to performance of the voluntary movement appeared in the scalp region over the SMA almost a second before movement begins. *The mental activation of the SMA was found to precede the activity of the motor cortex. The implications of these experiments is that the mind does affect the brain and do so at a precise site of the cerebral cortex.* Unfortunately, ever since its discovery, the SMA has been ignored concerning its role in carrying out bodily movement.

### Panpsychism

The problems of *emergence* and *interaction* that plague monism and dualism are avoided in an alternative understanding of the mind-body relationship called *panpsychism* or *pan-experientialism* (Griffin, 1988, 1997; de Quincey, 2002). Purpose and intent, values and ideals, fears and desires, plans and goals obviously play a role in bringing about physical changes in the physical world. The functioning of the physical body also obviously plays a part in bringing about psychological changes in conscious experience. The problem of how to understand these interactions of mind and body raises a problem in psychological science only as long as the ideas of purely insentient matter and a strictly nonphysical mind are maintained. The failure to understand the role of consciousness in matter and the physical reality of thought is “an artificial problem, created solely by the human decision to define them as totally unlike things” (Griffin, 1997, p. 107). The premise behind materialist monism and the modern “disenchantment” of the world – that elementary units of nature are insentient – is false.

At the root of the mind-body problem is the idea that “matter” that was originally proposed by dualists and then taken over by materialists. That a reconsideration of the nature of matter is necessary to solve the mind-body problem has been suggested by Searle....What needs rethinking, Searle suggests, is the Cartesian assumption that if something is “physical” it cannot be “mental,” and if something is “mental” it cannot also be “physical” (Searle, 1992, pp. 14, 26, 54).

If neurons possessed some elementary form of awareness, then it would be “easy enough to see how neurons could generate consciousness” (McGinn, 1991, p. 28)

Beginning with the working hypothesis that at least some iota of spontaneous experience characterizes individuals at every level of nature, we can affirm nondualistic interactionism, in which all the ontological problems of dualistic interactionism are avoided: Interaction between mind and brain is no longer counterintuitive, because the mind and the brain cells are said to be qualitatively similar, only greatly different in degree. There is no absolute discontinuity and therefore no problem of where to draw the line in the evolutionary process between sentience and insentience. There is no problem of emergence, because conscious experience is said to emerge not out of insentient matter but out of things with less sophisticated experience ... The experience

and freedom of humans, or of humans and animals, is not thought to be the great exception; spontaneous experience is characteristic of every level of nature (Griffin, 1997, p. 135-136).

Logically, in order to hold that consciousness and the brain interact, one must distinguish between consciousness and the brain, because if they were identical, they could not interact. Interaction requires dualism. But when the mind and brain are ontologically different and unlike, then they cannot interact. Therefore, interaction is impossible.

One way out of this paradox is to assert that consciousness and brain are not ontologically different kinds of things – that the mind is as physical as the body and that the body is as nonphysical as the mind. Mind is a different kind of matter; matter is a different kind of mind. Just as there are spectrums of matter, there are spectrums of consciousness.

### Reconciling Mind and Body

The bifurcation of reality into a world of spirit and a world of flesh by dualists and the limitation of reality into a world of matter alone can be overcome by extending sentience (awareness) from human experience, to animals, and “all way down” to the lowest forms of life – not limiting it to human experience alone. Reality is not limited.

Until the ontological gap is crossed between mind and body, between experiencing self and insentient cell and atom, the two-fold problem of emergence in monism and interaction in dualism remains and makes both perspectives inadequate to the facts of empirical science and conscious experience. Thought has a physical reality in addition to its recognized mental aspects; the mind affects the body and the body affects the mind in return; and the body has a nonphysical quality in addition to its acknowledged material aspect.

Do not think of the mind as a purely mental entity and of the body as a purely physical one. Instead, think of both mind and body as continuing, interweaving processes that are mental and physical at once. Your thoughts actually are quite as physical as your body is, and your body is quite as nonphysical as it seems to you’re your thoughts are. You are actually a vital force, existing as part of your environment, and yet apart from your environment at the same time (Roberts, 1997, p. 131).

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The body is spirit in flesh, its three-dimensional face, the soul in electro-chemical clothing. The spirit speaks with a physical voice and the physical body is a creation of the spirit. One thought could not leap from an infinite number of nerve endings, if matter itself was not initially alive with consciousness. This point is missed in both monism and dualism. From the transpersonal viewpoint of mystic Seth-Jane Roberts:

Nothing exists – neither rock, mineral, plant, animal, or air – that is not filled with consciousness of its own kind... Your are yourselves physically composed of conscious cells that carry within themselves the realization of their own identity, that cooperate *willingly* to form the corporeal structure that is your physical body. I am saying, of course, that there is no such thing as dead matter. There is no object that was not formed by consciousness, and each consciousness, regardless of its degree, rejoices in sensation and creativity. You cannot understand what you are unless you understand such matters (Roberts, 1972, p. 12)

In making such a statement, transpersonal psychologists are not personifying matter or the body's cells, for consciousness and the desire for sensation, communication, motion, and creativity does not belong to human beings, or even animals, alone. In affirming that *all energy contains consciousness*, transpersonal psychologists are not assigning human traits to energy but are simply acknowledging that our human traits are the result of energy's characteristics. And that if consciousness creates form, and not the other way around, then thoughts would exist before the brain and after it.

The brain would be the physical counterpart of the mind, the means by which the functions of awareness, attention, intention, purpose, planfulness, memory, creativity, and intellect are connected with the physical body. Through the filtering and focusing characteristics and effects of the physical brain, events that are basically of nonphysical origin and essentially independent of the physical brain become physically valid (Bergson, 1911).

And if thoughts exist before and after the brain, then so would the self who has them. Death would not be an end, but a transformation of consciousness and a means to its continuation, leading toward a spiritual rebirth and regeneration, and an opportunity for other kinds of experience and development (Roberts, 1972).

What is the main characteristic of "body consciousness"? According to Seth-Jane Roberts (1997):

"The main characteristic of body consciousness is its spontaneity. This allows it to work at an incredibly swift rate that could not be handled by the topmost conscious portions of the mind. Its operation is due to an almost instantaneous kind of consciousness, in which what is known is known, with no distance between, say, the knower and the known. The act of seeing, and all of the body's sense, are dependent upon this inner spontaneity" (Roberts, 1997, p. 16).

**Panpsychism** Panpsychism can be regarded as a form of parallelism. Most parallelists would assert that brain processes have an "inner nature." Some parallelists would go on to assert that all things in the universe (atoms, molecules, plants and animals) have an additional inner nature in addition to their outer, physical one. Nothing that physical exists is a purely material structure. All have an aspect which in varying degrees resembles our mental states. "Even in the very lowest organisms, even in the amoeba which swims in our blood, whether organic or inorganic... there is something or other, inconceivably simple to us, which is of the same nature with our own consciousness, although not of the same complexity" (W. K. Clifford, quoted in Edwards & Paps, 1965, p. 183). Just as thoughts and feelings constitute the inner nature of our bodies, and our bodies are composed of cells, molecules, and atoms, so do rudimentary thoughts and feelings constitute the inner nature of those more elementary things. From the transpersonal perspective of Seth-Jane Roberts, the consciousness that exists within animals, for instance, is as valid and eternal as our own. "You are not separated from the animals and the rest of existence *by virtue of* possessing an eternal inner consciousness. Such a consciousness is present within all living beings, and in all forms" (Roberts, 1972, p. 432).

This is not to say that the consciousness that is present in all existent things is the same as our own. It is not. If things do not reflect upon the nature of their own identities as human do, it is because they intuitively comprehend that nature in a way that human self-consciousness does not, and hence have no need to. There are as many luxuriant and diverse focuses of consciousness as there are physical objects and forms of life. Various gestalts of consciousness (electrons and protons into molecule-gestalts, molecules into cell-gestalts, cells into organ-gestalts, organs in body-gestalts, and so forth result in different kinds of "interior" nature,

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different qualities of conscious experience, and different ways of perceiving reality. The varieties of consciousness are so different from our own that we can only approximately grasp the meaning inherent in some of them

“Each being experiences life as if it were at life’s center. This applies to a spider in a closet as well as to any man or woman. This principle applies to each atom as well. Each manifestation of consciousness comes into being feeling secure at life’s center – *experiencing life through itself*, aware of life through its own nature. It comes into being with an inner impetus toward value fulfillment ... It is given the impetus toward growth and action, and filled with the desire to impress its world” (Roberts, 1981a, p. 256).

Thoughts have a reality that we do not know; they have a reality that we do not perceive.

Some pan-psychists are materialists in that mind cannot exist independent of the physical body. Others are dualists in asserting that consciousness exists basically independent of physical processes.

Physicist Albert Einstein once exclaimed: “The mystery of the world is its comprehensibility.” The world is comprehensible to the human intellect because the world and the human intellect are made of the same “stuff.” That stuff is consciousness. The human intellect emerged out of what the world is. Comprehensibility is a part of energy’s characteristics. Only when the two are viewed as separate, drastically different things, does the gap between the world and human intellect seem unbridgeable and its crossing “mysterious.”

Body and mind are one, as the phenomena of human transformative capacity show; there is ultimately no division between the physical body and the nonphysical mind. Body and world are one, as the body illusions show; there is ultimately no division between the physical world and our outer physical body. Therefore mind and world are one, and reality is participatory and deeply connective (synchronicity and nonlocal events happens); there is ultimately no division between the physical world and our inner psychological processes.

The biological evidence of human transformative capacity, a recognition of the subtle illusions that characterize our naïve perception of our physical body and its cells, the discoveries of communal activity and sensitivity of the parts in a cell or of cells, and the biochemical links between mind and body revealed by psychoneuroimmunology all represent a serious challenge to the current Newtonian-Cartesian paradigm of Western psychological science that characterize the body as solid, stable, individual, mechanical, and mindless. An alternative paradigm that can revolutionize our understanding of the nature of the physical body can be found in the long lineage of scholarly thought variously called “radical naturalism,” “panpsychism,” “panentheism,” or “panexperientialism.”

The philosophy of ontological panpsychism emphasizes both the active nature of consciousness in that mind is the ultimate primordial substance (i.e., consciousness is the agent that initiates and directs the transformation of energy into form and of form into energy) and the receptive nature of consciousness in that consciousness is a quality or aspect intrinsic to matter (i.e., one thought could not leap from an infinite number of nerve endings, if matter itself was not initially alive with consciousness).

Ontological panpsychism has a long and venerable tradition in the history of philosophy and science (Edwards, 1967; deQuincy, 2002, chap. 6). Proponents of the mind-in-matter philosophy can be found in the following areas:

- Pre-Indo-European Neolithic and Paleolithic cultures,
- The cult of Orpheus and pre-Socratic philosophers (Thales Anaximander, Anaximenes, Pythagorus, Anaxagoras)
- Greek philosophy (Empedocles, Plato, Aristotle, Zeno the Stoic) and Neoplatonists (Plotinus, Paracelsus, Giordan Bruno),
- Esoteric Christianity and the Hermetic traditions (John Scotus, Meister Eckhart)
- Renaissance philosophy (Leibniz, Spinoza, von Schelling, Schopenhauer)
- Romantic thought (Goethe, Coleridge).
- Modern psychology (Wundt, Fechner, James and Jung)
- Process philosophy (Whitehead, Bergson, Royce, and Griffin)
- Quantum physics (Heisenberg, Bohm, Wigner)

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According to the philosophy of ontological panpsychism:

“In basic terms, our sense perception, physically speaking, is a result of behavior on the part of organs that are themselves composed of atoms and molecules with their own consciousnesses, organs that have a reality outside of their relationship with us, and that have their own states of sensation and cognition that work for us, allowing ego-directed consciousness to perceive physical reality” (Roberts, 1981b, p. 38).

Ontological panpsychism asserts that sentience goes “all the way down” (deQuincey, 2002) and reveals the transpersonal nature of the physical body. Ontological panpsychism challenges contemporary mainstream psychology’s understanding about the biological foundations of behavior. It proposes an alternative framework for understanding the relationship between the mind (consciousness) and the body (brain). Understanding the true transpersonal nature of the physical body will require a thorough revisioning of the mind-body problem that has plagued philosophy and psychological science since Descartes initial formulation of it in the 17th century. Advances in modern physical theory, molecular biology, and psychological science since Descartes’ time offers us a possible answer to the mind-body problem in the present if we are only open to revising the way the question has been asked in the past.

### The Quantum Body

Transpersonal psychology offers an alternative point of view to understanding the biological foundations of experience and behavior. This viewpoint is non-Newtonian and incorporates the findings of modern physical theory into its understanding of the physical nature of the body and brain. While it acknowledges the findings of Newtonian-based psychology, it does not regard them as the final word about the physical basis of thought, emotion, and memory. It assumes that “Everything that is apparent three-dimensionally has an inside source, out of which its appearance springs” (Roberts, 1979, p. 340). What you see of the neuron and the body’s cells, in other words, is not all there is to the neuron or the cell. There is much more to the matter of matter than meets the eye of flesh.

When the brain’s neurons and body’s cells are viewed in light of this assumption, one recognizes that their perceivable shape and measurable physical mass is simply a kind of camouflage or apparent form that informs their outward physical appearance – their three-dimensional face, so to speak. *Beneath the cell’s physical appearance is the energy that composes it.* That energy possesses none of the characteristics that we perceive the cell in its physical appearance to have – such as color, solidity, mass, shape, movement, causality, temporality, and so forth.

Once we acknowledge that beneath the neuron’s physical appearance is the energy that composes it., we understand that our perception of the physical body (and brain) as a *solid, stable, individual, mechanical, and mindless* thing is not a completely accurate way of representing the facts about the physical nature of our being. *Modern physical theory* consistently shows that the physical entities that compose our body – molecules, atoms, electrons, electromagnetic waves, and so forth – do not inherently possess the sensory qualities of solidity, hardness, color, duration, indivisibility which we experience our body to have (Bohm, 1983/1980; Friedman, 1997; Goswami, 1995; Mindell, 2000; Talbot, 1991; Wolf, 1999; Zohar, 1990). Let us examine these “body illusions” (Larry Dossey’s phrase) to discover why a psychology that is based upon a Newtonian way of looking at its biological foundations is inadequate for understanding the transpersonal nature of the physical body (Dossey, 1982, pp. 72-81; 1991, pp. 105-137). There is always more going on than ordinary sense data show. Physically we are more than we know.

**The Solid Body** *Examine for a moment your experience of your own body.* You experience your body as solid just as you perceive all other physical matter in your environment. Your body, however, is composed of the same “stuff” as all other matter in the universe: atoms. The atoms within your body spin in a cloud of constant commotion and activity. The atoms themselves are composed almost totally of thin air with most of their mass concentrated in the nucleus, with the electrons separated from the nucleus by a vast expanse of empty space. “To get an idea of this immensity, imagine an orange in the center of the Astrodome. This gives a relative picture of the ‘stuff’ of the body; almost all of it is nothing” (Dossey, 1991, p. 107).

The body that we perceive as being so solid and the very senses that make such a deduction are the result of the behavior of swiftly moving particles orbiting each other in which great exchanges of energy continually occur – atoms and molecules literally coming together to form the organs, filling a pattern of flesh (Dossey, 1982).

Indeed, the more matter itself is explored, the more apparent it becomes that within it *energy* takes certain forms – organs, cells, molecules, atoms, electrons, electromagnetism, light, sound – each less physical than the last, each combining into mysterious patterns to form the matter of the body (Davidson, 1988). “The physical body exists as an electrical body that is not material, that has a peculiar mass but no weight and whose characteristics are apparent in terms of varying intensities and concentrations of electrical force” (Roberts, 1998, p. 219; see also, Becker & Selden, 1985).



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**The Stable Body.** You experience your body as a constant, stable physical object among others that changes slowly and gradually over the years. *The body, however, is in a state of constant change.* There is an ongoing physical give-and-take among organs of the body and between the body and the environment. “Making decisions far too fast for you to follow, [the body adjusts] hormonal balances, maintaining balances between all of its systems, not only in relationship to itself – the body – but to an environment that is also in constant change” (Roberts, 1981b, p. 48). The process is called “homeostasis” and it maintains and regulates the normal level of functioning in body temperature, heart rate, and blood pressure. When stress disturbs homeostasis, processes are instantaneously and automatically set in motion to correct the disequilibrium. with no conscious thought from you at all. If you are aware you can perceive multitudinous actions and reactions occurring within your own body as you walk across the floor, with intricate calculations instantly made, activating the inner mechanisms to help you achieve your goal.

Our eyes and ears certainly seem to be permanent appendages, even while the molecules and atoms and cells that compose those sense organs continually change with us none the wiser. The physical substance of your body, for instance, is made up of completely different atoms and molecules than it was composed of five years ago. “Each year, 98 percent of the  $10^{28}$  atoms in the body are replaced; at the end of five years all are renewed, down to the very last one” (Dossey, 1991, p. 107).

The flesh that we perceive as being so stable physically breaks apart on numerous occasions, its stuff literally falling off into the earth. Biologist Lyall Watson in his 1979 book *Lifetide: The Biology of the Unconscious* reminds us:

“Our bodies are by no means static. A different person looks back at you each morning from the mirror. We produce a whole new skin surface once a week, the entire lining of the mouth is washed away and digested with every meal, each blink of an eye flushes hundreds of cells down the tear ducts. All in all we lose about a soup plate full of cells every day...Fortunately,...bone marrow and generative tissue endlessly pump new cells into the system. There are millions made every day (Watson, 1979, p. 100)

The cells *within* your body die constantly to be replaced by other cells numerous times over the course of years. Consider your senses of taste and smell.

“Each taste cell has a life span of only a few days; thus the composition of the taste bud is always changing...The taste cells in the taste bud seem to be a specialized variation of skin cells. This probably explains their short life span because all skin cells are periodically replaced... Each primary olfactory neuron, located in a relatively small area in the upper nasal passages and responsible for your sense of smell. The receptive cells of the olfactory system, called primary olfactory neurons, are located in a relatively small area in the upper nasal passages...Remarkably, each primary olfactory neuron functions for only about 4 to 8 weeks before deteriorating; new primary olfactory neurons are continually being produced from the basal cells (p. 220)” (Coren, Ward, Enns, 1999, pp. 212, 220).

The body’s stability is dependent upon this birth and death of its cells. The body that you have now is not the one that you had 10 years ago; its physical composition has died completely many time since your birth, but, again, your consciousness bridges that gaps” (Roberts, 1979, p. 333). A cell does not fear its own death. The body dies many times, though we do not perceive it, our consciousness bridging the gap of those minute “deaths” that we do not recognize as such.

**The Individual Body.** You experience yourself as basically enclosed inside your body, separated from other physical objects by your skin, unaware of the *constant interchanges* that occur between the structure or form we call “the body” and the seemingly empty space outside it – basic chemical interactions without which life as we know it would be impossible.

Through the skin, for instance, which is itself alive and breathes, we receive nutrients from the air and sunlight without which we could not exist or survive. The body assimilates and uses properties that would otherwise be called alien ones, and immunizes itself through such methods. Emotions trigger endocrine glands to release adrenalin into the bloodstream that create pheromones that are released through the skin and liberated into the air to affect the atmosphere as shown, for example, by the ability of police dogs to readily distinguish one person from another by the odors released through the soles of the feet.

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Physically, portions of ourselves leave our body constantly and intermix with elements of the environment. We eat portions of the world in the form of animal, vegetable, and mineral and make them a part of ourselves, to be used by our body and then returned to the earth to be used again. The chemicals that are our body, and the atoms and molecules and the breath that leaves our lungs becomes a part of the atmosphere of the room, and eventually the building, the town or city, the country, and the world. "The components of the cells that now compose your own eyes have combined and separated many times to form other portions of the natural environment." There is a constant intermixing, so that the molecular components of cells of you and I may become a part of the cells of a plant or an animal. and vice versa. *Physically, the self is composed of all these alien unselflike elements.* "Bodies are incessantly mixing with other bodies through the endless shuttle of atoms ... These molecules actually become the stuff of the body" (Dossey, 1991, p. 108). The molecular components of cells that now compose your body have combined and discombined many times to form other portions of the natural environment. "This inner and yet physical transmigration [of cellular components]...represents a natural method of communication, uniting all species and all physical life" (Roberts, 1979, 318).

In basic terms, then, the body that we perceive as being so individual and separated from everything that is not ourselves also connects us with it, extending the self out into the environment. Each breath you exhale flows out from what you are, passing into the world that seems to be not you. Each breath you inhale "has millions of molecules breathed recently by each and every one of the five billion people on earth ...and any living thing that breathes – cows, horses, snakes, birds, bees, and so forth" (Dossey, 1991, p. 108).

The space just outside our body is composed of the same elements as our skin in different proportions. Except for a difference of molecular organization and density, your body is composed of the same physical stuff (electrons, protons, and neutrons appropriately arranged) as a rock, a star, a frog, or a peach. "The physical world rises up before your eyes, while your eyes are a part of the physical world it perceives" (Roberts, 1981b, p. 39).

**The Mechanical Body.** It may seem to you that your body is nothing more than a complex machine with interchangeable parts that runs itself pretty much on its own and that its workings can be explained in mechanical terms. This mechanical image of the body is not only prevalent in the physical sciences and medicine, but permeated popular culture, as the perennially popular book *Frankenstein* illustrates. The machine metaphor has been a prevalent model for how the body operates ever since the mechanical clock became the 17th century ideal metaphor for the universe. Not only was the universe a clockwork machine, but so was the body. Rene Descartes, the 17th century French mathematician whose philosophical writings marked the beginnings of modern Western psychology, declared that the idea that this idea that the body is nothing more than a mindless machine would not

"appear at all strange to those who are acquainted with the different automata, or moving machines, fabricated by human industry... such persons will look upon this body as a machine made by the hands of God, which is incomparably better arranged and adequate to movements more admirable than in any machine of human invention" (quoted in Schultz & Schultz, 2000, p. 29)

"Thus, clocks and automata paved the way for the idea that human functioning and behavior were governed by mechanical laws, and that the experimental and quantitative methods so successful in uncovering the secrets of the physical universe could be applied to human nature" (Schultz & Schultz, 2000, p. 29).

Biologists use a variety of machine metaphors to explain the physiological functioning of the body: the heart is likened to a pump, the lungs to bellows, circulation to an hydraulic system, and limbs to pulley and levers. The construction of artificial hearts, lungs, and limbs has followed these metaphors in both design and function. The physician becomes the biological mechanic who knows your body better than you do. Patients come to look upon their own bodily processes as if they somehow stood apart from them, effectively separating themselves from their own bodies, losing any sense of identification with it or any sense of control over their health or illness.

Psychologists use words like "sodium-potassium pump" to describe the electron-charge exchange that occurs during neural transmission and liken human cognitive processes to a modern computer. As Marvin Minsky, an expert on artificial intelligence at MIT crudely put it, "What is the brain but a computer made of meat?"

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Yet the fact of the matter is that the body, *your* body, is a living, breathing, growing *organism* that is responsive to your every thought. *Ideally* speaking, it has a great natural healing ability to rid itself of any diseases, the capacity to keep itself in excellent health, and maintain its stability into advanced old age. These and many other of the body's abilities are impossible for a machine. Diseased portions are replaced by new tissue as when people rid themselves of cancer through "spontaneous remission" or "placebo effects" (O'Regan & Hirshberg, 1993). What machine do you know can do that? As physician Larry Dosey in his 1991 book *Meaning and Medicine: A Doctor's Tales of Breakthrough and Healing* observed:

When they "get sick," machines don't experience "miracles," "exceptional cures," or "spontaneous remissions" ... But the possible *always* exists that we will *not* behave like machines when we are sick. This leaves the door open for the occurrence of extraordinary events in *any* human illness – the unexpected cure, the drug that wasn't supposed to work but did, or the illness that "just went away. ...Never has a flat tire or a defunct TV set repaired itself....." (Dosey, 1991, pp. 122-123).

The deeper that psychological science probes the reality of the human psyche, the more clearly it will appear that the body is not like a machine at all. Our bodies are better considered to be organisms rather than machines. Organisms are alive, machines are not. What implications does a non-mechanical view of the body have for therapeutic healing?

"Being open to nonmechanical images of the body *does* mean that we have more therapeutic options to choose from. ...Healing, as a result, can become less remote, cold, and mechanistic – and more effective, humane, and fulfilling for both patient and therapist" (Dosey, 1991, p. 137).

**The Mindless Body.** When you examine your experience of your own thoughts it may seem to you that ideas have little to do with the living flesh. The body, after all, seems physical and ideas do not. Mind and matter appear divided with the body seeming to function completely independent of the mind.

With reality divided into a world of mindful concepts (mind or spirit) and a world of mindless flesh (body or matter), it is difficult to see how any valid interactions between mental or emotional states and physical ones can occur. Yet the fact of the matter is, of course, that they do. How is this possible?

This is the traditional mind-body problem first formulated by the French mathematician and philosopher Rene Descartes (1596-1650) who denied any sentience to matter and any matter to sentience, insisting that matterless mind (*res intense*) and mindless matter (*res extensa*) were strictly separate in substance and nature. For over 400 years, psychological science has labored under the Cartesian assumption that all matter, including the body, contains not the smallest smidgeon of sentience (i.e., the capacity for awareness and experience). It is somewhat ironic to imagine that such a vital consciousness and physical body as our own could even suppose itself to be the end product of inert physical, and chemical elements that are themselves lifeless, but that somehow randomly managed to combine in such a way that our species attained logic and imagination, thought and language, learning and memory, technologies and civilizations.

**The mindful nature of cells.** Are the cells that compose our body truly "mindless"? Cells eat and grow, divide and multiply, collaborate with each other and accommodate to changes in physical environments, exchange material with each other and excrete waste material. Machines we build are not capable of such feats. We can even say that cells recognize one another and have a rudimentary memory of past experience.

The new cloning technology that has developed over the recent years has shown that under special laboratory conditions, we can get cells from different species to fuse with one another. We can insert carrot genes into mice, and mouse genes into human cells. Chimeras such as the "geep" have been formed by fusing sheep and goat cells together to form creatures with characteristics of both species. Few creatures are born alive, and those that do live short lives plagued by various physical disorders. Outside the laboratory, however, cell fusion does not occur. Millions of bacteria, protozoans, algae, and fungi can co-exist in an ounce of rich soil and engage in all sorts of interactions without fusing with each other. Biologist Lyall Watson points out one implication of this fact:

The existence of this complex ecology among a wide variety of simple unicellular organisms belonging to a number of species suggests that the cells must have some way of deciding just what constitutes a species. They must have some kind of recognition system which makes it possible to distinguish one from another, self from others, me from not-me. There must be, even among single cells, a rudiment of identity (Watson, 1979, p. 91)

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This sort of recognition process and sense of rudimentary identity can provide a psychological interpretation of how certain features of our immune system operate. Antibody formation following disease and organ rejection following transplant operations

“clearly involves specific recognition by the chemicals or white blood cells concerned, because next time a similar invasion takes place the antibodies present in the blood remember it and are ready to deal with the intruder in a rapid and summary fashion” (Watson, 1979, p. 91).

Biologist Lyall Watson (1979) tells us that a similar kind of self-recognition occurs among simple organisms such as sea coral and gorgons that live in individual colonies.

“If such growing a colony is divided into two parts, these will readily unite if given the chance. There is clear community identity, but this doesn’t extend to other colonies, even those of the same species... This means that even at the cellular level there are ways in which contact, communication, and recognition can take place” (Watson, 1979, p. 92).

Even in bacteria and amoeba (usually considered to be solitary and independent unicellular organisms), social characteristics have been observed to occur as when soil bacteria such as *Chondromyces aurantiacus* and amoeba such as *Dictyostelium discoideum* (slime mold) gather together, perform like a multicellular organism, and act toward a common goal.

“A group of identical and isolated cells succeed in getting together, decide on a course of action, undergo differentiation in a well-orchestrated division of labor and dedicate their joint effort in an extraordinary altruistic way to the promotion of survival in a chosen few of their number” (Watson, 1979, p. 95).

This is not the behavior of mindless machines. Biologist Lyall Watson (1979) notes that the very same chemical (cyclic adenosine monophosphate or “CAMP” for short) that bacteria and slime-mold amoeba produce to set the chain of social reactions going is

“the same chemical [that] acts as an intracellular messenger in all organisms, even man. It mediates between hormones arriving at the cell wall and enzymes that lie inside the cell. This means that many of our most complex activities, such as the signals which hold the community of strangers in our cells together, working to a common end, originate in the same ancestral reaction” (Watson, 1979, p. 95).

The social characteristics of cells indicates clearly that the desire for communication, contact, and motion, and the psychic capabilities of awareness, recognition, and memory do not belong to humans, or even to animals, alone. Cells are pragmatically practical; they naturally have a desire to communicate, move, and unite, implying a social nature to our body’s cells. Through this biological communication, the body is made aware of its internal and external physical environment. A transpersonal perspective would argue that the principle of mind-body unity implies that the thoughts, feelings, intents, and images that form a part of the inner environment of the body is also communicated at cellular levels as well (Roberts, 1981b). The inner environment is certainly as important as the outer environment for the species’ survival and well-being and, however, private, forms a part of the inner environmental of communication.

Consciousness circulates throughout the body, so to speak, and we can affect the health and well-being of our body through our conscious beliefs. A seeming division occurs where a portion of our conscious mind is connected with the physical brain and where a portion of our conscious mind is free of that connection and involves the involuntary nervous system. We are talking about so-called non-conscious processes here. As much as 99% of cognitive activity may be nonconscious (Kilhstrom, 1984). We have an “unconscious mind” that may understand and respond to meaning, form emotional responses, and guide most actions, largely independent of conscious awareness.

Fortunately, the conscious mind does not have to regulate bodily processes. Can you imagine how much work it would be to keep conscious track of all the muscles, nerves, organs, cells, molecules, and atoms while manipulating the body in space and time? Our conscious mind does not contain the information on how to grow a cell or how we grew from a fetus to an adult, yet we do it rather well without having any conscious idea how it is done. Can you imagine if we had to consciously grow ourselves from a one-cell organism to a multi-cellular embryo? We would be asking ourselves all the time: “Am

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I doing it right?” We don’t have to consciously keep track of our pumping heart. Yet all of this proceeds intelligently, purposefully, spontaneously. Our visceral organs act without our conscious control and usually without our knowledge. Detailed knowledge of physiology does not help an invalid get out of his wheelchair nor helps a sprinter run faster. It is not this kind of knowledge that tells us how our body can be affected by thought.

As Michael Talbot notes in his 1991 book, *The Holographic Universe*,

“We have two realities: one in which our bodies appear to be concrete and possess a precise location in space and time; and one in which our very being appears to exist as a shimmering cloud of energy whose ultimate location in space is somewhat ambiguous” (p. 191).

### Life Energies

**The electromagnetic reality of mind and body.** The electrical reality of thought has long been recognized by mainstream psychology (e.g., resting potential, or membrane potential; nerve impulses, or action potentials; local potentials, or graded potentials). “Electrical signals are the vocabulary of the nervous system” (Rosenweig, Leiman, & Breedlove, 1999, p. 56). Psychologists routinely use

- Electroencephalograms (EEG)
- Electrical activity mapping (BEAM),
- Event-related potentials (ERPs) recordings of gross electrical activity of the human brain.
- Functional magnetic resonance imaging (fMRI) uses radio waves and rapidly oscillating magnetic-field gradients to detect structural details of the living brain.
- The use of near-infrared electromagnetic waves (wavelengths 700-1000 nm) that penetrates the brain has now being used to make light images of brain activity in the head (Villringer & Chance, 1997).
- Galvanic skin response (GSR) recordings of the skin’s electrical activity,
- Electrocardiographs (EKGs) of the electrical activity of the heart,
- Electromyographs (EMGs) of the electrical activity in the muscles are also routinely used in research to record electrical activity associated with biological functioning.

All this electrical activity occurs, of course, against the more general background “noise” of the naturally occurring, random atomic oscillations produced by ordinarily invisible thermal energy in the human body which “night vision” scopes detect, amplify, and make visible to the human eye. As major technological advancements occur in our ability to detect and measure various forms of energy, such as SQUID technology, for example, our understanding of the bioenergetic nature of life expands. For instance,

“The discovery of the “SQUID” (superconducting quantum interference detector) magnetometer revealed that, in addition to the EEG, the brain also produced a magnetic field measurable in space around the head, now called the ‘magnetoencephalogram’ or MEG. The production of such a magnetic field requires that actual electrical currents be flowing within the brain... Thus, to a certain extent, the functional state of the brain is represented in the external magnetic field surrounding the head” (Becker, 1990, p. 13).

Interestingly, the MEG has not only demonstrated that brain functioning results in the production of an external magnetic field, but has also detected the presence of submicroscopic traces of magnetic material in the brain (referred to in the field of bioelectromagnetics as the “magnetic organ”) (Becker, 1990b).

**Why psychologists are reluctant to accept the idea of human energy field.** Although psychologists and physicians have long recognize the electromagnetic reality of mind and body, mainstream biomedical and biological psychology has been reluctant to acknowledge the existence of a human energy field that surrounds the entire body. One reason for this reluctance is the philosophic commitment to a Newtonian-based physics that has dominated modern psychology. This commitment has created a barrier to psychology’s ability to integrate the theories of modern physics into its understanding of the human body (Moss, 1979).

**The neurone doctrine.** The “neurone doctrine” that currently holds sway in modern biopsychology is one example of Newtonian thinking in modern psychology. The neurone theory contends that all operations of the physical brain are the result of nerve impulses alone or their associated processes. Although a nerve impulse can be detected electrically, the brain and central nervous system operates by a traveling wave of alternating polarization and depolarization along the membrane of the axon (action potentials), not as an electrical current *per se*. Brain waves are simply the by-products of the action potentials of groups of nerve cells, not electricity *per se*. Electricity and magnetism, in other words, play no known role in neural transmission. Magnetic fields, even those of great strength, tend to have little or no effect upon nerve impulses. Minute electrical currents and low strength electromagnetic fields in the environment were thus believed to have little biological effect on living organisms since there were no conceivable mechanisms within the body for them to be detected or transmitted.

**EEG invented to study telepathy-brain wave link.**

This effectively rules out, of course, the very possibility for the existence of extrasensory perception or information (energy) reception and transmission of electrical currents and magnetic fields within the human body. It is interesting to note in this context that German psychiatrist Hans Berger’s 1929 invention of the electroencephalograph (EEG) and subsequent discovery of human brain waves was initially motivated to test the hypothesis that brain waves provided the basis for telepathic phenomena (Becker, 1990a). Although Berger was convinced of the validity of telepathic phenomena (having been involved in a vivid ESP episode himself), he later concluded that the strength of the EEG was too small to provide a vehicle for such communication.

**The new discipline of bioelectromagnetics.** The field of *bioelectromagnetics* emerged in the 1950’s, however, because of growing evidence that a wide variety of biological effects (e.g., healing bone fractures, cell growth, nerve impulse transmission, and blood chemistry) could be produced by the application of low level direct electrical current (DC) and low strength, slowly pulsating electromagnetic (EM) fields (Becker, 1990b) to living systems. Although theoretically speaking, there was no known mechanism for DC and EM fields to operate at the cellular level, data indicated that such biological effects nevertheless occur (e.g., Weaver & Astumain, 1990). Extra low frequency (ELF) electromagnetic fields, for instance, that make up much of our human-made EM fields is now recognized to have biological effects on embryonic growth, cell division, and incidence of cancer (e.g., Wilson et al., 1990).

**Dual internal control system.** In order to explain the biological effects of low strength DC currents and EM fields on living organisms, Robert O. Becker, professor of orthopedic surgery, and Frank Brown of Northwestern University proposed the existence of dual-track nervous system consisting of two-fold electromagnetic/neurological aspects located primarily in perineural cells which accompany all nerve fibers throughout the human body (Becker, 1990b). One track makes up the complex sensory-motor nervous system that provides for our five sensory systems and regulates behavior and transmits information in terms of sequential action potentials (i.e., digitally); the second track forms a primitive DC electrical system that relates the body to external electromagnetic fields and controls basic functions of growth, healing, and biological cyclic behavior and “transmits information in an analog fashion by means of electrical currents and magnetic fields” (Becker, 1990a, p. 12). This new paradigm does not replace the traditional neurone doctrine but supplements it with a more basic internal control system that acknowledged the scientific discoveries of the past 30 years. Robert O. Becker summarizes his new paradigm of the nature of life.

“Living things may now be viewed as basically electromagnetic in nature, possessing an internal, organized, analog type, DC electrical system that regulates the basic functions of growth and healing, provides the basic operational level for brain activity, and produces magnetic fields of a specific nature that are detectable outside of the body. The operations of this electrical control system are regulated, in part, by the magnetic organ and the pineal gland, which detect the status of the geomagnetic field and directly relate the organism to its electromagnetic environment. In this fashion, all living things are intimately tied to the natural geomagnetic fields of the earth” (Becker, 1990b, p. 13).

Intriguing studies now indicate that the earth’s geomagnetic field (GMF) has demonstrable effects on psi functioning showing that extrasensory perception such as telepathy and clairvoyance (“remote viewing”) performance is better on days when the GMF is quiet (see Radin, 1997, p. 314, footnote 13 for a partial listing of studies following up on the GMF-psi relationship).

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	<p>Theories of quantum physics are counterintuitive to ordinary sensory perception and to conventional Newtonian understanding of physical objects, including the body, as solid, individual, stable, and mindless. Modern physics, however, has amply confirmed that the body may be perceived and understood as energy rather than only as matter. Energy may be regarded as the inner aspect and matter as the outer aspect of the transpersonal body. Michael Murphy in his 1992 book <i>The Future of the Body</i> (Appendix F) lists numerous experimental studies and historical accounts regarding the subtle energy body and the extraordinary creativity in the conditions and states that energy and matter may take. Psychiatrist Eric Leskowitz in his 1993 article “Spiritual Healing, Modern Medicine, and Energy” observes that “the language of biomagnetism ...can potentially describe the physical basis for spiritual processes. The technological evidence is beginning to mount...that biomagnetic field interactions mediate these phenomena” (p. 52). Kirlian photography, for instance, detects the biomagnetic aspects of this energy field and shows that it fluctuates with a person’s state of consciousness (Tiller, 1974).</p> <p>John White and Stanley Krippner in their 1977 book <i>Future Science: Life Energies and the Physics of the Paranormal</i> identify 93 different names for the “X energy” – a fifth force in nature not yet recognized by modern science - underlying all normal and paranormal phenomena proposed by ancient traditions and contemporary investigators since the beginning of recorded history (White &amp; Krippner, 1977, pp. 550-555). Whether its called Prana (Hindu), Qi or Ch’i (Chinese), Ki (Japanese), Nous (Plato), Yesod (Cabalist), Vis Medicatrix Naturae (Hippocrates), Formative Cause (Aristotle), Holy Spirit (Christians), Facultas Formatrix (Galen, Kepler), Baraka (Sufi), Manu (Polynesian), Anima Mundi (Avicenna), Huaca (Peruvians), Ruach (Hebrew), Manitu (Algonquin Indians), Mungo (Sudanese), Ngai (African Masi), Arunquiltha (Australian Aborigines), Animakl Magnetism (Mesmer), Life Force (Galvani), Gestaltung (Goete), Odic Force (Reichenbach), astral light (Vlavatsky), Libido (Freud), Etheric Formative Forces (Steiner), Hormic Energy (McDougall), Elan Vital (Bergson), entelechy (Aquinas, Driesch), Orgone (Reich), Negative Entrophy (Schroedinger), psi (Rhine), Synergy (Maslow), Unitary Principle in Nature (Whyte), noetic energy (Muses), or Magentoelectricity (Tiller), the notion that there is a “subtle” (just beyond normal human perception) field of energy around the human body is ancient.</p>
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**Seven layers of the human energy body.** Various ancient traditions and contemporary investigators assert that the human energy field has a number of distinct layers, or strata, extending outward from the body. One common system of nomenclature refers to seven layers, with each layer becoming more subtle or more difficult to perceive than the one before it. Leskowitz (1993) proposes that the seven layers of body energies may be ordered along a continuum or spectrum ranging from the more concrete or tangible to the more intangible or subtle. All layers of energy interpenetrate and divisions are arbitrary. There are no real division to the body of energy that composes all living things.

The first layer of energy, the energy body that is closest in size to the physical body, is believed to form the energy matrix or blueprint for the human body and involved in guiding and shaping the growth of the physical body. In the Western mystical tradition (e.g., Theosophy), this energy form is called the “etheric body” (Leadbody, 1980). It is at this level that “prana” energy is awakened, harnessed, and directed by yogic physical postures and breathing practices, and “chi” energy is awakened, harnessed, and directed by acupuncture and chi gung healing. These are the energies that are manipulated by Therapeutic Touch (TT) and that are responsible for the chemical changes and enhanced rate of wound healing observed (Kunz, 1985). This is the layer of energy called libido (Freud), orgone (Reich), and élan vital (Bergson) reflected in the physical health of the body. The power of universal life energy is addressed in healing at the level of the etheric body.

The second layer of energy forms the “astral body,” also called the emotional body. The broad range of emotions and feeling-tones and their intensities are reflected in this energy body. Repression, suppression, or denial of feelings cause energy blockages that are reflected in the emotional energy body. Emotional health of the astral body means acknowledging feelings when they arise and expressing them when appropriate. The energy of the emotional or astral body is awakened, harnessed, and directed through psychodynamic and expressive psychotherapy. The power of emotion is addressed in healing at the level of the emotional body.

The third layer of energy forms the mental body, also called “thought form.” The mental body reflects the electromagnetic, light, and sound values that accompany thought. Conditioned patterns of thoughts, beliefs, and expectations, both conscious and subconscious, contribute to the formation of a self-image that is reflected in the energy patterns displayed in this energy form. This energy body reflect the mental health of the individual. the mental or thought form body manipulated by visualization and cognitive restructuring therapies.

The power of thought is addressed in healing at the level of the mental body.

These three “subtle realms” (etheric, emotional, mental) comprise the energy field called the “aura.”

A fourth layer of energy forms the intuitive or “causal body.” The energy of the causal body is the source of spiritual intuition often associated with mystical experience, dream body work, and parapsychological phenomena. The power of intuition is addressed in healing at the level of the causal body (Vaughn, 1979). The remaining three subtle bodies of energy that surround the human body have to do with the transpersonal realms of the Higher Self or soul and more profound states of spiritual perception, insight, and functioning.

**Nine chakras on the human energy body.** According to yogic literature we also have special energy centers in our body called “chakras” that are connected or influence the endocrine glands and the major nerve centers in the body at certain “gates” located along the spine (“chakra” is the Sanskrit word for “wheel” because they resemble spinning vortices of energy).

**Detecting and measuring the human energy field.** Existing just below normal human perception (hence the name “subtle”), the various layers of the human energy field are perceptible only by using special equipment (e.g., Kirlian photography devices, radionics, psychotronic generators, the Motoyama device, superconducting quantum interference devices) (Becker, 1990; Ostrander & Schroeder, 1974; Tiller, 1974; White & Krippner, 1977) or to individuals who have a specially developed capacity to see it, either by birth, by spontaneously, or as the result of the practice of a spiritual discipline (Benor, 1993a, 1993b, 1993c; Leadbeater, 1980; Brennan, 1987; Kunz, 1985, 1991; Butler, 1978).

The human energy field can possess various colors related to a person’s physical health and activity level, emotional state, mental state, and assorted other factors. It is the human energy body that healers address for diagnosis and treatment of health-related issues. An exchange of energy has been reported to occur between healer and healees at the site of the laying on of hands in the form of subjective sensations of heat, tingling, vibrations, colors, and cold (Benor, 1993a, 1993b, 1993c). Similar sensations have been reported to occur during healings from a distance (Dossey, 1993).



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**Physicist Barbara Brennan.** Physicist Barbara Brennan (1987) can make startlingly accurate medical diagnoses based on which she can see. As a physicist, Brennan believes that the Karl Pribram- David Bohm holographic model of physical reality provides the best scientific model for understanding the phenomenon of human energy fields. That the human energy field emerges from an electromagnetic frequency domain that transcends space and time, exists everywhere, and is nonlocal explains how distant-healing is made possible and how Brennan can accurately read a person's aura even when the person is thousands of miles away.

**Neurologist and psychiatrist Shafica Karagulla.** Shafica Karagulla, a doctor of medicine and surgery and a former research associate of Wilder Penfield, in her 1967 book *Breakthrough to Creativity* describes her encounters with famous surgeons, university professors of medicine, department heads in large hospitals, physicians, and other members of the medical profession who report an ability to see the human energy field. Karagulla calls this faculty "higher sense perception," or HSP. He book documents that many members of medical profession have HSP abilities. "When many reliable individuals independently report the same kind of phenomena, it is time science takes cognizance of it" (Karagulla, 1967, pp. 78-79).

**Nurse Dolores Krieger.** Dolores Krieger, professor of nursing at New York University and student of clairvoyant Dora Kunz, learned to feel blockages in the human energy field and to heal patients by manipulating the field with her hands (Krieger, 1985). Realizing the enormous medical potential and benefits of the technique that came to be called "Therapeutic Touch (TT)," Krieger (1979) has taught the technique to literally thousand of nurses. Numerous studies have demonstrated the effectiveness of TT in hospitals around the world (Kunz, 1985).

**Physical therapist Valerie Hunt.** Professor of kinesiology at UCLA, Valerie Hunt has used the electromyography (EMG), a device used to measure the electrical activity in the muscles, to detect the electrical presence of the human energy field. As described by Talbot (1991, pp. 174-178), Hunt detected another energy field radiating from the body at frequencies that averaged between 100 and 1600 cycles per second (cps) – frequencies that are much smaller in amplitude than the traditionally recognized body electricity that usually can range between 0 and 250 cps. Hunt noticed that these high-frequency, low amplitude electromagnetic waves were strongest in the areas of the body associated with the

yogic chakras. Hunt also discovered a statistically significant correlation between the colors that aura readers perceived in the person's energy field and the pattern of frequencies displayed on an oscilloscope, a device that converts electrical waves into a visual pattern on a display screen. According to Talbot's account:

"When an aura reader saw blue in a person's energy field, Hunt could confirm that it was blue by looking at the pattern on the oscilloscope. In one experiment she even tested eight aura readers simultaneously to see if they would agree with the oscilloscope as well as with each other. 'It was the same right down the line,' said Hunt" (Talbot, 1991, p. 175).

Hunt also discovered that the human energy field detected by the EMG responds to stimuli a fraction of a second before the brain responds as measured by EEG. According to Talbot's account:

"She has taken EMG readings of the energy field and EEG recordings of the brain simultaneously and discovered that when she makes a loud sound or flashes a bright light, the EMG of the energy field registers the stimulus before it ever shows up on the EEG" (Talbot, 1991, p. 192).

This means that the human energy field responds to a stimulus before the individual consciously registers the response in the brain. Even before the brain starts to generate the neural signals necessary to accomplish a physical response, such as a motor movement, the stimulus is already registered by the body's energy field.

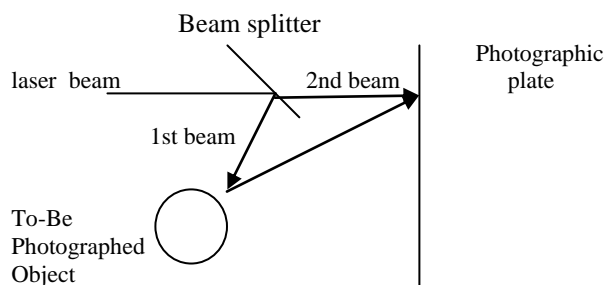
Such phenomena do not fit the currently dominant, Western philosophy of mechanism, materialism, and reductionism, many psychologists will refuse to even examine the evidence. Science tends to ignore phenomena that it is incapable of explaining or incapable of believing that they exist (after all, why investigate the reality of a fiction?). But this is hardly a scientific attitude to take toward the glimpse that such phenomena provide of the enormous potentialities that lie dormant in the bodies of all of us. Each of the phenomenon (from the placebo response to birthmarks and birth defects suggestive of reincarnation) requires increasingly greater shifts in our conventional ideas of reality. It is important for mainstream psychologists to try to understand such "bizarre" transpersonal phenomena and not just sweep them under the rug. "As bizarre as [they] sound, [they are] not so strange when one remembers that in a holographic universe, consciousness pervades all matter, and 'meaning' has an active presence in both the mental and physical worlds" (Talbot, 1991, p. 145).

**Karl Pribram's Holographic Brain.** Neuropsychologist Karl Pribram (1977) noted numerous similarities between brains and holograms and in 1977 proposed his evocative holographic model of the brain to account for a number of other neurophysiological puzzles, including:

- The evidence that vision and memory are holistically dispersed throughout the brain. *Similarly the hologram stores the same wave pattern across its entire surface. The brain's scattered codes across its entire surface allow memories to survive extensive brain damage.*
- The finding that both the visual and auditory systems work as kinds of frequency analyzers (with single nerve-cells responding selectively to a limited bandwidth of frequencies, apparently converting visual images and sound stimuli into wave forms using a type of Fourier transform mathematical calculus – the same type of calculus that led to the initial development of the lensless photographic process of holography invented by Nobel laureate Dennis Gabor in 1947). *The brain performs certain operations, coding and decoding sensory input that can be described by the same mathematics that define the hologram. The brain stores information in mathematical codes similar to those used in holography.*
- Phantom limb sensations (experiencing virtual sensations in spatial locations where there are absolutely no sense receptors). *Similarly, a hologram is a virtual image that appears to be where it is not and possess no extension in space.*
- How we construct a “world-out-there” (i.e., we do not perceive the person we see as being on the surface of our retinas even though that is where the image is located). *Just as the human brain constructs images out of sensory message, the brain projects its own thoughts as holographic objects in the natural world. What we have is a holographic brain that creates images which we perceive as existing outside the brain that produced them.*
- The vastness of memory (over the course of an average human lifetime, the brain stores store approximately  $2.8 \times 10^{20}$  bits of information). *Just as many different holograms can be superimposed upon one another, so an infinite number of memories can be stored inside our brains.*
- Qualities like color, texture, dimensions, luminosity, distance, intensity, movement, shape, and other variables must be processed by the brain simultaneously in a pattern. *The brain stores information in the form of interference patterns, patterns of interacting waves similar to those formed when light beams collide.*

Just as a television camera converts an image into electromagnetic frequencies and are carried by waves to a television set that converts those frequencies back into the original image, a similar process is achieved by the holographic brain. The holographic brain, like the visual system and the auditory system, works as a kind of frequency analyzer, responding to the frequency of coded electromagnetic, light, and sound values of nonphysical thought, feelings, and volition converting them into ideas and images, emotions and impulses, sensory experiences and motor movements. Just as you cannot physically locate the image anywhere on the holographic film, so also you cannot physically locate the mind in the brain.

“One of the things that makes holography possible is a phenomenon known as interference. Interference is the crisscrossing pattern that occurs when two or more waves, such as waves of water, ripple through each other... The complex arrangement of crests and troughs that results from such collisions is known as an interference pattern. Any wavelike phenomena can create an interference pattern, including electromagnetic (light, radio) and sound waves. A hologram is produced is when a single laser light is split into two separate beams. The first beam is bounced off the object to be photographed. The second beam is allowed to collide with the reflected light of the first. When this happens they create an interference pattern which is then recorded on a piece of film....The image on the film looks nothing at all like the object photographed [but rather] like concentric rings...But as soon as another laser beam is shined through the film, a three-dimensional image of the original object re-appears....Unlike normal photographs, every small fragment of holographic film contains all the information recorded in the whole” (Talbot, 1991, pp. 14-17)



Such is the evocative theory of the holographic model of the brain proposed by neuropsychologist Karl Pribram in his 1977 book *Languages of the Brain*.

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