Brains and Beyond: The Unfolding Vision of Health and Healing

Larry Dossey, MD

(This article is based on an address by Larry Dossey, MD, to the "Behind and Beyond the Brain" conference, the 11th Symposium of the Bial Foundation, in Porto, Portugal, April 2, 2016.)

> The notion of a separate organism is clearly an abstraction, as is also its boundary. Underlying all this is unbroken wholeness even though our civilization has developed in such a way as to strongly emphasize the separation into parts.[1]
>
> —David Bohm and Basil J. Hiley
> *The Undivided Universe*

> "I suddenly developed a severe headache in the back of my head," the nurse said tearfully. "It was so painful I could not function and had to leave work. This was strange, because I never have headaches. When I reached home and was lying in bed, the phone rang. I learned that my beloved brother had been killed from a gunshot wound to the back of his head, the same place my terrible headache was located. My headache began at the same time the shooting occurred.

The woman was a prominent nurse leader at a major hospital in northern California. The occasion was a Q & A session following an address I had given to senior staff of the hospital consortium to which her hospital belonged. My topic was the importance of empathy, compassion, and caring in healing and healthcare. I had reviewed empirical evidence suggesting that empathy and compassion are more than vaporous emotions that float in our bodies somewhere above our clavicles. They are part of our biological makeup, I suggested. While empathy and compassion arise when we are in the presence of another person, as when a nurse or physician is at the bedside of a patient, evidence suggests their effects may also be felt between individuals at a distance, beyond the reach of the senses. Distant individuals often share feelings, sensations, and thoughts, particularly if they are emotionally close. These experiences, I explained, are often called *telesomatic events*. Hundreds of such cases have been reported over the years, but have been largely ignored.

This discussion had prompted the nurse to reveal her experience to several hundred of her colleagues in the audience. "Now I have a name for what happened between my brother and me," she said. "Now I can talk about it." Her story riveted the audience. When she finished, she was not the only person in the room in tears.

This woman's story is, of course, "only an anecdote." "Anecdote" comes from the Greek *anekdota*, "things unpublished." Our lives are comprised of anecdotes—stories, happenings, events, and experiences that are all unpublished. Our existence does not unfold as a series of controlled, publishable scientific studies. It is when our experiences form patterns that are shared by others that we should pay attention to the possible messages they may convey.

LEVELS OF CONNECTEDNESS

Experiences such as these are not uncommon. They suggest a unity and connectedness between biological systems that transcend separation in space.

A growing body of evidence supports this invisible connectivity at several levels of biological complexity. This evidence goes beyond the etymology of "anecdote," for it has indeed been published in peer-reviewed journals and is now a part of the scientific record.

DISTANT MENTAL INTERACTIONS WITH LIVING SYSTEMS (DMILS)

Experiments generally known as DMILS—*d*istant *m*ental *i*nteractions with *l*iving *s*ystems involve a wide variety of entities such as whole humans, organs, cells, microbes, plants, and animals. In these studies individuals use their intentions to influence biological functions in humans, the growth rates of bacteria and fungi in test tubes and Petri dishes, the rate of wound healing in mice, the healing of transplanted cancers in mice, the function of cells in tissue cultures, the germination rates of seeds, the growth rates of seedlings; and many other phenomena. Two examples follow.

Gronowicz and colleagues assessed the effect of therapeutic touch (TT) on the proliferation of normal human cells in culture, compared to sham and no-treatment controls. This non-touch technique, which emphasizes healing intentions, was administered twice a week for two weeks. Compared to untreated controls, TT significantly stimulated proliferation of fibroblasts (cells that produce collagen and are important in wound healing), tenocytes (tendon cells), and osteoblasts (bone cells) in culture ($P = .04$, .01, and .01, respectively). These data were obtained by sophisticated techniques such as immunocytochemical staining for proliferating cell nuclear antigen (PCNA). The researchers concluded, "A specific pattern of TT treatment produced a significant increase in proliferation of fibroblasts, osteoblasts, and tenocytes in culture. Therefore, TT may affect normal cells by stimulating cell proliferation."[2]

In 10 controlled experiments, researcher William Bengston tested the effect of "healing with intent" on laboratory mice. In eight of these experiments, mice were injected with mammary adenocarcinoma (breast cancer) cells. In two experiments, mice with methylcholanthrene-induced

ISSN 1550-8307/$36.00

http://dx.doi.org/10.1016/j.explore.2016.06.011

sarcomas were used. The fatality rate for both cancers in mice, if untreated, is 100%. The healers were faculty and student volunteers. Although they had no previous experience or belief in healing with intent and were often skeptical of such, they were drilled extensively in the healing technique. Treatment length was from 30 to 60 min, delivered daily to weekly until the mice were cured or died. They were successful in producing full cures in approximately 90% of the mice. When mammary adenocarcinoma cells were re-injected into cured mice, the cancer would not take, suggesting that an immune response had been stimulated during treatment. The proximity of the volunteer healers to the cages of the mice varied from on-site to approximately 600 miles. Thus Bengston notes,"[T]hese effects were at times brought about from a distance that defies conventional understanding," suggesting that a nonlocal process was at work. This series of studies, conducted at several academic centers, suggests that healing through intent can be predictable, reliable, and replicable.[3–6]

However, the DMILS field is too extensive to be reviewed here. These studies are described and summarized in readily available sources.[7–18] A recent review must suffice. In a 2015 meta-analysis of this field, consciousness researcher Chris A. Roe and his colleagues at the University of Northampton examined 106 "noncontact healing studies"—57 involving whole humans and 49 involving non-whole humans (tissues, cells) and nonhumans (animals, plants, etc.). All the various healing methods employed in these experiments incorporated an intention to heal. The researchers concluded, "Results in the active condition exhibit a significant improvement in wellbeing relative to control subjects …. [Results] do not seem to be susceptible to placebo and expectancy effects. … The effect size is small, but statistically significant."[19]

To reiterate, nonhumans such as cells, plants, microbes, and biochemical reactions presumably do not think positively or symbolically and are therefore not subject to suggestion and expectation. If in controlled experiments these entities respond to intentions, presumably the placebo response is not responsible, but the influence of the thoughts and intentions of the healer.

This generalization requires qualification. In humans, placebo effects are believed to be mediated by the empathy, compassion, likeability, and trustworthiness manifested by a physician. Thus, veterinarian and placebo researcher F.D. McMillan states, "To the extent that animals form such perceptions … it is reasonable to posit a similar influence of placebo effects in animal health care."[20] There is evidence that certain nonhuman animals can manifest placebo effects through operant conditioning. For example, Ader and Cohen paired an immunosuppressive drug (cyclophosphamide) with a neutral stimulus (a saccharine solution) in mice with a lupus-like disease. When only the neutral stimulus was later given, the result was immunosuppression, suggestive of a placebo response.[21,22] Moreover, a body of research demonstrates healthy effects in animals from visual and tactile contact from a human, involving rabbits, dogs, horses, dairy cows, and sows.

How, then, can placebo responses be differentiated from our hypothesized effects of healing intentionality? The reasons are straightforward. Many of the relevant studies do not involve animals at all, but cells, tissues, plants, microbes, and chemical reactions. Moreover, intentionality effects do not depend on proximity to a subject. Many of the experiments suggesting distant healing effects have been done remotely, beyond sensory contact. This suggests that a *nonlocal* phenomenon is at play, as opposed to the *local*, sensory-mediated mechanisms believed to underlie placebo responses in humans and higher animals. Therefore, if animals are not involved as test subjects, and if sensory-mediated contact is bypassed, placebo effects would appear to have been eliminated.[23]

CELL-TO-CELL CONNECTIONS

In 2009, a team of Italian researchers led by neuroscientist Rita Pizzi repeatedly demonstrated that, when one batch of human neurons was stimulated by a laser beam, a distant batch of neurons registered similar changes, although the two were completely shielded from each other. The researchers concluded, "[O]ur experimental data seem to strongly suggest that biological systems present non-local properties not explainable by classical models."[24]

In 2007 researcher Ashkan Farhadi and colleagues at Rush University Medical Center in Chicago examined whether cells in separate containers could communicate with each other. They exposed one container of intestinal epithelial "inducer" cells to hydrogen peroxide and assessed the damage done to them. Another batch of "detector" cells was placed in a separate container and was not exposed to hydrogen peroxide. Even though there was no obvious way the two batches of cells could communicate, the detector cells demonstrated damage similar to the inducer cells. "These findings," the researchers said, "provide evidence in support of a non-chemical, non-electrical communication."[25]

In 2013 researcher Victor B. Chaban and his colleagues at UCLA School of Medicine, demonstrated "physically disconnected non-diffusable cell-to-cell communication" between neuroblastoma cancer cells and normal neurons, when both are shielded, preventing any known means of communication.[26]

BRAIN-TO-BRAIN CONNECTIONS

In 1965 researchers T.D. Duane and Thomas Behrendt decided to test anecdotal reports that identical twins share feelings and physical sensations even when far apart. In 2 of 15 pairs of twins tested, eye closure in one twin produced not only an immediate alpha rhythm in his own brain, but also in the brain of the other twin, even though he kept his eyes open and sat in a lighted room.[27]

The publication of this study in the prestigious journal *Science* evoked enormous interest. Totally, 10 attempted replications soon followed, by eight different research groups around the world. Of the 10 studies, eight reported positive findings, published in mainstream journals such as *Nature* and *Behavioral Neuroscience*.[28–37]

In the late 1980s and 1990s, a team headed by psychophysiologist Jacobo Grinberg-Zylberbaum at the University of

Mexico published experiments that, like most of the previous studies, demonstrated correlations in the electroencephalograms (EEGs) of separated pairs of individuals who had no sensory contact with each other.[38–40] Two of the studies were published in the prominent journals *Physics Essays* and *International Journal of Neuroscience*, drawing further attention to this area.[41–43]

Experiments in this field became increasingly sophisticated. In 2003 Jiri Wackerman, an EEG expert from Germany's University of Freiberg, attempted to eliminate all possible weaknesses in earlier studies and applied a refined method of analysis. Following his successful experiment he concluded, "We are facing a phenomenon which is neither easy to dismiss as a methodological failure or a technical artifact nor understood as to its nature. No biophysical mechanism is presently known that could be responsible for the observed correlations between EEGs of two separated subjects."[44]

As fMRI brain-scanning techniques matured, these began to be employed, with intriguing results. Psychologist Leanna Standish at Seattle's Bastyr University found that when one individual in one room was visually stimulated by a flickering light, there was a significant increase in brain activity in a person in a distant room.[45]

In 2004, three new independent replications were reported, all successful—from Standish's group at Bastyr University,[46] from the University of Edinburgh,[47] and from researcher Dean Radin and his team at the Institute of Noetic Sciences.[48]

PERSON-TO-PERSON CONNECTIONS

Evidence that our thoughts, emotions, and behaviors may influence someone remotely has surfaced in recent analyses of social networks. The precise mechanism of these phenomena is currently unknown. James H. Fowler, a political scientist at the University of California, San Diego, and Nicholas A. Christakis, a physician and social scientist at Harvard Medical School, published a provocative article in 2008 in the *British Medical Journal*, titled "Dynamic Spread of Happiness in a Large Social Network."[49] Christakis states, "[H]appiness is more contagious than previously thought …. Your happiness depends not just on your choices and actions, but also on the choices and actions of people you don't even know who are one, two and three degrees removed from you. … Emotions have a collective existence—they are not just an individual phenomenon."[50]

From 1983 to 2003, Fowler and Christakis collected information from 4739 people enrolled in the well-known Framingham Heart Study and from several thousand other individuals with whom they were connected—spouses, relatives, close friends, neighbors, and co-workers. They found, says Fowler, that, "[I]f your friend's friend's friend becomes happy, that has a bigger impact on you being happy than putting an extra $5,000 in your pocket." The idea that the emotional state of your friend's friend's friend could profoundly affect your psyche created a sensation in the popular media. As a *Washington Post* journalist put it, "[E]motion can ripple through clusters of people who may not even know each other."[51]

It's not just happiness that gets around. The team also found that depression, sadness, obesity, drinking and smoking habits, ill-health, the inclination to turn out and vote in elections, a taste for certain music or food, a preference for online privacy, and the tendency to think about suicide are also contagious.[52,53]

Christakis and Fowler published their findings about the spread of obesity in large social networks in the influential *New England Journal of Medicine*. They showed that obesity in people you don't know and have never heard of could ricochet through you. They attributed the contagiousness of obesity to a "social network phenomenon" without proposing any specific physiological or psychological mechanism.[54] To label something, however, is not to explain it, and to merely call this sort of thing a "social network phenomenon" has all the explanatory value of saying "what happens happens." In the commentary that accompanied their *NEJM* article, the experts who weighed in took the same tack. They discussed the genetic factors that influence obesity and the connections within and between cells in an individual that may contribute to overweight, but they too were mute about how distant humans might influence one another when they are beyond sensory contact.

Some suggest that the ripples work through the action of mirror neurons, which are brain cells believed to fire both when we perform an action ourselves and when we watch someone else doing it. But when people are remote from each other, there is no one to watch, and therefore no stimulus for the mirror neurons to fire. Others suggest that the spread is through mimicry, as when people unconsciously copy the facial expressions, body language, posture, and speech of those around them. There is a hint of desperation in these attempts to find some sneaky physical factor that mediates changes between distant individuals. But when all is said and done, Fowler and Christakis say they don't really know how happiness, obesity, etc. spread.[55]

The fact that your friend's friend's friend, someone you've neither seen nor heard of, is affecting your health has begun to rattle many of the gatekeepers in medicine. This field may be a bomb with a delayed fuse that is getting ready to explode in the very heart of materialistic medicine. A few medical insiders are raising the possibility that something heretofore unthinkable may be going on, such as a nonlocal, collective aspect of consciousness that links distant individuals. Among them is Dr. Robert S. Bobrow, a courageous clinical associate professor in the Department of Family Medicine at New York's Stony Brook University. In discussing the spread of obesity in his article "Evidence for a Communal Consciousness" in *Explore* in 2011, he says, "Frankly, obesity that develops from social connection, without face-to-face interaction, suggests emotional telepathy."[56]

If these experiments don't take your breath away, they should. They suggest that human isolation is a myth, and that human consciousness can manifest in the world beyond the brain. We are linked, united, entangled.

Do these person-to-person connections represent genuinely nonlocal phenomena? Are they on the same order as the cell-to-cell events demonstrated in the experiments of Pizzi,

Farhadi, and Chaban? Currently no one knows for certain, as mentioned, and further research will hopefully clarify these important questions. On balance, however, as Bohm and Hiley state in the epigraph, "The notion of a separate organism is clearly an abstraction, as is also its boundary."

TELESOMATIC EVENTS

> But if you stop clinging to coincidence and try explaining this trumpery affair, you might shatter one kind of world.[57]
>
> —J.B. Priestley
> *Man & Time*

Almost forgotten amid this flurry of research are hundreds of case reports such as the experience of the nurse above, which suggest a person-to-person form of communication that appears genuinely nonlocal. In them, individuals experience similar sensations or actual physical changes, even though they may be separated by great distances. Berthold E. Schwarz, an American neuropsychiatrist, documented many of these instances. In the 1960s he coined the term *telesomatic* to describe these events, from Greek words meaning "distant body."[58] The term is apt, because these events suggest that a shared mind is bridging two bodies. Most cases go unreported, however, because there is no accepted explanatory mechanism for them, and because of the social stigma that can result from discussing them publicly.

These happenings have an interesting pedigree. A typical example was described by the English social critic John Ruskin (1819–1900). It involved Arthur Severn, a famous landscape painter who was married to Ruskin's cousin Joan. Severn awoke early one morning and went to a nearby lake for a sail, while Joan remained in bed. She was suddenly awakened by the sensation of a severe, painful blow to the mouth, of no apparent cause. Shortly thereafter her husband Arthur returned, holding a cloth to his bleeding mouth. He reported that the wind had freshened abruptly and caused the boom to hit him in the mouth, almost knocking him from the boat, at the estimated time his wife felt the blow.[59]

A similar instance was reported in 2002 by mathematician–statistician Douglas Stokes. When he was teaching at the University of Michigan, one of his students reported that his father was knocked off a bench one day by an "invisible blow to the jaw." Five minutes later his dad received a call from a local gymnasium where his wife was exercising, informing him that she had broken her jaw on a piece of fitness equipment.

David Lorimer, a shrewd analyst of consciousness and a leader of the Scientific and Medical Network, an international organization based in the U.K., has collected many telesomatic cases in his wise book *Whole in One*.[60] Lorimer is struck by the fact that these events occur mainly between people who are emotionally close. He makes a strong case for what he calls "empathic resonance," which he believes links individuals across space and time.

The late psychiatrist Ian Stevenson (1918–2007), of the University of Virginia, investigated scores of instances in which distant individuals experience similar physical symptoms. Most involve parents and children, spouses, siblings, twins, lovers, and very close friends.[61] Again, the common thread is the emotional closeness and empathy experienced by the separated persons.

In a typical example reported by Stevenson, a mother was writing a letter to her daughter, who had recently gone away to college. For no obvious reason her right hand began to burn so severely she had to put down her pen. She received a phone call less than an hour later informing her that her daughter's right hand had been severely burned by acid in a laboratory accident at the same time that she, the mother, had felt the burning pain.[62]

In a case reported by researcher Louisa E. Rhine, a woman suddenly doubled over, clutching her chest in severe pain, saying, "Something has happened to Nell, she has been hurt." Two hours later the sheriff arrived to inform her that her daughter Nell had been involved in an auto accident, and that a piece of the steering wheel had penetrated her chest (Table 1).[63]

Table 1. A Brief Taxonomy of Nonlocal Communication

Level of Nonlocal Communication	Manifestation of Nonlocal Communication	Significance
Neuron-to-neuron	When one group of human brain neurons are stimulated, simultaneous changes are seen in distant neurons that are shielded from all incoming stimuli.	According to conventional science, nonlocal communication between groups of neurons that are isolated and shielded from each other should not be possible. Yet they behave as a unified, single entity, although far apart. A nonlocal form of connectedness and unity is implied.
Brain-to-brain	When one person's brain is stimulated, simultaneous changes are registered in a distant brain, as seen on EEG or fMRI brain scan.	These events should not be possible from the perspective of conventional science. A nonlocal form of connectedness and unity is implied.
Person-to-person	Telepathic communication, remote viewing, telesomatic events, remote healing, social network phenomena.	A nonlocal form of connectedness and unity is implied—oneness not as metaphor but as empirical fact.

EEG, electroencephalogram; fMRI, functional magnetic resonance imaging.

TWIN CONNECTIONS

Guy Lyon Playfair, a consciousness researcher in Great Britain, is the author of the important book *Twin Telepathy*.[64] He has collected a variety of documented telesomatic cases involving twins and non-twin siblings.

One case involved the identical twins Ross and Norris McWhirter, who were well known in Britain as co-editors of the *Guinness Book of Records.* On November 27, 1975, Ross was fatally shot in the head and chest by two gunmen on the doorstep of his north London home. According to an individual who was with his twin brother Norris, Norris reacted in a dramatic way at the time of the shooting, almost as if he had been shot by an invisible bullet.[65]

Skeptics invariably dismiss cases such as these as coincidence, but many are hard to squeeze into this category. An example reported by Playfair concerns four-year-old identical twins Silvia and Marta Landa, who lived in the village of Murillo de Río Leza in northern Spain. The Landa twins became celebrities in 1976 after being featured in the local newspaper following a bizarre event. Marta had burned her hand on a hot clothes iron. As a large red blister was forming, an identical one developed on the hand of Silvia, who was away visiting her grandparents at the time. Silvia was taken to the doctor, unaware of what had happened to her sister Marta. When the two little girls were united, their parents saw that the blisters were the same size and on the same part of the hand.

It wasn't the first time this sort of thing had happened. If one twin had an accident, the other twin seemed to know about it, even though they were nowhere near each other. Once, when they arrived home in their car, Marta hopped out and ran inside the house, but suddenly complained that she could not move her foot. While this was happening, Silvia had got tangled up with the seat belt and her foot was stuck in it. On another occasion when one of them had misbehaved and was given a smack, the other one, out of sight, immediately burst into tears.

Members of the Madrid office of the Spanish Parapsychological Society got wind of the burned-hand incident, and decided to investigate. Their team of nine psychologists, psychiatrists, and physicians descended on the Landa house, with the full cooperation and approval of the twins' parents. They had hardly arrived when a typical trade-off incident happened to the little twins. When Marta accidentally banged her head on something, it was her sister Silvia who began to cry. The researchers got to work with a series of tests disguised as fun games for the twins. This meant the little girls had no idea they were involved in an experiment.

While Marta stayed on the ground floor with her mother and some of the researchers, Silvia went with her father and the rest of the team to the second floor. Everything that happened on both floors was filmed and tape-recorded. One of the psychologists played a game with Marta, using a glove puppet. Silvia was given an identical puppet, but no game was played. Downstairs, Marta grabbed the puppet and threw it at the investigator. Upstairs, at the same time, Silvia did the same.

One of the team's physicians next shined a bright light into Marta's left eye, as part of a simple physical check-up. When she did this four times, Silvia began to blink rapidly as if trying to avoid a bright light. Then the doctor did a knee-jerk reflex test by tapping her left knee tendon three times. At the same time, Silvia began to jerk her leg so dramatically that her father, unaware the test was going on downstairs on Marta, had to hold it still. Then Marta was given some very aromatic perfume to smell. As she did so, Silvia shook her head and put her hand over her nose. Next, still in different rooms, the twins were given seven colored discs and were asked to arrange them in any order they liked. They arranged them in exactly the same order.

There were other tests as well. The team rated all but one of them as "highly positive" or "positive."

The Landa tests confirmed what many researchers have found—that children are more prone than adults to this sort of thing, and that results are more likely to be positive when experiments are done not in sterile, impersonal labs, but in the natural habitat of the subjects and in a relaxed, supportive environment. This latter lesson has often been flagrantly ignored in consciousness research by experimenters who should know better. Researchers have had to learn repeatedly the importance of *ecological validity*—the principle that what is being tested should be allowed to unfold as it does in real life.

Although telesomatic exchanges are by no means limited to twins, they are frequent among them. As Playfair states, in twins we see "the telepathic signal at full volume, as it were, at which not only information is transmitted at a distance but so are emotions, physical sensations and even symptoms such as burns and bruises."[66] Even so, he has found that only around 30% of identical twins have these experiences, but in those who do the phenomena can be mind-boggling.[67] Emotional closeness is an essential factor in the twin connection. Also, having an extraverted, outgoing personality has been shown to facilitate the link. And, as we see in the above examples, what twins seem to communicate best is bad news—depression, illness, accidents, or death.

ERA III MEDICINE: THE NEXT STEP FOR THE MIND–BODY FIELD

We can take a socio-historical approach in sorting out the panoply of therapies currently available in the health professions.[68] Let's begin this perspective with the advent of modern, scientific medicine, which medical historians date to around the decade of the 1860s. About this time medicine began gradually to take on the complexion we see today. We can designate this as Era I medicine or physical medicine, because of its overwhelming reliance on physical measures such as drugs and surgical procedures, which continues to this day. In Era I, the mind is assumed to play a nonexistent or negligible role in health and illness (Table 2).

Shortly after World War II, Era II medicine or mind–body medicine began to unfold. This was a radical departure from Era I, because in Era II the various expression of consciousness, such as thought and emotions, were acknowledged as causal factors in health within single individuals. These factors were not trivial; they might sometimes make the difference in life and death. The mind–body perspective did

Table 2. Medical Eras

Space–Time Characteristic	Era I Local	Era II Local	Era III Nonlocal
Synonym	Mechanical, material, or physical medicine	Mind–body medicine	Nonlocal or transpersonal medicine
Description	Elements of Era I are causal, deterministic, and describable by classical concepts of space-time and matter–energy. Mind is not a factor; "mind" is a result of brain mechanisms.	Mind is a major factor in healing *within* the single person. Mind has causal power and is thus not fully explainable by classical concepts in physics. Era II includes, but goes beyond, Era I.	Mind is a factor in healing both *within* and *between* persons. Mind is not completely localized to points in space (brains or bodies) or time (present moment or single lifetimes). Mind is unbounded and infinite in space and time, thus omnipresent, eternal, and ultimately unitary or one. Healing at a distance is possible. Elements of Era III are not describable by classical concepts of space–time or matter–energy. Era III includes, but goes beyond, Era II
Examples	Any form of therapy focusing solely on the effects of *things* on the body are Era I approaches, including techniques such as acupuncture and homeopathy, the use of herbs, etc. Almost all forms of "modern" medicine—drugs, surgery, irradiation, CPR, etc.—are included.	Any therapy emphasizing the effects of consciousness solely within the individual body is an Era II approach. Biofeedback, relaxation, self-hypnosis, imagery, visualization, and placebo effects are included in Era II.	Any therapy in which effects of consciousness bridge between different persons is an Era III approach. All forms of distant healing, intercessory prayer, some types of shamanic healing, diagnosis at a distance, telesomatic events, and probably noncontact therapeutic touch are included in Era III.

CPR, cardiopulmonary resuscitation.

not negate or displace the physical focus of Era I, however, but overlapped with the drugs-and-surgery emphasis.

We are now seeing the birth of Era III medicine, the next great step in healing. Era III medicine acknowledges the intrapersonal effects of thoughts and emotions of Era II, but recognizes interpersonal effects as well. In other words, in Era III medicine one's thoughts, emotions, beliefs, and intentions can affect not just one's own body, but other individuals as well.

The premise underlying Era III is that minds at some level are connected and unitary. I've called Era III *nonlocal* medicine, leaning on the concept of nonlocality in modern physics. According to experimental evidence that is practically unchallenged, distant particles that were originally in contact behave as if they are a single particle, even though they may be widely separated at arbitrary distances.[69] When one changes they both change, instantly and to the same degree.[70]

That's not to say that the nonlocality of physical particles such as electrons or photons can account for the remote connectedness of minds, or that mental phenomena can be reduced to the behavior of subatomic particles, but that both particles and people display a kind of connectedness that defies separation in space and time. "Nonlocal" is a fitting description not only for particles but for minds as well, because "nonlocal" literally means "not in a place." Yet we should not equate the two phenomena; we may be dealing with accidental correlations of terminology—analogies, not homologies. Further scientific investigation may clarify this important issue.

The evidence that consciousness is "not in a place" in space and time is overwhelming and is too vast to review here. For over a hundred years this research has accumulated in painstaking experiments numbering in the thousands. I've repeatedly explored this evidence in several books including *One Mind: How Our Individual Mind Is Part of a Greater Consciousness and Why It Matters*[71] and *The Power of Premonitions: How Knowing the Future Can Shape Our Lives.*[72] For an overview of this field, I also recommend two books by consciousness researchers Dean Radin, *The Conscious Universe*[73] and *Entangled Mind*[74]; and *Opening to the Infinite* by Stephan A. Schwartz.[75]

NONLOCAL MIND AND HEALTH

Nonlocal expressions of consciousness are frequently concerned with survival and therefore health. When information is shared between humans remotely, it is commonly about

health risks, such as impending physical dangers, as we've seen. The quintessential example is a mother who "just knows" her child is in danger and takes measures to prevent harm, as in the following example from the archives of the Rhine Research Center in Durham, North Carolina.

Amanda, a young mother living in Washington State, awoke one night at 2:30 AM from a nightmare. She dreamed that a large chandelier that hung above their baby's bed in the next room fell into the crib and crushed the infant. In the dream, as she and her husband stood amid the wreckage, she saw that a clock on the baby's dresser read 4:35 AM. The weather in the dream was violent; rain hammered the window and the wind was blowing a gale. The dream was so terrifying she roused her husband and told him about it. He laughed, told her the dream was silly, and urged her to go back to sleep, which he promptly did. But the dream was so frightening that Amanda went to the baby's room and brought the child back to bed with her. She noted that the weather was calm, not stormy as in the dream.

Amanda felt foolish—until around two hours later, when she and her husband were awakened by a loud crash. They dashed into the nursery and found the crib demolished by the chandelier, which had fallen directly into it. Amanda noted that the clock on the dresser read 4:35 AM and that the weather had changed. Now there was howling wind and rain. This time, her husband was not laughing.

Amanda's dream was a snapshot of the future—down to the specific event, the precise time it would happen, and a change in the weather.[76]

The image of consciousness flowing from this and thousands of similar cases is a *nonlocal* one, in which some aspect of consciousness appears unconfined to specific points in space, such as brains and bodies, or time, such as the present.

Unlike Amanda's experience, however, the information we gain nonlocally is often unconscious. The information may be nonlocal with respect not only to space, but to time as well, as mentioned. For example, an individual may cancel a travel reservation because of a vague gut feeling that something is not right, or that something ominous is going to happen, not because he actually foresees a specific event. This may be one reason why occupancy rates are statistically lower on the day of train wrecks compared to non-accident days.[77] Nonlocal awareness of dire future events may also account for why the overall vacancy rate on the four doomed planes on September 11 was nearly 80%.

From a survival perspective, it may be an advantage for information that is nonlocally acquired to be unconscious. Thinking, analyzing, and reasoning take time. In emergencies, instant reflexive action can save a life.

If minds are nonlocal in space and time, they are unbounded. This implies that at some level they come together with other minds and form a collective or universal mind. Nobel physicist Erwin Schrödinger, whose wave equation lies at the heart of quantum physics, was interested in this possibility and believed it to be true. As he put it, "To divide or multiply consciousness is something meaningless. There is obviously only one alternative, namely the unification of minds or consciousness …. [I]n truth there is only one mind."[78]

A similar premise has emerged from the work of researcher Roger Nelson, of the Princeton Engineering Anomalies Research (PEAR) lab, and his colleagues. They have examined the function of scores of random number generators situated around the globe. These electronic devices normally spit out patternless, equal numbers of ones and zeroes. But during moments when the attention of the world is riveted on a singular event, such as the death of Princess Diana or September 11, these mechanical devices deviate from their normally chaotic, random patterns and become more orderly. Nelson suggests that when the psyche of humans behaves collectively, it can impart order into situations where there was none.[79]

WHITHER?

It is easy enough to focus only on experimental findings that point to fundamental separations between biological entities. That is what our science has done for centuries, while denying any "unbroken wholeness" that may exist, as physicists Bohm and Hiley state in the epigraph.

A recurring rebuttal from the separateness camp is that any indication of unbroken wholeness is a temporary aberration based in faulty empiricism at best and fantasy at worst. When science is complete, this reasoning has it, any "science of connectedness" will yield to "science as usual"—the view of separate phenomena interacting through the customary local, physical forces recognized in contemporary physics and chemistry. Yet this is a faith-based view, because no one knows for certain what future developments may reveal. Science is open-ended and its accounts are never foreclosed. That is its strength, and that is what separates it from ideology. Nobel neurophysiologist Sir John Eccles and philosopher of science Karl Popper have called this ideology "promissory materialism"—the promise that one day science will give a complete description of the material basis for the whole of reality, including consciousness. Eccles: "Promissory materialism [is] a superstition without a rational foundation. [It] is simply a religious belief held by dogmatic materialists … who confuse their religion with their science. It has all the features of a messianic prophecy."[81]

If the emerging science of unbroken wholeness and nonlocal connectivity are incomplete, what of it? Incompleteness is a characteristic of the entire canon of science. All of science comes with a warning: "Until further notice." Uncertainty and incompleteness are necessary ingredients for better science. As mathematician and theoretical physicist Henri Poincaré stated, "Guessing before proving! Need I remind you that it is [through guessing] that all important discoveries have been made?"[82] In the same spirit, consciousness researcher Ian Stevenson,[83] already mentioned, stated, "I believe it is better to learn what is probable about important matters than to be certain about trivial ones."

THE GHASTLY SILENCE

For many individuals, the materialistic, intellectual formulations of science are not enough, because they omit too much of the juice of life. This deficiency in a purely scientific approach has long been noted by some of the greatest individuals in the history of science. Among them was Gottfried Wilhelm Leibniz (1646–1716), the German philosopher and mathematician. Leibniz, who invented the infinitesimal calculus independently of Isaac Newton, was considered one of the greatest minds of the 18th century. He refined the binary number system, which underlies virtually all digital computers, and invented mechanical calculators that were a marvel for their time. His intellectual reach touched all the major domains of learning of his day. Even so, Leibniz could not find within science the satisfaction he was looking for. In a letter two years before his death, he wrote:

> But when I looked for the ultimate reasons for mechanism, and even for the laws of motion, I was greatly surprised to see that they could not be found in mathematics but that I should have to return to metaphysics.[84]

Three centuries later, Nobel physicist Erwin Schrödinger would come close to the same conclusion:

> The scientific picture of the real world around me is very deficient. It gives a lot of factual information, puts all our experience in a magnificently consistent order, but it is ghastly silent about all and sundry that is really near to our heart, that really matters to us. It cannot tell us a word about red and blue, bitter and sweet, physical pain and physical delight; it knows nothing of beautiful and ugly, good or bad, God and eternity. Science sometimes pretends to answer questions in these domains, but the answers are very often so silly that we are not inclined to take them seriously.[85]

The great Darwin also encountered the effects of the "ghastly silence" Schrödinger spoke of. Late in life he lamented, "My mind seems to have become a machine for grinding general laws out of large collections of facts …. The loss of [the emotional] tastes is a loss of happiness, and may possibly be injurious to the intellect, and more probably to the moral character, by enfeebling the emotional part of our nature." … The loss of these tastes is a loss of happiness." His solution: "[I]f I had to live my life again, I would have made a rule to read some poetry and listen to some music at least once every week …."[86]

Something more is needed—something that can marshal not only an intellectual appreciation of the wholeness implied in biological entanglement and nonlocality, but also something that can quicken the pulse and stir an ethic toward the earth that can counter the unbridled greed, selfishness and plunder that threaten us.

Currently there are excellent exemplars of this awakening, including numerous scientists. But many scientists, it must be said, are reluctant to speak out in favor of wholeness, unity, and oneness because they fear being labeled as having "gone mystic." It's as if there are hooded inquisitors lurking within science who are keeping score, and who are continually oiling the rack and heating the pincers, just waiting for a scientist to step out of line.

Fear has never silenced the greatest poets and artists, however. Poets have been yammering away about wholeness for centuries. As author Philip Goldberg[87] points out in his important book *American Veda,* there are superb examples among the Romantic poets, particularly William Blake, Percy Bysshe Shelley, William Wordsworth, and Samuel Taylor Coleridge. These poets sensed the interconnectedness and unity that are a feature of an entangled, nonlocal world. Thus Blake, in "Augeries of Innocence": "To see a world in a grain of sand/And a heaven in a wild flower,/Hold infinity in the palm of your hand/And eternity in an hour."[88] Shelley, in "Adonais": "The One remains, the many change and pass …."[89] Wordsworth, in "Tintern Abbey": "A motion and a spirit, that impels/All thinking things, all objects of all thought,/And rolls through all things."[90] And Coleridge, who wrote of "the translucence of the eternal through and in the temporal."[91]

In his book *Opening to the Infinite,* consciousness researcher Stephan A. Schwartz describes how the personal experience of a nonlocal event can carry the emotional wallop of an epiphany. Schwartz, who practically invented the science of remote viewing, has taught thousands of individuals in workshops to have these experiences. He concludes that nonlocal experiences, of which remote viewing is only one example, bestow an "ineffable sense of connection" and a "sense of empowerment" that is so profound it can permanently and radically alter one's worldview and conduct.[92]

The felt experience of being nonlocally connected—all tangled up with all there is—may be a way out of the mess created by self-centered, greed-obsessed individuals who have no sense of wholeness and no concern for the integrity of the earth. As Goldberg puts it, when we realize the unitary nature of consciousness:

> … one's sense of "I" and "we" opens out from the narrow identification with family, tribe, race, political affiliation, religion, and so on, to encompass a broader swath of humanity.With that comes a corresponding expansion of the moral compass. This not a fanciful imagining of "we are the world" harmony but a living experience of unity with other humans, with nature, and ultimately with the cosmos.[93]

Straight-laced, paid-up scientists often deny the empirical findings pointing to an "unbroken wholeness" and unity between biological systems and humans, fearing the contamination of modern science by "the occult," one of their favorite epithets for nonlocal human experiences. But science desperately *needs* contamination by several factors that are missing from its equations, if we are to survive in any meaningful way. Some sort of connectivity is required for a moral center, an earth ethic, a sense of responsibility for all of life. The absence of these qualities has led to an abyss that is becoming impossible to ignore. A one-sided science is not only incomplete, it can be deadly. As Dr. Samuel Johnson put it nearly three centuries ago, "Integrity without knowledge is weak and useless, and knowledge without integrity is dangerous and dreadful."[94]

Dr. Johnson also observed, "When a man knows he is to be hanged in a fortnight, it concentrates his mind wonderfully."[95] Perhaps our sense of impending global disasters—I won't enumerate them—is concentrating our collective mind as a species, resulting in the return of ancient wisdom in the form of modern scientific insights, of which biological entanglement and nonlocality are an urgent example.

What we commonly call empathy, compassion, and love may be human entanglement banging on the doors of consciousness to gain entry. Albert Schweitzer, the legendary physician, missionary, priest, philanthropist, theologian, pacifist, musicologist, and winner of the 1952 Nobel Peace Prize, is an example of someone who opened those doors, and in so doing made the world a better place. In a kind of manifesto of wholeness, he wrote

> What we call love is in its essence Reverence for Life[96] …. Profound love demands a deep conception and out of this develops reverence for the mystery of life. It brings us close to all beings. To the poorest and smallest, as well as all others …. [T]he idea of Reverence for Life gives us something more profound and mightier than the idea of humanism. It includes all living beings.[97]

At this stage of humankind's existence, perhaps the best we can wish for one another is not that we achieve success, clarity of purpose, or even happiness in life, but that we each simply realize that we're intimately united with each other and everything, and that we find the courage to allow this realization to make a difference in how we live our life. On this recognition our future may depend.

REFERENCES

1. Bohm D, Hiley BJ. *The Undivided Universe. Reprint edition.* London, UK: Routledge; 1995;389.
2. Gronowicz GA, Jhaveri A, Clarke LW, Aronow MS, Smith TH. Therapeutic Touch stimulates the proliferation of human cells in culture. *J Altern Complement Med*. 2008;14(3):233–239. http://dx.doi.org/10.1089/acm.2007.7163.
3. Bengston WF. Spirituality, connection, and healing with intent: reflections on cancer experiments on laboratory mice. In: Miller Lisa J, ed. *The Oxford Handbook of Psychology and Spirituality*. New York, NY: Oxford University Press; 2012;548–577.
4. Bengston WF, Krinsley D. The effect of the laying-on of hands on transplanted breast cancer in mice. *J Sci Explor*. 2000;14 (3):353–364.
5. Bengston WF, Moga M. Resonance, placebo effects, and type II errors: some implications from healing research for experimental methods. *J Altern Complement Med*. 2007;13(3):317–327.
6. Bengston W. *The Energy Cure: Unraveling the Mystery of Hands-on Healing.* Louisville, CO: Sounds True Publishing; 2010.
7. Benor DJ. *Healing Research, vol. 1.* Southfield, MI: Vision; 2002.
8. Jonas WB, Crawford CC. *Healing, Intention and Energy Medicine.* New York, NY: Churchill Livingstone; 2003;xv–xix.
9. Dossey L. *Reinventing Medicine.* San Francisco, CA: HarperSanFrancisco; 1999;37–84.
10. Kelly EF, Kelly EW, Crabtree A, Gauld A, Grosso M, Greyson B. *Irreducible Mind: Toward a Psychology for the 21st Century*. Lanham, MD: Rowman and Littlefield; 2007.
11. Kelly EF, Crabtree A, Marshall P, editors. *Beyond Physicalism: Toward Reconciliation of Science and Spirituality*. Lanham, MD: Rowman & Littlefield; 2015.
12. Schwartz SA. *Opening to the Infinite: The Art and Science of Nonlocal Awareness.* Buda, Texas: Nemoseen; 2007.
13. Schwartz SA, Dossey L. Nonlocality intention, and observer effects in healing studies: laying a foundation for the future. *Explore (NY)*. 2010;6(5):295–307.
14. Radin D. *The Conscious Universe.* San Francisco: HarperSanFrancisco; 1997.
15. Radin D. *Entangled Minds.* New York, NY: Paraview/Simon & Schuster; 2006.
16. Bengston WF, Krinsley D. The effect of the "laying on of hands" on transplanted breast cancer in mice. *J Sci Explor*. 2000;14 (3):353–364.
17. Bengston W. *The Energy Cure: Unraveling the Mystery of Hands-on Healing.* Louisville, CO: Sounds True Publishing; 2010.
18. Sheldrake R. *Dogs That Know When Their Owners Are Coming Home: And Other Unexplained Powers of Animals.* New York, NY: Crown; 1999.
19. Roe CA, Sonnex C, Roxburgh E. Two meta-analyses of noncontact healing studies. *Explore*. 2015;11(1):11–23. Published Online at www.explorejournal.com: October 22, 2014]. http://dx.doi.org/10.1016/j.explore.2014.10.001.
20. McMillan FD. The placebo effect in animals. *J Am Vet Med Assoc*. 1999;215(7):992–999.
21. Ader R, Cohen N. Behaviorally conditioned immunosuppression and murine systemic lupus erythematosus. *Science*. 1982;215 (4539):1534–1536.
22. Siegel S. Explanatory mechanisms for placebo effects: pavlovian conditioning. In: Guess HA, ed. *The Science of the Placebo: Toward an Interdisciplinary Research Agenda.* London, UK: BMJ Books; 2002;133–157.
23. Dossey L. Telecebo: beyond placebo to an expanded concept of healing. *Explore*. 2015;12(1):1–12.
24. Pizzi R, Fantasia A, Gelain F, Rossetti D, Vescovi A. Non-local correlation between separated human neural networks. In: Donkor E, Pirick AR, Brandt HE (eds.) Quantum Information and Computation II. Proceedings of SPIE5436. 2004:107-117. Abstract available at: The Smithsonian/NASA Astrophysics Data System. Available at: ⟨http://adsabs.harvard.edu/abs/2004SPIE.5436..107P⟩. Accessed January 17, 2011.
25. Farhadi A, Forsyth C, Banan A, et al. Evidence for non-chemical, non-electrical intercellular signaling in intestinal epithelial cells. *Bioelectrochemistry*. 2007;71(2):142–148.
26. Chaban VV, Cho T, Reid CB, Norris KC. Physically disconnected non-diffusable cell-to-cell communication between neuroblastoma SH-SY5Y and DRG sensory neurons. *Am J Transl Res*. 2013;5(1):69–79.
27. Duane TD, Behrendt T. Extrasensory electroencephalographic induction between identical twins. *Science*. 1965;150(3694): 367.
28. Hearne K. Visually evoked responses and ESP. *J Soc Psychical Res*. 1977;49:648–657.
29. Hearne K. Visually evoked responses and ESP: Failure to replicate previous findings. *J Soc Psychical Res*. 1981;51: 145–147.
30. Kelly EF, Lenz J. EEG changes correlated with a remote stroboscopic stimulus: a preliminary study. In: Morris J, Roll W, Morris R, eds. *Research in Parapsychology 1975.* Metuchen, NJ: Scarecrow Press; 1975;58–63 [abstracted in: Journal of Parapsychology. 1975;39:25].
31. Lloyd DH. *Objective events in the brain correlating with psychic phenomena. New Horizons.* 1973;1:69–75.
32. May EC, Targ R, Puthoff HE. EEG correlates to remote light flashes under conditions of sensory shielding. In: Tart Charles, Puthoff Hal E, Targ Russell, eds. *Mind at Large: IEEE Symposia on*

the Nature of Extrasensory Perception. Charlottesville, VA: Hampton Roads Publishing Company; 1979.
33. Millar B. An attempted validation of the "Lloyd effect". In: Morris JD, Roll WG, Morris RL, eds. *Research in Parapsychology 1975*. Metuchen, NJ: Scarecrow Press; 1975;25–27.
34. Millay J. *Multidimensional Mind: Remote Viewing in Hyperspace*. Berkeley, CA: North Atlantic Books; 2000.
35. Orme-Johnso, Dillbeck MC, Wallace K, Landrith GS. Intersubject EEG coherence: is consciousness a field? *Int J Neurosci*. 1982;16:203–209.
36. Rebert CS, Turner A. EEG spectrum analysis techniques applied to the problem of psi phenomena. *Behav Neuropsychiatry*. 1974;6:18–24.
37. Targ R, Puthoff H. Information transmission under conditions of sensory shielding. *Nature*. 1974;252:602–607.
38. Grinberg-Zylberbaum J, Ramos J. Patterns of interhemispheric correlation during human communication. *Int J Neurosci*. 1987;36:41–53.
39. Grinberg-Zylberbaum J, Delaflor M, Attie L. The Einstein–Podolsky–Rosen paradox in the brain: the transferred potential. *Physics Essays*. 1994;7:422–428.
40. Grinberg-Zylberbaum J, Delaflor M, Sanchez ME, Guevara MA. Human communication and the electrophysiological activity of the brain. *Subtle Energies and Energy Medicine*. 1993;3:25–43.
41. Sabell A, Clarke C, Fenwick P. Inter-Subject EEG correlations at a distance––the transferred potential. *Proceedings of the 44th Annual Convention of the Parapsychological Association*. New York, NY: Parapsychological Association; 2001;419–422.
42. Standish L, Kozak L, Johnson LC, Richards T. Electroencephalographic evidence of correlated event-related signals between the brains of spatially and sensory isolated human subjects. *J Altern Complement Med*. 2004;10(2):307–314.
43. Standish L, Johnson LC, Richards T, Kozak L. Evidence of correlated functional MRI signals between distant human brains. *Altern Ther Health Med*. 2003;9:122–128.
44. Wackerman J, Seiter C, Keibel H, Walach H. Correlations between brain electrical activities of two spatially separated human subjects. *Neurosci Lett*. 2003;336:60–64.
45. Standish L, Johnson LC, Richards T, Kozak L. Evidence of correlated functional MRI signals between distant human brains. *Altern Ther Health Med*. 2003;9:122–128.
46. Standish L, Kozak L, Johnson LC, Richards T. Electroencephalographic evidence of correlated event-related signals between the brains of spatially and sensory isolated human subjects. *J Altern Complement Med*. 2004;10(2):307–314.
47. Kittenis M, Caryl P, Stevens P. Distant psychophysiological interaction effects between related and unrelated participants. *Proceedings of the Parapsychological Association Convention* 2004: 67–76. [Meeting held in Vienna, Austria, August 5–8, 2004].
48. Radin D. Event-related electroencephalographic correlations between isolated human subjects. *J Altern Complement Med*. 2004;10:315–323.
49. Fowler JH, Christakis NA. Dynamic spread of happiness in a large social network: longitudinal analysis over 20 years in the Framingham Heart Study. *Br Med J*. 2008;337:a2338.
50. Belluck P. Strangers may cheer you up, study shows. *New York Times online*. Available at: ⟨http://www.nytimes.com/2008/12/05/health/05happy-web.html⟩. December 4, 2008. Accessed January 18, 2009.
51. Stein R. Happiness can spread among people like a contagion, study indicates. *Washington Post online*. Available at: ⟨http://www.washingtonpost.com/wp-dyn/content/story/2008/12/04/ST2008120403608.html⟩. December 5, 2009. Accessed January 18, 2009.
52. Bond M. Three degrees of contagion. *New Scientist*. 2009;201 (2689):24–27.
53. Christakis NA, Fowler JH. *Connected: The Surprising Power of Our Social Networks and How They Shape Our Lives*. Boston, MA: Little, Brown and Company; 2009.
54. Christakis NA, Fowler JH. The spread of obesity in a large social network over 32 years. *N Engl J Med*. 2007;357: 370–379.
55. Kaplan K. Happiness is contagious, research finds. *Los Angeles Times online*. Available at: ⟨http://articles.latimes.com/2008/dec/05/science/sci-happy5⟩. December 5, 2008 Accessed January 19, 2009.
56. Bobrow RS. Evidence for a communal consciousness. *Explore*. 2011;7(4):246–248.
57. Priestley JB. *Man & Time*. London, UK: W.H. Allen; 1978; 211–212.
58. Schwarz BE. Possible telesomatic reactions. *J Med Soc New Jersey*. 1967;64(11):600–603.
59. Gurney E, Myers FWH, Podmore F. *Phantasms of the Living. vol. 1*. London: Trübner; 1886;188–189.
60. Lorimer D. *Whole in One*. London: Arkana/Penguin; 1990; 72–105.
61. Stevenson I. *Telepathic Impressions: A Review of 35 New Cases*. Charlottesville, VA: University Press of Virginia; 1970.
62. Rush JH. *New directions in parapsychological research. Parapsychological Monographs No. 4*. New York: Parapsychological Foundation; 1964;18–19.
63. Rhine LE. Psychological processes in ESP experiences. Part I. Waking experiences. *J Parapsychol*. 1962;29:88–111.
64. Playfair GL. *Twin Telepathy: The Psychic Connection*. London, UK: Vega; 2002.
65. Playfair GL. *Twin Telepathy: The Psychic Connection*. London, UK: Vega; 2002;12.
66. Playfair GL. *Twin Telepathy: The Psychic Connection*. London, UK: Vega; 2002;16.
67. Playfair GL. *Twin Telepathy: The Psychic Connection*. London, UK: Vega; 2002;51.
68. Dossey L. *Healing Words*. San Francisco, CA: HarperSanFrancisco; 1993;39–44.
69. Nadeau R, Kafatos M. *The Non-Local Universe: The New Physics and Matters of the Mind*. New York, NY: Oxford University Press; 1999.
70. Herbert N. *Quantum Reality*. Garden City, NY: Anchor/Doubleday; 1987;214.
71. Dossey L. *One Mind: How Our Individual Mind Is Part of a Larger Consciousness and Why It Matters*. Carlsbad, CA: Hay House; 2013.
72. Dossey L. *The Power of Premonitions: How Knowing the Future Can Shape Our Lives*. New York, NY: Dutton; 2009.
73. Radin D. *The Conscious Universe*. San Francisco: HarperSanFrancisco; 1997.
74. Radin D. *Entangled Minds*. New York, NY: Paraview/Simon & Schuster; 2006.
75. Schwartz SA. *Opening to the Infinite: The Art and Science of Nonlocal Awareness*. Buda, Texas: Nemoseen; 2007.
76. Feather SR, Schmickler M. *The Gift: ESP, the Extraordinary Experiences of Ordinary People*. New York: St. Martin's Press; 2005;2.
77. Cox WE. Precognition: an analysis II. *J Am Soc Psychical Res*. 1956;50(1):99–109.
78. Schrödinger E. *My View of the World*. Woodbridge, CT: Ox Bow Press; 1983;31.
79. Schrödinger E. *What Is Life? and Mind and Matter*. London, UK: Cambridge University Press; 1969;139.

80. Nelson RD, Radin DI, Shoup R, Bancel PA. Correlations of continuous random data with major world events. *Foundations Phys Lett*. 2002;15(6):537–550.
81. Eccles J, Robinson DN. *The Wonder of Being Human*. Boston: Shambhala; 1985;36.
82. Poincaré H. Quoted in: La valeur de la science. In: Bovier Anton, eds. *Statistical Mechanics of Disordered Systems*. Cambridge, UK: Cambridge University Press; 2006;218.
83. Stevenson I. *Reincarnation and Biology*. Westport, CT: Praeger; 1997;186.
84. Leibniz G.W. *Quoted in: Stanford Encyclopedia of Philosophy online. Gottfried Wilhelm Leibniz*. Available at: ⟨http://plato.stanford.edu/entries/leibniz/⟩. Accessed July 20, 2011.
85. Schrödinger E. Quoted in: *Quantum Questions Ken Wilber*. Boulder, CO: New Science Library; 1984:81.
86. Darwin C. In: Darwin F, ed. Quoted in: *The Life and Letters of Charles Darwin. vol. 1*. New York: D. Appleton & Co.; 1897;81–82.
87. Goldberg P. *American Veda*. New York, NY: Harmony; 2010;270.
88. Blake W. Augeries of innocence. In: Kaplan Justin, eds. *Bartlett, John. Bartlett's Familiar Quotations*. 16th ed. Boston: Little, Brown and Company; 1992;359.
89. Shelley PB. Adonais. In: Kaplan Justin, eds. *Bartlett, John Bartlett's Familiar Quotations*. 16th ed. Boston: Little, Brown and Company; 1992;409.
90. Wordsworth W. Tintern Abbey. In: Kaplan Justin, eds. *Bartlett, John. Bartlett's Familiar Quotations*. 16th ed. Boston: Little, Brown and Company; 1992;373.
91. Coleridge ST. In: Adams Hazard, eds. *The Statesman's Manual: Critical Theory Since Plato*. New York, NY: Harcourt Brace Jovanovich; 1971;476.
92. Schwartz SA. *Opening to the Infinite: The Art and Science of Nonlocal Awareness*. Buda, Texas: Nemoseen; 2007;38.
93. Goldberg P. *American Veda*. New York, NY: Harmony; 2010;346.
94. Johnson S. Quoted in: Quoteworld.com. Available at: ⟨http://www.quoteworld.org/quotes/7290⟩. Accessed July 24, 2011.
95. Johnson S. Quoted in: Quoteworld.com. Available at: ⟨http://www.quoteworld.org/quotes/7290⟩. Accessed July 24, 2011.
96. Schweitzer A. *Indian Thought and Its Development. (Mrs. Charles E. B. Russell, trans.)*. New York, NY: Beacon Press; 1934;260.
97. Schweitzer A. *wikiquote: albert schweitzer*. Available at: ⟨http://en.wikiquote.org/wiki/Albert_Schweitzer⟩. Accessed July 12, 2011.