

By David Christopher Lane

ALTHOUGH science and religion have been divorced from each other for several centuries, in more recent years there has been a major push for reunion. This remarriage is being proposed by a number of important scientists and thinkers, including physicist Fritjof Capra, neuropsychologist Karl Pribram and *Brain/Mind* editor Marilyn Ferguson. They believe that the findings of new physics* substantiate ancient mysticism. Indeed, several books which espouse this dynamic idea have become best sellers—*The Tao of Physics*, *The Dancing Wu Li Masters* and *The Aquarian Conspiracy*.

NEW PHYSICS AND ANCIENT MYSTICISM

Who will win the "quantum debate"? Physicists with mystical leanings or physicists who take a materialistic view?

Do the new physics and ancient mysticism, seemingly opposite disciplines, intersect?

Yes, according to Michael Talbot, author of *Mysticism and the New Physics*, who argues that the discoveries of quantum mechanics** after the turn

of the last century point to the non-objective nature of the world. In other words, what mystics have been saying all along (that there is no separation between the observer and the observed) is proved by theoretical physics.

No, argues John Wheeler, well-known physicist at the University of Texas, who brands the attempts to unify mysticism with physics as "moonshine," "pathological science" and "charlatanism." "Moreover," he states, "in the quantum theory of observation, my own present field of endeavor, I find honest work almost overwhelmed by the buzz of absolutely crazy ideas being put forth with the aim of establishing a link between quantum

mechanics and parapsychology."*

Who is right in this "quantum debate"? The physicists with mystical leanings? Or the physicists with materialistic purviews? Surprisingly, the answer is neither, for the "quantum debate" is essentially an illegitimate argument, contends Ken Wilber, noted transpersonal theorist, who is both a practicing mystic (Zen Buddhism) and a distinguished scientist (psychology/biochemistry).

*As quoted in Ken Wilber's *The Holographic Paradigm and Other Paradoxes*, page 185.

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personal judgments of Gardner as an individual. He is an amateur scientist and popularizer. He is neither a physicist nor a formally educated scientist. His comments must be seen as reflecting such a limitation."

Walker, however, gives Gardner credit for bringing logic to bear on the argument although he disagrees with him on QM theory itself. If Walker's formulations of QM are correct, Gardner concedes, Walker's conclusions must be correct. Walker thanks Gardner for this.

As to their respective interpretations of QM, Walker says that he is relying on generally accepted principles which Gardner seems to think are Walker's inventions. Walker writes that his views reflect the most commonly accepted interpretations of QM but refers to Wheeler's "many worlds" interpretation as being the only current

description that satisfies the logic of the theory without requiring the existence of psi. Wheeler's formulation of the theory may explain why he has so vehemently opposed any possibility of psi.

Wheeler's theory is safe, Walker says, because it is untestable: "Its sole virtue is that it allows an interpretation that removes from physics serious consideration of consciousness in QM." It is, nonetheless, a viable interpretation of QM.

No single theme runs through the scientists' varying criticisms of Walker's theory. The criticisms range from philosophical objections to questions about the merit of the experimental work on which Walker's theory is based.

The article in the *Journal*, "Criticisms of the Quantum Theory Reviewed," runs 55 pages, including references and appendix. It is not a simple subject.—The Editors

a physicist to examine molecules using the principles of psychoanalysis. Likewise, it is equally inane to explore human motivations and meaning solely in terms of kinesiology (the principles of mechanics and anatomy in relation to human movement).

This simple hierarchy of knowledge—quantum mechanics—has been overlooked by many of the writers on the union of mysticism and new physics. When Michael Talbot writes that consciousness and the material universe are linked by some fundamental physical mechanism, for instance, he thinks he is doing a great service to mysticism. In fact, he is actually contradicting the insights of mystics, who contend that it is spirit not matter which unifies consciousness with the universe.

This pernicious reductionism (the tendency to explain complex events by their simpler components) by Talbot and others is actually worse for mysticism's cause than is the damage done by materialistic scientists who have ignored the subject. This is because, whereas physicists refuse to explain the insights of mystics in purely mathematical terms, Talbot and his peers elaborate upon their simplified theory, often erroneously, using the discoveries of new physics and neuropsychology.

A good illustration of this type of mistake is found in the misapplication of Erwin Schrodinger's famous "cat thought experiment." On the subatomic level particles act in ways much queerer than we would expect or, in some cases, even understand. The interaction of

THE ACCOMPANYING article expresses only one viewpoint in the most important current parapsychological controversy: whether or not quantum mechanics offers an explanation for psi. David Christopher Lane here takes the view that it does not and indeed cannot because quantum mechanics (QM) and psi are mutually exclusive. In addition, he argues, quantum effects take place on an atomic level and have no relation to the large effects of psi.

In the December 1984 issue of *The Journal of Parapsychology*, however, physicist Evan Harris Walker of the U.S. Army Ballistic Research Laboratory at Aberdeen Proving Ground, Md., comes to a different conclusion. Walker believes that the QM theory of psi has done what no other theory has been able to do—explain the data developed by parapsychologists and provide a tie-in with the estab-

lished body of science.

Walker states categorically, "Critics who have long argued that the experimental evidence for psi cannot be accepted because it conflicts with scientific theory have now been answered."

Walker lists some of the critics of this viewpoint and answers several of them, including Martin Gardner, a science writer and contributor to the critical anthology *Science and the Paranormal*, and John Wheeler, a Nobel laureate whose criticisms several years ago of parapsychology and of Dr. J. B. Rhine created a furor in parapsychological circles.

Gardner has been one of the most vocal critics of parapsychological claims but in this instance Walker dismisses his allegations as based upon insufficient understanding of QM. Of Gardner's criticisms of him, Walker says, "These comments reflect the

Wilber comments: "... Modern physics neither proves nor disproves, neither supports nor refutes, a mystical-spiritual world view. There are certain similarities between the world views of the new physics and that of mysticism ... but these similarities, where they are not purely accidental, are trivial when compared with the vast and profound differences between them. To attempt to bolster a spiritual world view with data from physics—old or new—is simply to misunderstand entirely the nature and function of each. As Einstein himself put it, 'The present fashion of applying the axioms of physical science to human life is not only entirely a mistake but has also something reprehensible in it ...'"

*Ken Wilber, *Quantum Questions*, page 5.

Wilber asserts that although several of the world's great physicists may have embraced mysticism in their private lives, almost none of them have felt that their discoveries in science substantiated religion. Rather, each discipline has its own *method* and *domain* of observation: physics—matter; biology—life processes; psychology—mind; religion—spirit. And, as such, the findings of one field cannot ad hoc be applied to another (such as equating psychology with biology, etc.). Though there are similarities to be found (and connections to be made, when appropriate), the differences are so vast that each discipline *must* be kept separate so the effectiveness of its own method of study will not be diluted. For example, it would be absurd and nonproductive for

infinitesimal bits of matter is literally a world all its own, complete with special quirks and rules. To better help lay persons understand this strange universe of the quantum, physicist Erwin Schrodinger developed a thought experiment which is now known infamously as "Schrodinger's cat."

Imagine that a cat is put into a glass box. Poisonous gas, which has a 50-percent chance of being released and killing the animal, is also enclosed. The odds, in this case, are determined by a random event ("the radioactive decay of atom").* After an hour or so, you come back to learn the result. Is the cat dead or alive?

Now, on our level of reality (and that of classical or "Newtonian" physics), we would find the animal *either* living or dead but never *both* at the same time. Yet, according to some quantum theories, the cat (which, in this case, *represents* a wave function on the subatomic level) is both *alive* and *dead* at the same time. That is, particles may have an existence contrary to our normal perceptions. They may move in two directions at the same instant, they may be in two places at the same time without traversing space and so forth. Here is a veritable "twilight zone" of time/space warps.**

The problem, however, with "Schrodinger's cat" is that as a thought experiment it applies only to the subatomic level. Talbot and other New Age writers want to apply the quantum discovery to our everyday lives, as if this special reference has practical implica-

tions for our existence. Hence, when John Wheeler talks about his "Many Worlds Interpretation" of quantum waves (each function splitting off into another real, albeit incomprehensible, universe), Talbot seizes upon it as "proof" for mysticism's claim that there are higher states of consciousness, forgetting in the process that Wheeler's theory and Schrodinger's are meant to apply *only* to the subatomic domain. Such nefarious extractions do not buttress mystical insights, they only convolute them.*

Another example of how the latest findings in science are misused to support a mystical outlook is found in the much-touted "holographic paradigm," which attempts to explain such diverse mental phenomena as long-term memory and ESP.

Karl Pribram, distinguished neurosurgeon-psychologist at Stanford University, believes that our brain operates very much like a hologram, which is a three-dimensional image created by recording the interference wave light patterns around a given object. A good example of the lifelike qualities of a hologram is shown in one scene in the movie *Star Wars*, where the captured princess sends a message through her trusted robot companion in the form of a "holograph." The unique aspect of a hologram is that in each part a miniature replication of the whole is contained. Unlike a photographic plate which splits up into several distinct pieces when broken, a hologram cannot be divided without each separate unit's containing all the information of the whole.

*My discussion here follows Gary Zukav's explication of the thought experiment in his book *The Dancing Wu Li Masters*, pages 85-86.

***The Dancing Wu Li Masters*, Gary Zukav.

*For an excellent discussion of this issue see Ken Wilber's *Eye to Eye* (New York, Doubleday, 1983).

Our central nervous systems, according to Pribram, are like great processing filters which mathematically construct "reality" out of a timeless and spaceless *frequency domain*.

Pribram elaborates: "It isn't that the world of appearances is wrong; it isn't that there aren't objects out there, at one level of reality. It's that if you penetrate through and look at the universe with a nonlens system, in this case a holographic system, you arrive at a different view, a different reality. And that other reality can explain things that have hitherto remained inexplicable scientifically . . . such as paranormal phenomena.

" . . . In terms of holographic theory, all those events (such as ESP and out-of-body experiences) are plausible if the brain can somehow abrogate its ordinary constraints and gain access to the implicate order (frequency domain).

" . . . It is mind-boggling . . . In the frequency domain, time and space become collapsed. In a sense, everything is happening all at once, synchronously."

Naturally, the consequences are extensive. If Pribram is correct, every object that we behold, from the neighbor next door to Mount Everest, is a vision projected *within* the confines of the brain. Outside our neurological chambers these images as such do not exist. In a sense, we are seeing our own central nervous system and its responses to exterior stimuli, not the world "as is."

Pribram goes one step further in his holographic analysis and poses the

question, "Could it be that the universe itself is a hologram? If so, as parts of that indivisible hologram, do we have access to the Whole Itself (God/Absolute Reality)?"

Marilyn Ferguson comments: "He [Pribram] suggested that transcendental experiences—mystical states—may allow us occasional direct access to that realm. Certainly, subjective reports from such states often sound like descriptions of quantum reality Bypassing our normal, constricting perceptual modes—what Aldous Huxley called the reducing value—we may be attuned to the source or matrix of reality"

Finally, we have a scientific theory which supports mystical visions! The holographic reality looks to be almost identical to the Buddhist concept of enlightenment.

Ferguson states further: "And perhaps the most extraordinary ancient description of a holographic reality is in a Buddhist sutra, 'In the heaven of Indra there is said to be a network of pearls so arranged that if you look at one you see all the others reflected in it. In the same way, each object in the world is not merely itself but involves every other object, and in fact is every other object'"

But does the holographic paradigm really substantiate mysticism? Again, according to Wilber, the answer is no. In point of fact, it offers no proofs whatever. Rather, the paradigm indicates that the brain may have different ways of storing memory, a holographic system being just *one* of them. As for

Scientific Discoveries/Theories and Their Alleged Correlations With Mysticism

Modern Science	Ancient Mysticism
(1) Heisenberg's Principle of Uncertainty ("There is no way that we can know simultaneously the position and the momentum of a moving particle. All attempts to observe the electron alter the electron.")	The perceiver and the perceived arise from the same field—consciousness. To affect one is to influence the other. The subject and the object are one.
(2) Schrodinger's Cat (Many Worlds Theory)	Man is more than just a physical being. Humanity participates in a multidimensional reality in which the range of experience is infinite.
(3) Bell's Theorem (Superluminal connections; superdeterminism; Many Worlds Theory)	(Buddhist Sutra) "In the heaven of Indra there is said to be a network of pearls so arranged that if you look at one you see all the others reflected in it. In the same way, each object in the world is not merely itself but involves every other object, and in fact is every other object."
(4) Pribram's Holographic Memory Hypothesis ("Our brains mathematically construct 'concrete' reality by interpreting frequencies from another dimension, a realm of meaningful, patterned primary reality that transcends time and space. The brain is a hologram interpreting a holographic universe.")	There are higher realms of awareness which transcend the ordinary waking state. They are comparatively beyond time and space, empowered not by matter but of pure mind and spirit. These transpersonal states consist of higher frequencies of light and sound.
(5) The Big Bang ("closed/pulsating universe which billions of years ago was but a condensed sphere of energy that exploded outwards, and which will eventually collapse.")	When Brahma, the creator god, opens his mouth, the words are created. When he closes his mouth, the universe recedes from where it came forth. (Hindu creation myth)

what most people believe, were divorced for very good reasons. They were never compatible; hence, not only was their union ill-advised but it postponed for centuries the mature development of their respective talents. To insist now on

a remarriage because their progenies (new physics and Eastern mysticism) bear a striking resemblance to each other betrays the essential fact that they arise from an entirely different set of principles and assumptions.

*Quoted from my article "The Real New Wave: Surfing the Hologram" (*The Movement Newspaper*, April 1983, pages 3-6).

**The Holographic Paradigm and Other Paradoxes*, page 22.

***Ibid*, page 25.

Pribram's "frequency zone," where time and space become collapsed, it does not necessarily refer to the transcendent state described by mystics. Though the language is similar ("no time/no space"), the former is concerned with memory storage, the latter with spiritual insight. As Wilber puts it: "How one could jump from a blur of one's own memory to a crystal consciousness that transcends mind, body, self and world is not made clear at all. It is a wild theoretical leap to move from 'personal memory is holographically stored' to 'therefore all minds are part of a transpersonal hologram.'"

Thus the tragic flaw in trying to "prove" mysticism with scientific findings is that we end up discounting the testimony of the mystics themselves who categorically state that the path to God is *not* through reasoning, logic, mathematics, or any device of the verbal mind; it is through spiritual practice, meditation, prayer and loving devotion.

The result in such haphazard endeavors is an oversimplification of a transcendental phenomenon, best grasped *not* by rational speculation but by intensive spiritual discipline. As Wilber points out, the danger is in the (false) belief that all one has to do to become a mystic is to study quantum mechanics or neurophysiology. Similarly, there is a mistaken notion that anyone who studies subatomic matter is automatically a mystic.

The explanations for the strange paradoxes in the new physics and neuropsychology, like "Schrodinger's cat" and "Pribram's Holographic Paradigm," do not automatically apply

to the macroworld of our day-to-day lives. Just as we wouldn't equate our domestic troubles with the interactions of excited electrons, we shouldn't try to compare the unique properties of quantum waves with the mental potentials of mankind.

Wilber says, "Planck's view, if I may summarize it, was that science and religion deal with two very different dimensions of existence, between which, he believed, there can properly be neither conflict nor accord, any more than we can say, for instance, that botany and music are in conflict or accord. The attempts to set them at odds on the one hand or 'unify them' on the other are founded on a misunderstanding or, more precisely, on a confusion of the images of religion with scientific statements. Needless to say, the result makes no sense at all."

Interestingly, the one area where mystics and strict empirical scientists agree is in their mutual refusal to unify science and religion. Perhaps Jeremy Bernstein, particle physicist, says it best when he writes, "If I were an Eastern mystic the *last* thing in the world I would want would be a reconciliation with modern science, [because] to hitch a religious philosophy to a contemporary science is a sure route to its obsolescence."

Wilber adds, "Genuine mysticism, precisely to the extent that it is genuine, is perfectly capable of offering its own defense, its own evidence, its own claims and its own proofs."

Religion and science, contrary to

*Ken Wilber, *Quantum Questions*, page 6.

***Ibid*, Preface ix.

****Ibid*, Preface x.

**Ibid*, pages 180-181.

It is better for us to appreciate that fact—that science and religion do not belong together—than to forge crucibles which in the end cause more harm than good.

FOR FURTHER READING

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WHAT LIES AHEAD

THE WORLD Future Society, a 30,000-member, nonprofit organization, has taken a look at what is to come and finds little to cheer about—unless living to be older than 100 is one's goal. Scientists, scholars and other society members—all of whom take the future very seriously—also take a dim view of what lies ahead:

- By the end of this century, 100,000 persons in the United States will be over the age of 100 because 85-and-older citizens comprise a group that grows faster than any other segment of the population.

- While people grow older, animal and plant species may be disappearing at the rate of 10,000 a year by 1990 and one species will be becoming extinct each hour. This thinning out of species is largely caused by the destruction of tropical forests.

- A worrisome agricultural problem which will hit consumers in the wallet is soil erosion. By the year 2020 the soil in southern Iowa, for example, will be severely eroded and each acre will require 38 additional pounds of fertilizer and 38 percent more fuel will be needed for tilling it.

- Blue-collar workers will make up only 10 percent of the American work

force by the end of the 20th Century.

- Unless population growth undergoes a drastic downturn, more people will be born worldwide in the year 2050 than were born in the 1500 years after the birth of Christ.

- On the bright side, only about 10 percent of today's auto accidents will be tolerated in the future if micro-computing technology lives up to its promise. Sweden is experimenting today with such exotic traffic controls as sensors buried in the roadway.

- The health care prospect is gloomy. At the current rate of increase, health-care costs in the United States will amount to 20 percent of the gross national product—a cost by 1993 of one trillion dollars.

- The fastest-growing country in the world is Kenya where the annual population growth is 4.1 percent. By 2020 there will be four times as many Kenyans as there are today.

- Less predictable are the results of the coming population explosion among robots. They are multiplying like rabbits. The World Future Society estimates that at least 35,000 robots will have been installed in America by 1990. Possibly doing the work of those missing blue-collar workers?

