

NOW WITH A NEW FOREWORD BY LYNNE McTAGGART,
AUTHOR OF *THE FIELD*

THE HOLOGRAPHIC UNIVERSE

THE REVOLUTIONARY THEORY OF REALITY THAT EXPLAINS
The Latest Frontiers of Physics • The Paranormal Abilities of the Mind
The Unsolved Riddles of Brain and Body

MICHAEL TALBOT

"A subtle but thrilling remaking of the mind. One comes to the end of it living
in a larger universe, gifted with talents one never knew one had."

—JEAN HOUSTON, Ph.D., author of *The Possible Human*

Does Consciousness Create Subatomic Particles or Not Create Subatomic Particles, That Is the Question

This difference of opinion indicates once again that the holographic theory is still very much an idea in the making, not unlike a newly formed Pacific island whose volcanic activity keeps it from having clearly defined shores. Although some might use this lack of consensus to criticize it, it should be remembered that Darwin's theory of evolution, certainly one of the most potent and successful ideas science has ever produced, is also still very much in a state of flux, and evolutionary theorists continue to debate its scope, interpretation, regulatory mechanisms, and ramifications.

The difference of opinion also reveals just how complex a puzzle miracles are. Jahn and Dunne offer yet another opinion on the role consciousness plays in the creation of day-to-day reality, and although it differs from one of Bohm's basic premises, because of the possible insight it offers into the process by which miracles are effected, it deserves our attention.

Unlike Bohm, Jahn and Dunne believe subatomic particles do *not* possess a distinct reality until consciousness enters the picture. "I think we have long since passed the place in high energy physics where we're examining the structure of a passive universe," Jahn states. "I think we're into the domain where the interplay of consciousness in the environment is taking place on such a primary scale that we are indeed creating reality by any reasonable definition of the term."³⁶

As has been mentioned, this is the view held by most physicists. However, Jahn and Dunne's position differs from the mainstream in an important way. Most physicists would reject the idea that the interplay between consciousness and the subatomic world could in any way be used to explain PK, let alone miracles. In fact, the majority of physicists not only ignore any implications this interplay might have but actually behave as if it doesn't exist. "Most physicists develop a somewhat schizophrenic view," says quantum theorist Fritz Rohrlich of Syracuse University. "On the one hand they accept the standard interpretation of quantum theory. On the other they insist on the reality of quantum systems even when these are not observed."³⁷

This bizarre I'm-not-going-to-think-about-it-even-when-I-know-it's-

true attitude keeps many physicists from considering even the philosophical implications of quantum physics' most incredible findings. As N. David Mermin, a physicist at Cornell University, points out, physicists fall into three categories: a small minority is troubled by the philosophical implications; a second group has elaborate reasons why they are not troubled, but their explanations tend "to miss the point entirely"; and a third group has no elaborate explanations but also refuses to say why they aren't troubled. "Their position is unassailable," says Mermin.³⁸

Jahn and Dunne are not so timid. They believe that instead of discovering particles, physicists may actually be *creating* them. As evidence, they cite a recently discovered subatomic particle called an *anomalon*, whose properties vary from laboratory to laboratory. Imagine owning a car that had a different color and different features depending on who drove it! This is very curious and seems to suggest that an anomalon's reality depends on who finds/creates it.³⁹

Similar evidence may also be found in another subatomic particle. In the 1930s Pauli proposed the existence of a massless particle called a *neutrino* to solve an outstanding problem concerning radioactivity. For years the neutrino was only an idea, but then in 1957 physicists discovered evidence of its existence. In more recent years, however, physicists have realized that if the neutrino possessed some mass, it would solve several even thornier problems than the one facing Pauli, and lo and behold in 1980 evidence started to come in that the neutrino had a small but measurable mass! This is not all. As it turned out, only laboratories in the Soviet Union discovered neutrinos with mass. Laboratories in the United States did not. This remained true for the better part of the 1980s, and although other laboratories have now duplicated the Soviet findings, the situation is still unresolved.⁴⁰

Is it possible that the different properties displayed by neutrinos are due at least in part to the changing expectations and different cultural biases of the physicists who searched for them? If so, such a state of affairs raises an interesting question. If physicists do not discover the subatomic world but create it, why do some particles, such as electrons, appear to have a stable reality no matter who observes them? In other words, why does a physics student with no knowledge of an electron still discover the same characteristics that a seasoned physicist discovers?

One possible answer is that our perceptions of the world may not be based solely on the information we receive through our five senses.

As fantastic as this may sound, a very good case can be made for such a notion. Before explaining, I would like to relate an occurrence I witnessed in the middle 1970s. My father had hired a professional hypnotist to entertain a group of friends at his house and had invited me to attend the event. After quickly determining the hypnotic susceptibility of the various individuals present, the hypnotist chose a friend of my father's named Tom as his subject. This was the first time Tom had ever met the hypnotist.

Tom proved to be a very good subject, and within seconds the hypnotist had him in a deep trance. He then proceeded with the usual tricks performed by stage hypnotists. He convinced Tom there was a giraffe in the room and had Tom gaping in wonder. He told Tom that a potato was really an apple and had Tom eat it with gusto. But the highlight of the evening was when he told Tom that when he came out of trance, his teenage daughter, Laura, would be completely invisible to him. Then, after having Laura stand directly in front of the chair in which Tom was sitting, the hypnotist awakened him and asked him if he could see her.

Tom looked around the room and his gaze appeared to pass right through his giggling daughter. "No," he replied. The hypnotist asked Tom if he was certain, and again, despite Laura's rising giggles, he answered no. Then the hypnotist went behind Laura so he was hidden from Tom's view and pulled an object out of his pocket. He kept the object carefully concealed so that no one in the room could see it, and pressed it against the small of Laura's back. He asked Tom to identify the object. Tom leaned forward as if staring directly through Laura's stomach and said that it was a watch. The hypnotist nodded and asked if Tom could read the watch's inscription. Tom squinted as if struggling to make out the writing and recited both the name of the watch's owner (which happened to be a person unknown to any of us in the room) and the message. The hypnotist then revealed that the object was indeed a watch and passed it around the room so that everyone could see that Tom had read its inscription correctly.

When I talked to Tom afterward, he said that his daughter had been absolutely invisible to him. All he had seen was the hypnotist standing and holding a watch cupped in the palm of his hand. Had the hypnotist let him leave without telling him what was going on, he never would have known he wasn't perceiving normal consensus reality.

Obviously Tom's perception of the watch was not based on information he was receiving through his five senses. Where was he getting

the information from? One explanation is that he was obtaining it telepathically from someone else's mind, in this case, the hypnotist's. The ability of hypnotized individuals to "tap" into the senses of other people has been reported by other investigators. The British physicist Sir William Barrett found evidence of the phenomenon in a series of experiments with a young girl. After hypnotizing the girl he told her that she would taste everything he tasted. "Standing behind the girl, whose eyes I had securely bandaged, I took up some salt and put it in my mouth; instantly she sputtered and exclaimed, 'What for are you putting salt in my mouth?' Then I tried sugar; she said 'That's better'; asked what it was like, she said 'Sweet.' Then mustard, pepper, ginger, et cetera were tried; each was named and apparently tasted by the girl when I put them in my own mouth."⁴¹

In his book *Experiments in Distant Influence* the Soviet physiologist Leonid Vasiliev cites a German study conducted in the 1950s that produced similar findings. In that study, the hypnotized subject not only tasted what the hypnotist tasted, but blinked when a light was flashed in the hypnotist's eyes, sneezed when the hypnotist took a whiff of ammonia, heard the ticking of a watch held to the hypnotist's ear, and experienced pain when the hypnotist pricked himself with a needle—all done in a manner that safeguarded against her obtaining the information through normal sensory cues.⁴²

Our ability to tap into the senses of others is not limited to hypnotic states. In a now famous series of experiments physicists Harold Puthoff and Russell Targ of the Stanford Research Institute in California found that just about everyone they tested had a capacity they call "remote viewing," the ability to describe accurately what a distant test subject is seeing. They found that individual after individual could remote-view simply by relaxing and describing whatever images came into their minds.⁴³ Puthoff and Targ's findings have been duplicated by dozens of laboratories around the world, indicating that remote viewing is probably a widespread latent ability in all of us.

The Princeton Anomalies Research lab has also corroborated Puthoff and Targ's findings. In one study Jahn himself served as the receiver and tried to perceive what a colleague was observing in Paris, a city Jahn has never visited. In addition to seeing a bustling street, an image of a knight in armor came into Jahn's mind. It later turned out that the sender was standing in front of a government building ornamented with statuary of historical military figures, one of whom was a knight in armor.⁴⁴

So it appears that we are deeply interconnected with each other in yet another way, a situation that is not so strange in a holographic universe. Moreover, these interconnections manifest even when we are not consciously aware of them. Studies have shown that when a person in one room is given an electric shock, it will register in the polygraph readings of a person in another room.⁴⁵ A light flashed in a test subject's eyes will register in the EEG readings of a test subject isolated in another room,⁴⁶ and even the blood volume of a test subject's finger changes—as measured by a plethysmograph, a sensitive indicator of autonomic nervous system functioning—when a “sender” in another room encounters the name of someone they know while reading a list composed mainly of names unknown to them.⁴⁷

Given both our deep interconnectedness and our ability to construct entirely convincing realities out of information received via this interconnectedness, such as Tom did, what would happen if two or more hypnotized individuals tried to construct the same imaginary reality? Intriguingly, this question has been answered in an experiment conducted by Charles Tart, a professor of psychology at the Davis campus of the University of California. Tart found two graduate students, Anne and Bill, who could go into deep trance and were also skilled hypnotists in their own right. He had Anne hypnotize Bill and after he was hypnotized, he had Bill hypnotize her in return. Tart's reasoning was that the already powerful rapport that exists between hypnotist and subject would be strengthened by using this unusual procedure.

He was right. When they opened their eyes in this mutually hypnotized state everything looked gray. However, the grayness quickly gave way to vivid colors and glowing lights, and in a few moments they found themselves on a beach of unearthly beauty. The sand sparkled like diamonds, the sea was filled with enormous frothing bubbles and glistened like champagne, and the shoreline was dotted with translucent crystalline rocks pulsing with internal light. Although Tart could not see what Anne and Bill were seeing, from the way they were talking he quickly realized *they were experiencing the same hallucinated reality.*

Of course, this was immediately obvious to Anne and Bill and they set about to explore their newfound world, swimming in the ocean and studying the glowing crystalline rocks. Unfortunately for Tart they also stopped talking, or at least they stopped talking from Tart's perspective. When he questioned them about their silence they told him that in their shared dreamworld they *were* talking, a phenomenon

Tart feels involved some kind of paranormal communication between the two.

In session after session Anne and Bill continued to construct various realities, and all were as real, available to the five senses, and dimensionally realized, as anything they experienced in their normal waking state. In fact, Tart resolved that the worlds Anne and Bill visited were actually *more* real than the pale, lunar version of reality with which most of us must be content. As he states, after "they had been talking about their experiences to each other for some time, and found they had been discussing details of the experiences they had shared for which there were no verbal stimuli on the tapes, they felt they must have actually been 'in' the nonworldly locales they had experienced."⁴⁸

Anne and Bill's ocean world is the perfect example of a holographic reality—a three-dimensional construct created out of interconnectedness, sustained by the flow of consciousness, and ultimately as plastic as the thought processes that engendered it. This plasticity was evident in several of its features. Although it was three-dimensional, its space was more flexible than the space of everyday reality and sometimes took on an elasticity Anne and Bill had no words to describe. Even stranger, although they were clearly highly skilled at sculpting a shared world outside themselves, they frequently forgot to sculpt their own bodies, and existed more often than not as floating faces or heads. As Anne reports, on one occasion when Bill told her to give him her hand, "I had to kind of conjure up a hand."⁴⁹

How did this experiment in mutual hypnosis end? Sadly, the idea that these spectacular visions were somehow real, perhaps even more real than everyday reality, so frightened both Anne and Bill that they became increasingly nervous about what they were doing. They eventually stopped their explorations, and one of them, Bill, even gave up hypnosis entirely.

The extrasensory interconnectedness that allowed Anne and Bill to construct their shared reality might almost be viewed as a kind of field effect between them, a "reality-field" if you will. One wonders what would have happened if the hypnotist at my father's house had put all of us into a trance? In light of the evidence above, there is every reason to believe that if our rapport were deep enough, Laura would have become invisible to us all. We would have collectively constructed a reality-field of a watch, read its inscription, and been completely convinced that what we were perceiving was real.

If consciousness plays a role in the creation of subatomic particles,

is it possible that our observations of the subatomic world are also reality-fields of a kind? If Jahn can perceive a suit of armor through the senses of a friend in Paris, is it any more farfetched to believe that physicists all around the world are unconsciously interconnecting with one another and using a form of mutual hypnosis similar to that used by Tart's subjects to create the consensus characteristics they observe in an electron? This possibility may be supported by another unusual feature of hypnosis. Unlike other altered states of consciousness, hypnosis is not associated with any unusual EEG patterns. Physiologically speaking, the mental state hypnosis most closely resembles is our normal waking consciousness. Does this mean that normal waking consciousness is itself a kind of hypnosis, and we are all constantly tapping into reality-fields?

Nobelist Josephson has suggested that something like this may be going on. Like Globus, he takes Castaneda's work seriously and has attempted to relate it to quantum physics. He proposes that objective reality is produced out of the collective memories of the human race while anomalous events, such as those experienced by Castaneda, are the manifestation of the individual will.⁵⁰

Human consciousness may not be the only thing that participates in the creation of reality-fields. Remote viewing experiments have shown that people can accurately describe distant locations even when there are no human observers present at the locations.⁵¹ Similarly, subjects can identify the contents of a sealed box randomly selected from a group of sealed boxes and whose contents are therefore completely unknown.⁵² This means that we can do more than just tap into the senses of other people. We can also tap into reality itself to gain information. As bizarre as this sounds, it is 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.

Bohm believes the ubiquitousness of meaning offers a possible explanation for both telepathy and remote viewing. He thinks both may actually be just different forms of psychokinesis. Just as PK is a resonance of meaning conveyed from a mind to an object, telepathy can be viewed as a resonance of meaning conveyed from a mind to a mind, says Bohm. In like manner, remote viewing can be looked at as a resonance of meaning conveyed from an object to a mind. "When harmony or resonance of 'meanings' is established, the action works both ways, so that the 'meanings' of the distant system could act in

the viewer to produce a kind of inverse psychokinesis that would, in effect, transmit an image of that system to him," he states.⁵³

Jahn and Dunne have a similar view. Although they believe reality is established only in the interaction of a consciousness with its environment, they are very liberal in how they define consciousness. As they see it, anything capable of generating, receiving, or utilizing information can qualify. Thus, animals, viruses, DNA, machines (artificially intelligent and otherwise), and so-called nonliving objects may all have the prerequisite properties to take part in the creation of reality.⁵⁴

If such assertions are true, and we can obtain information not only from the minds of other human beings but from the living hologram of reality itself, psychometry—the ability to obtain information about an object's history simply by touching it—would also be explained. Rather than being inanimate, such an object would be suffused with its own kind of consciousness. Instead of being a "thing" that exists separately from the universe, it would be part of the interconnectedness of all things—connected to the thoughts of every person who ever came in contact with it, connected to the consciousness that pervades every animal and object that was ever associated with its existence, connected via the implicate to its own past, and connected to the mind of the psychometrist holding it.