Scanning the Future

Research is the highest form of adoration.
—Pierre Teilhard de Chardin

One evening, Albert Einstein’s son-in-law, Dmitri Marianoff, sat with him in a house in Berlin, Germany, after all the other members of the family had gone to bed. Into the pregnant stillness, Marianoff asked a question that had long intrigued him:

“How is it, Albert, that you arrived at your theory?”

“In a vision,’ he answered.

“He said that one night he had gone to bed with a discouragement of such black depths that no argument would pierce it. ‘When one’s thought falls into despair, nothing serves him any longer, not his hours of work, not his past successes—nothing. All reassurance is gone. It is finished, I told myself, it is useless. There are no results. I must give it up.’

“Then this happened. With infinite precision the universe, with its underlying unity of size, structure, distance, time, space, slowly fell
piece by piece, like a monolithic picture puzzle, into place in Albert Einstein’s mind. Suddenly clear, like a giant die that made an indelible impress, a huge map of the universe outlined itself in one clarified vision.

“And that is when peace came, and that is when conviction came, and with these things came an almighty calm that nothing could ever shake again...”

The creative flowering of consciousness is as mysterious as Einstein’s vision. After he had that insight, it then took him another four years to work out his seminal equations showing the link between energy and matter. But the first impulse was a gift from the universe, seeding a mind open to receiving a new way of seeing the cosmos.

Experiments that measure the interaction of our consciousness with matter hold many surprises. They show us that many of the linear, cause-and-effect relationships that underpin our perception are inventions of our brains, and not the way the world actually works.

Interactive Fields

Researchers at the Institute of HeartMath have done a series of experiments on the effects of consciousness on cells. These experiments are done with rigorous protocols and are intended to replicate earlier research. They extended the work of Dean Radin, PhD. Radin and some of his colleagues measured the galvanic skin response (electrodermal activity) of subjects exposed to the mental influences of others. In a follow-up study, which replicated the results of earlier studies done by them and others, the researchers set up sixteen sessions. In each session, there were seven people acting as mental influencers, and ten acting as remote targets of influence. Influencers were instructed to either calm or activate a remote person’s electrodermal activity.

The investigators found that, to a statistically significant degree, when the influencers attempted to calm the subjects, the
subjects exhibited a lower level of electrodermal activity. When the influencers attempted to excite the subjects, the subjects showed a higher level of electrodermal activity. Building on Radin’s research, the experimenters at HeartMath went further. As well as galvanic skin response, they also used an electroencephalogram (EEG) in order to measure changes in the cerebral cortex, and an electrocardiogram (EKG) to measure the acceleration or deceleration of a subject’s heartbeat.

Rather than a remote influencer attempting to influence their experiences, the HeartMath subjects stared at a blank white computer monitor screen. After a period of a few seconds, an image came up on the screen. One set of images was designed to calm the subjects, such as nature scenes and smiling people, and the other set of images was designed to produce emotional arousal, such as autopsies or sexual scenes. The images were generated at random by the computer just before the instant of projection from amongst forty-five images stored on the hard drive.

The researchers wanted to find out precisely where and when emotional arousal occurred in the body, heart, and brain. They also presented the images to the subjects under two sets of experimental conditions. One was a baseline condition of normal physiological function. The second was a state of heightened heart coherence, in which their hearts were beating at an unusually even rate.

They discovered that the heart responded to the images. This was not surprising. What was surprising was that it responded first, before any mental activity had shown up on the EEG. It appears that the heart may perceive before the brain, rather than vice versa. But the truly astonishing finding of these experiments was that both heart and brain responded before the image had flashed onto the screen, before the random image generator in the computer had generated any image at all. Heart and then brain responded to the type of image about to be flashed on the screen, several moments before the computer made its random choice and presented it to the subject. The subject’s body then responded appropriately to the
emotional stimulus of the image, even though in the objective real world, that stimulus had not yet been presented to either heart or brain. In the words of the amazed researchers: “This study presents compelling evidence that the body’s perceptual apparatus is continuously scanning the future.”

Canadian researchers, in a series of experiments published as early as 1949, noted an associated phenomenon. The subjects were epileptics undergoing brain surgery, and electrodes were placed directly on the cerebral cortex. The subjects were told, at intervals, to move their fingers. Cortical scans showed that some of the subjects recorded an increase in activity just before the instruction, “Get ready to move your fingers,” was given by the researchers. Another research team replicated these results in 2000. In a Newtonian universe that knows only linear time, such a phenomenon is scientifically impossible. Only a quantum universe of fields that interact continuously through time and space can explain such phenomena.

Another example of the power of prayer across time comes from a study published in the British Medical Journal in 2001. In Israel, Professor Leonard Leibovici took a stack of hospital case histories and divided it into two random piles. The patients in these cases had all been admitted for blood poisoning. Names in one stack were prayed for, while the others were not.

On later analysis, the group prayed for was found to have a reduced rate of fevers, shorter hospital stays, and a lower mortality rate. This kind of finding is typical of prayer studies and would not have surprised most researchers—except that the patients Leibovici prayed for had been discharged from hospital ten years earlier. The healing power of consciousness and intention appears to be independent of time as well as space. Prayer seems to work retroactively as well as across great distances. Perhaps the whimsical injunction is true: “It’s never too late to have a happy childhood!”
Nonlocal Perception

A second study by the HeartMath researchers examined where and when in the body, heart, and brain intuitive information outside the range of conscious awareness is processed. They found that the primary areas of the brain involved are the frontal cortex, temporal, occipital, and parietal areas, and that these are all influenced by the heart. They concluded, “Our data suggest that the heart and brain, together, are involved in receiving, processing, and decoding intuitive information. On the basis of these results and those of other research, it would thus appear that intuitive perception is a system-wide process in which both the heart and brain (and possibly other bodily systems) play a critical role.”

One-second EEG readout of common brain waves.
From top: alpha, beta, delta, gamma, theta
“The heart has access to realms of quantum information not constrained by time and space,” HeartMath’s Dr. McCraty told me during a telephone interview, many years after I first met him while working on some of his institute’s early publications. He continued, “There is no explanation other than that consciousness is nonlocal and non-temporal.”

McCraty is preparing a new set of papers, to postulate a theory based on holographic principles that explain how intuitive perception allows us to gain access to an energy field that contains information about “future” events. He is also preparing a rigorous new set of protocols for experiments that will use live cells from the subject’s own body to see if there is a similar prior effect in those cells to intentions generated remotely by the subject.

John Arden, PhD, chief psychologist at the Kaiser Permanente Medical Center in Vallejo, California, presents a long and careful discussion of theoretical physics, subatomic particles, and their implications for the study of consciousness in his book *Science, Theology, and Consciousness*. He concludes that “nonlocality is a phenomenon operative in nature. This discovery necessitates a fundamental reevaluation of causality and the nature of nonlocal interaction.”

Our mechanistic notions of cause and effect in time and space operate on a very limited range of the spectrum of what is possible. Though we see ordinary examples of distributed nonlocal consciousness every day, such as schools of fish that turn in tandem, or flocks of birds that bank and swoop in perfect coordination, our collective medical brain still has trouble with the idea that things far apart in space and time can affect each other, and medical treatment is prescribed as though only what is here and now has meaning.

**The Half-Second Delay**

Benjamin Libet, PhD, conducted a provocative set of experiments in which he noted the precise instant at which brain activity indicated awareness of a sensation on the skin. He measured when the skin became aware of the sensation and when the brain did. This
led to the discovery of the “half-second delay.” Libet’s experiments measured the difference in time between our performance of a muscular action, such as reaching our arm out to grasp an object, and our conscious mind stating, “I decide to grasp that object.”

Libet discovered that our consciousness projects itself backward in time, to believe that it became conscious of a stimulus about half a second before it actually did so. The brain is convinced that it became aware of an action before it occurred, though in reality it became aware of the action a half-second later. In The User Illusion: Cutting Consciousness Down to Size, Danish science writer Tor Norretranders says, “The show starts before we decide it should! An act is initiated before we decide to perform it!” He goes on to say, “Man is not primarily conscious. Man is primarily nonconscious. The idea of a conscious ‘I’ as housekeeper of everything that comes in and goes out of one is an illusion; perhaps a useful one, but still an illusion.”

In evolutionary terms, the conscious mind is a recently developed luxury, while the subconscious, that which scans the environment for threats and opportunities, is a necessity. Many creatures from lizards on down get along quite nicely without the former. A species can’t live long enough to develop a conscious mind unless its threat-assessment machinery works spectacularly well. Your conscious mind is only able to process approximately fifty bits of information a second, whereas your unconscious mind processes approximately eleven million bits per second. So the conscious mind, says Brad Blanton, PhD, in his book Radical Honesty, is constantly making rationalizations to explain actions that the subconscious already performed. They sound reasonable, but they’re stories invented after the fact. Physicist Roger Penrose suggests that “we may actually be going badly wrong when we apply the usual physical rules for time when we consider consciousness!” While our bright conscious minds cling to the comforting illusion that they’re in charge, in reality they’re part of a picture much bigger than we can ever comprehend.