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Andrew Cohen

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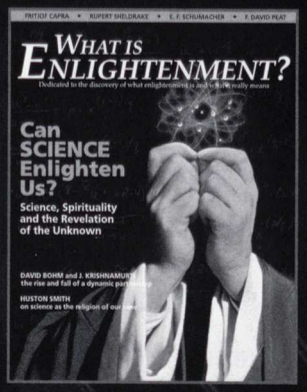
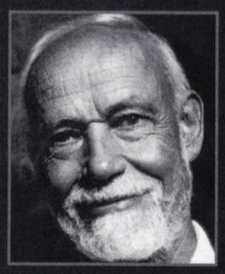
CONTENTS

Spring/Summer 1997

Can Science Enlighten Us?





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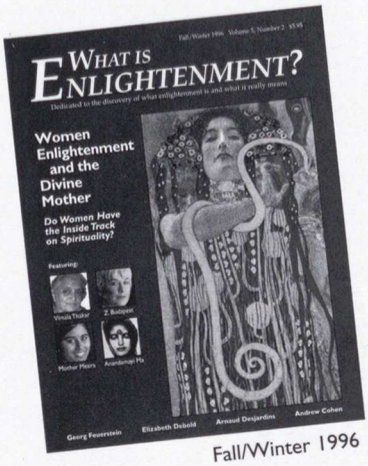

Fall/Winter 1996

LETTERS

SCIENCE OR NO SCIENCE

WONDERFUL ISSUE OF *What Is Enlightenment?*. I thought the Vimala Thakar two-section piece ["Two Conversations with an Extraordinary Woman," Fall/Winter 1996] was the jewel of the issue. The contrast between her responses (to a woman and *her* questions and a man and *his*) was in itself a most exquisite teaching. I also loved the Elizabeth Debold interview ["Dancing on the Edge"]—an excellent choice—and Daniel Roumanoff's piece ["A Tragic Passion"] on Anandamayi Ma. Of course I personally agree with Arnaud Desjardins's view of her ["The Embodiment of Transcendence"], but Daniel's perspective will really make some people work—excellent!

In reading the letters (which I thoroughly enjoy), I also noticed the editor's reply to the one about a scientific languaging of eternal truths. Despite the profound commitment of *What Is Enlightenment?* to deep inquiry of Reality, I personally feel that that is going too far out. I think that *What Is Enlightenment?* is one of the most powerful spiritual journals in print today—in fact, if one excludes exclusively Buddhist publications, perhaps *the* most powerful. One of the reasons, I believe, is because of your focus on the contextual field in which we—you and I and others—find ourselves working and acting. Reality has many facets, albeit all Truth, and I think that to try to mesh or weave all the facets together weakens the whole thing.

Anyway, I've put my two cents in! And I'll still read the damn thing word for word as soon as it arrives, science or no science!

lee lozowick
Prescott, Arizona

BLOWING THE WHISTLE

THE ISSUE ON "Women, Enlightenment and the Divine Mother" [Fall/Winter 1996] is superb. And congratulations for jumping into an important but extremely delicate topic. The new age and spiritual movements in this country like to pride themselves on being leading edge, open minded, and avoiding the herd mentality of the conventional world—and yet, by and large, they can be just as slavishly mired in their own herd mentality, mindlessly parroting platitudes that are, for the most part, simply wrong. And woe to those who blow the whistle.

I believe the preponderance of evidence clearly supports your conclusion that, although there are many wonderful exceptions, women do indeed have a difficult time moving from conventional and personal relationships to postconventional and transpersonal orientations—a more difficult time, that is, opening to a genuinely spiritual domain. Should further evidence continue to bear this out, the only possible response is to honestly acknowledge it and then develop ways to deal with it in a sane and fair fashion. But those who do not even acknowledge the problem are doomed to remain stuck in it.

It appears that *both* men and women have *both* strengths and weaknesses when it comes to spiritual and moral development, and a fair and impartial approach to this issue would take all of those strengths—and weaknesses—into account, for both males and females. If men, on balance, have an easier time making it into postconventional and transpersonal modes, they also tend to go to extremes and deny and alienate the personal and relational modes, and this alienation can, in its own way, be just as problematic and "antispiritual" as the female reluctance to surrender the personal.

Where men tend to emphasize agency and autonomy, women tend to emphasize communion and relationship. But both of those modes have, not just a normal and healthy expression, but a *pathological* expression as well. Men tend to overemphasize their autonomy and their "independence," sometimes so much that they dramatically fear relationship and commitment of any sort—they can get caught in *pathological agency* (and "hyperindependence"), and this can cripple their willingness to engage in true spiritual relationship with a spiritual teacher or master ("I ain't bowing down to nobody!").

Women, on the other hand, tend to stress relationship and fear autonomy, so much so that they will often completely sacrifice their own needs and their mature self simply to keep a relationship going, no matter how sick the relationship might actually be (every woman knows exactly what this means). In other words, women get caught in *pathological communion*, just as men get caught in pathological agency. (If you want a really whacko relationship, just put those two together.)

I think that you tended to focus on

What Is Enlightenment? would like to hear what you think about our articles and the issues we raise. We welcome your letters. Letters may be edited for length and clarity.

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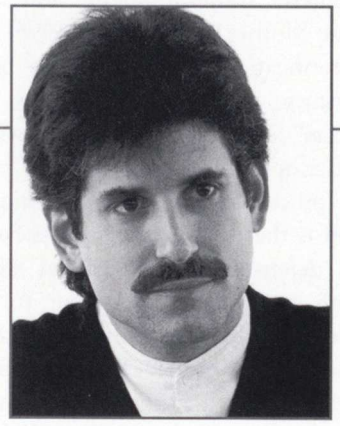
the female pathology—where she remains so mired in personal communion that she cannot let go of that and open to the transpersonal—but you didn't give quite enough attention to the corresponding male pathology—where he is so hyperindependent that he won't even enter into the spiritual process to begin with!

Of course, most of the males that come to *satsang* with Andrew Cohen have to some degree overcome this pathological reluctance, or they wouldn't be there in the first place! So you don't tend to see as much of the male pathology, and you only see what is left, namely, the female reluctance to surrender the personal. And that indeed is a very real problem. This is why, of the men and women that you do see, the men make the most progress (the men caught in *their* pathological agency just don't show up in the first place, so you see relatively fewer of those).

At the same time, this does mean that, on balance, of those who do in fact develop to the postconventional and transpersonal and genuinely spiritual modes, a greater percentage will tend to be male. This is one of the urgent and thorny issues that needs to be directly addressed in spiritual circles, and I congratulate you for starting this important debate. At the same time, it is worth keeping in mind *both* the strengths and weaknesses of *both* men and women, so that each gender can, as it were, help the other over its weaknesses and limitations. The spiritual path is ideally traversed by a man and a woman holding hands and walking together into that great Emptiness.

Ken Wilber
Boulder, Colorado

ANDREW COHEN



Spiritual teacher and founder of *What Is Enlightenment?* Andrew Cohen began teaching in 1986 after a spiritual realization transformed his life beyond recognition. Since that time the fire of his awakening has sparked a revolution in the hearts and minds of many people throughout the world. Andrew is outspoken in his questioning of many of the superstitious belief systems that are almost always associated with genuine Liberation teachings. This, coupled with his unwillingness to compromise in matters of the heart, has led to an original expression of a complete teaching that embraces both heaven and earth in a way that calls any who would hear it to question the definition of what is truly absolute. His teaching is modern in the sense that its reference point is the time that we are living in and yet its source is that unfathomable mystery that never changes and always lies beyond the barriers of time and space.

Those who have been touched by Andrew's teachings have found themselves immersed in a profound recognition of their own true nature and propelled into a thrilling discovery of what it means to reach beyond all limitations. For many, this has been the catalyst for coming together in a way that transcends barriers of conflict and separation. In the past few years, communities dedicated to living these teachings have formed throughout the world, with a network of centers in North America, Europe, Israel and Australia. Andrew now travels extensively around the world every year, giving public talks and intensive retreats.

Andrew Cohen is the author of *Freedom Has No History, An Unconditional Relationship to Life, Enlightenment Is a Secret, Autobiography of an Awakening, My Master Is My Self* and other books.

WOMEN RESPOND

THANK YOU, THANK YOU for the recent issue of *What Is Enlightenment?* ["Women, Enlightenment and the Divine Mother," Fall/Winter 1996]. To see verification of what I have been observing in myself, to have my "process" reflected back at me, provides another opportunity and a longer look. This process I have been seeing in myself is the one which includes being hurt, defensive and emotional when certain traits are pointed out to me (either by others or through observation—usually both). When I hear myself speak with a tone of voice which I know to be unkind or having a hidden agenda, the part that "knows" this is gone in a moment or two. So then I ask others to tell me, to verify—and when they do—then comes the hurt and emotional upheaval *and* a longer look. It may take thirty minutes or twenty-four hours for this process to run and while it is running my full attention is there—amazed and horrified, full of remorse and feeling for myself—especially as the process moves from some initial issue/manifestation to finding myself in the gap with nowhere to stand, the sense of something crumbling and the feeling of being cleaned. Then comes a taste of being nobody, giving up, understanding, ease.

Finally in my life I feel a sincere interest in the process. Special thanks to Andrew Cohen for the clear description of the "human condition" in the last paragraph of his article "Liberation without a Face Is Total Revolution," and for the call to nobodyness.

Chandrika Taylor
Little Rock, Arkansas

I RECENTLY RECEIVED MY FIRST ISSUE of *What Is Enlightenment?* as a gift from a friend. What a joy to read articles from serious students addressing with vulnerability and honesty the central issues of our day.

I wish to address some of the issues broached in Hal Blacker's introduction, "Towards the Spiritual Liberation of Women" [Fall/Winter 1996]. I believe that women are neither more nor less spiritual than men. They are different. Women's willingness to give of themselves to others and dissolve the boundaries between themselves and others is a result of cultural training, not of spirituality. Women are trained to be servants, whose job in the culture is to serve men, their children and the culture. The men's selfishness, competitiveness, aggression and intellectual tendencies are also the result of cultural training.

There is a confusion between the image of being spiritual—selflessness, giving, serving—and the actual function of being spiritual. When one directly knows the spirit that enlivens all things, the service comes out of a heartfelt reverence for that force. It is not personal. It does not emerge from the motivation of being acceptable to the culture one lives in. It is a dissolution of the boundaries between self and Self, a direct realization that the energy within all "things" is the same energy; it does not come from a loss of psychological boundaries.

When human beings know what they actually need, physical, emotional, mental and spiritual needs become straight, honest and directly fulfilled. This eliminates all substituted forms of expression: Porsches, addictions, dominance over others, codependency, etc. For a woman to genuinely focus on herself and find out what she needs exposes her to the internal accusation of being selfish (the absolute worst thing you can call a woman). When you strip off the extra baggage and recognize and fulfill essential needs, you end up with clear and flexible psychological boundaries. These boundaries result in a person being caring, loving, skillful, and yet able to care for oneself as well. There is a balance.

I have watched both men and women accomplish this and emerge loving and self-empowered beings. The way to this is distinct for the sexes. Balance is achieved by cultivating what you are lacking rather than amplifying what you have. Then, reaching for the higher spiritual levels, you have a solid foundation to stand on.

Thank you for publishing this wonderful magazine.

Elizabeth Ann Brandon
Ft. Collins, Colorado

THE LAST ISSUE OF *What Is Enlightenment?* [Fall/Winter 1996] is about the Divine Mother (supposedly) and on the cover asks the question, "Do women have the inside track on spirituality?"

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This sets up the reader to perceive the whole matter as a competitive thing. That's a difficult perspective through which to come up with a viewpoint on women's spirituality—you're bound to fail because (of course) spirituality has no sex and (of course) male teachers are not referred to as teaching masculine spirituality.

I agree with Andrew Cohen's definition of enlightenment given on page sixty-three ["Mother of the Universe"]—that enlightenment is freedom from identifying as any idea, whether high or low in the spectrum of perception—but also found it rather discouraging that he so easily questions Mother Meera's enlightenment and Anandamayi Ma's solely based on the stories of two men who were once related to them! Surely he can see where these men have clung to and identified with an idea and insisted that their teacher approve of that idea rather than transcend that perception. Andrew Harvey presents that it's Mother Meera's problem that she wasn't excited about his homosexuality. Why did he go to her, to start a love affair with another man or to transcend himself? If you criticize Mother Meera on her so-called "disapproval" of Harvey's homosexuality, why not express disapproval of his need to even have a sexual-emotional relationship?

This issue was an attempt to hear the "spiritual" from women, but you guys were really writing it and so casually, easily criticized women teachers without even letting them speak for themselves. We see Mother Meera and Anandamayi Ma through the doubts, needs and ideas of Daniel Roumanoff ["A Tragic Passion"], Georg Feuerstein ["The Divine Mother"] and Arnaud Desjardins ["The Embodiment of Transcendence"]; we get a glimpse into *their* ideas of these female teachers but the female teachers do not speak for themselves at all. So this issue could be called "The Token Women's Spirituality Issue" or "Let Me Tell You What to Think and Feel about Certain 'Woman' Teachers."

Let women speak for themselves!!

Karen Sack

THANK YOU SO MUCH for the excellent recent issue on "Women, Enlightenment and the Divine Mother"! I read it straight through, in order, from beginning to end, and it stimulated quite an opening in my usual ways of self-limitation.

The question to myself which arose within was this: Is your urge toward "surrender" and "self-eradication" coming from the Evolutionary Force of Life itself, gushing like a huge wave of energy to break down the walls and limits of the personal in order to express itself in the ever-expanding and unlimited TRUTH OF BEING? Or . . . is that urge to eradicate the "self" actually a denial *by the personality* of the Evolutionary Force of Life which is trying to manifest through this particular being in time and space? Is the personal ego thwarting that Evolutionary Force by saying, "Little me, I am so limited, so unworthy; I must take nothing for myself, but must only serve a larger cause"?

Then a demand came: "HEY YOU, WAKE UP! The Force of Life is *in* you! When you fail to take and use your share of energy on this earth, you are denying the Evolutionary Force of Life itself!"

I realized that the Unlimited will never express itself through *denial* of the personal, only through *transcendence* of it. It is very, very important—especially for women—to be in touch with our personal desires, and to experience the personal power to fulfill those desires. We must experience the ability to take what we want and need—directly and unapologetically, without subterfuge or manipulation. Otherwise, emotions of anger and frustration will arise (very likely unconscious) and we will act out

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of those emotions, causing suffering, all the while believing that we have chosen a "higher" path of selflessness. It became clear that the underlying motivation for many women's choice of "selfless service" is actually survival! Consciously or unconsciously we think, "If I demand nothing for myself, if I give everything . . . perhaps they will let me live!"

In other words, from the point of view of the ego, some aspects of "being enlightened" appear (conveniently) to be very similar to the requirements for being a "good woman"—which some of us have practiced our whole lives as a strategy for self-preservation and getting our personal needs met.

Given all this, it would seem that any spiritual path or teaching which emphasizes total "self-renunciation" holds many potential pitfalls for the "good women" of the world. In following such a path we must be committed to constant inquiry into our own deepest motivations. And perhaps—paradoxically—we must be prepared to balance our choice to be "nobody in particular" with a choice to honor the "particular somebody" which we are.

Kathleen Robinson
Boston, Massachusetts

HOW UNFORTUNATE for Hal Blacker to come from a family with such limitations ["Towards the Spiritual Liberation of Women," Fall/Winter 1996]. I am sorry he and his sister are enculturated in the way they have been, but he mustn't assume it applies to all womankind, for it surely does not. I come from a large family with many women. It is the women of the family who are able to look at the truth of a situation with cold hard exactness, not easily buying the claim of truth, but looking closely for the real artifact. The men of the family, as with most men of most families I have seen, are unable to let go of their own emotional attachments to opinion and quick to anger when challenged. In that way, they are far more limited by subjectivity than the women

I know. Strong women run up against men who don't want them to seem pushy or angry, and so one has to avoid these people, or soften words for them as if they were children.

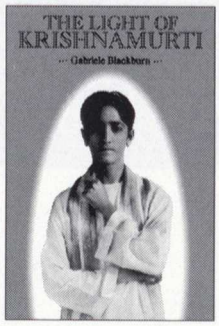
V.A.
via e-mail

I WAS INTERESTED to read Hal Blacker's introduction to the Winter 1996 issue. It seems to me that he has confused the "Feminine Principle" with women. The cosmic Father and Mother Principles belong to both sexes, and we are here to balance the two—both between men and women, and within each of us individually—yet the Principles are above earthly gender. The Mother aspect will always be inward-pulling and tend toward the personal, even in the highest female cosmic *avatar*.

I feel that Mr. Blacker begins with a glamour—that women's emphasis on the personal must necessarily be the result of false conditioning—and ends with a glamour—that at the highest spiritual level this will be removed. Despite his genuine goodwill, he wants the Feminine Principle to be like the Male!

Where Male and Female meet, there Light flows. Yet the two principles of the cosmos are different. Perhaps one way forward for mixed spiritual groups would be for the men to become themselves more personal, in the sense of viewing "spiritual" as inward rather than outwards. Many people who study spiritual things do so as an escape from the "inward, personal, spiritual": they are simply projecting outwards, this time on "spiritual" things rather than politics or science. Yet there's no real difference—the aim is to escape themselves rather than what it should be, to encounter themselves. The groups, rather than viewing the personal as a limitation, could see it as the way through. It is, after all, the female role to lead in spiritual matters.

Marilyn Warbis
Devon, U.K.



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I WISH TO THANK YOU wholeheartedly for your amazing issue on the spiritual liberation of women [Fall/Winter 1996]. In fact I cannot thank you enough; this is the most significant, profound and comprehensive presentation on the subject I have seen anywhere! It poignantly clarifies the core of what women need to face, to change and to transcend in order to become truly free. The interviews with Vimala Thakar ["Two Conversations with an Extraordinary Woman"] and Elizabeth Debold ["Dancing on the Edge"] especially shed light on areas of confusion that are usually only seen within a psychological context. To clearly experience the effect of these biological and cultural conditionings on our spiritual evolution and our relationship to the *Unknown* is truly extraordinary. Here the invisible wall that contains the women of our modern world is unmasked and laid bare.

In the interview with Elizabeth Debold, there is a subtle but significant point that needs to be carefully explored and understood, where she speaks about the principle that "you can't give up what you don't have." This point involves an area of life that I have been experiencing and noticing for some time as a challenge for those who are spiritually motivated. I feel it is *the* place where most spiritual seekers are suspended in midair between the spiritual and personal aspects of life. In an effort not to become ego-identified, many people *try* to transcend their personal experience. This is a denial of our power of choice, of the fact that we are choosing, and of our authentic expression of the One Self. It creates the very separation we are trying to free ourselves from.

Elizabeth states that you need to own the ego to transcend it, and the interviewer responds, "So it's a matter of seeing what you're actually up to."

continued on page 92

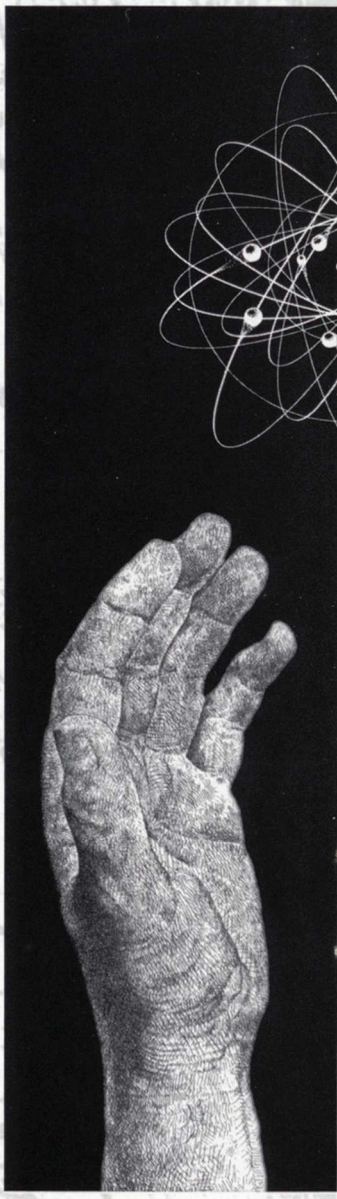
INTRODUCT

Can Science Enlighten Us?

Science, Spirituality and the Revelation of the Unknown

1

BY THE EDITORS



In the time we are living in, amid an apparent resurgence of interest in spirituality throughout the Western world, a new breed of scientists seem to be playing an ever more prominent role as the bringers of a revolutionary "new paradigm." The fact that many of these figures from the world of science are gradually assuming roles of leadership during this time of spiritual and philosophical upheaval caused us to wonder . . . What is going on here? Why are scientists—only moments ago the high priests of a materialist worldview which for all practical purposes denies the very existence of a spiritual dimension—suddenly emerging as evangelists of what appears to be a profoundly idealistic and deeply spiritual perspective?

Could it be true that modern science has given birth to the next generation of spiritual leaders? Has a Ph.D. in physics become the pedigree of a respected spiritual authority figure?

It is precisely because of the pervasive and influential role scientists have been assuming in the modern spiritual world that we felt compelled to devote this issue of *What Is Enlightenment?* to exploring the question, What *is* the relationship between science and spirituality? And in particular, What is the actual relationship to spiritual life of those scientists who have devoted their lives to uniting these two seemingly incompatible disciplines? Asking these questions launched us on a fascinating journey into what was for us completely unknown territory. On this unfamiliar

continued on page 12

sci·ence \'sī-ən(t)s\
(from the Latin *scire*, to know):
the state of knowing; knowledge
as distinguished from ignorance
or misunderstanding.

2

BY ANDREW COHEN

The idea for this issue began over five years ago. At that time, I was wondering if it would be possible for a human being who had accumulated an enormous amount of information to be able to, if given the opportunity, let go of *all of it* in order to become Enlightened. I had thought about this quite a bit and to be honest I haven't given up pondering over this fascinating question. You see, if we find that we have a unique talent, and that talent is the ability to accumulate and organize enormous amounts of information, that ability will make it possible for us to have a perspective in relationship to that information that is almost always enticing to the ego. Enticing because that information, when organized correctly, becomes knowledge, and knowledge is *power*.

What I found intriguing was a strange dichotomy. On a practical level, it was obvious that the pursuit of greater understanding necessitated the accumulation of knowledge. At the same time it was apparent that it was essential to let go of all accumulated knowledge if one wanted to liberate the self from the mind. Also it seemed that except in very rare cases, the accumulation of knowledge brought with it a great sense of personal power. And that was starkly contrasted by the fact that the pursuit of liberation from the false sense of self demanded the unconditional surrender of any attachment to personal power.

This was interesting to me because of the delicate and often paradoxical situation that we find ourselves

continued on page 13

1

BY THE EDITORS

continued from p. 10

ground, we struggled to understand how the issues raised by these scientists were related—if at all—to the challenge of becoming a fully human being.

In doing research for this issue we immersed ourselves completely, reading widely and spending long hours discussing in depth the dizzying variety of perspectives we encountered. To our surprise, during this period many well-known scientists of both the "new" and "old" paradigms converged synchronistically in our vicinity, causing us to muse that perhaps our intense questioning had somehow created a vortex which would provide us with firsthand experience of the scientific mind. In a single week, we met and spoke with physicist Fritjof Capra and biologists Richard Dawkins and Rupert Sheldrake. Simply trying to keep pace with the many contrasting views we encountered required us to constantly reevaluate our own perceptions of the role of science in the understanding and interpretation of human experience.

In the midst of this inquiry, we unexpectedly discovered that truly great scientists willingly subject themselves to a process which is in many ways similar to that experienced by any genuine seeker after enlightenment, in the sense that each must be prepared to fearlessly question any and all preconceived notions about the nature of reality. At the same time, it became clear to us that science as a discipline contains few safeguards against the obscurations of hubris to which a powerfully cultivated mind is often susceptible.

We also discovered another fundamental challenge confronting these "new paradigm" thinkers. This challenge is best illustrated by Ken Wilber's crucial distinction between those models of reality which include a transcendent dimension of human experience—and those which do not. Wilber points out that while many ecologically-minded new paradigm theorists stress the interconnectedness of all of life, they too often underestimate the significance of the transcendent dimension—sometimes to the degree that they overlook it altogether. And at the opposite end of the spectrum, we discovered, there are new paradigm scientists who so thoroughly champion the transcendent that they have devoted their lives to actually *proving, through science, that God exists!*

At the end of our journey we found ourselves back where our investigation into the relationship between science and spirituality had first begun—with a fascinating account of a revealing encounter between a renowned spiritual teacher and a promising young scientist at a crossroads in his career.

Fritjof Capra writes in his book *Uncommon Wisdom:*

> I remember that I was fascinated as well as deeply disturbed by Krishnamurti's lectures. After each evening talk [my wife] and I stayed up for several hours . . . sitting at our fireplace and discussing what Krishnamurti had said. This was my first direct encounter with a radical spiritual teacher, and I was immediately faced with a serious problem. I had just embarked on a promising scientific career, in which I had considerable emotional involvement, and now Krishnamurti told me with all his charisma and persuasion to stop thinking, to liberate myself from all knowledge, to leave reasoning behind. What did this mean for me? Should I give up my scientific career at this early stage, or should I remain a scientist and abandon all hope of attaining spiritual self-realization?
>
> . . . I was rather intimidated when I finally sat face to face with the Master, but I did not lose any time. I knew what I had come for. "How can I be a scientist," I asked, "and still follow your advice of stopping thought and attaining freedom from the known?" Krishnamurti did not hesitate for a moment. He answered my question in ten seconds, in a way that completely solved my problem. "*First* you are a human being," he said; "*then* you are a scientist. First you have to become free, and this freedom cannot be achieved through thought. It is achieved through meditation—the understanding of the totality of life in which every form of fragmentation has ceased." ■

BY ANDREW COHEN

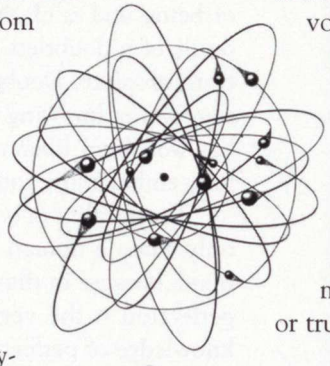
continued from p. 11

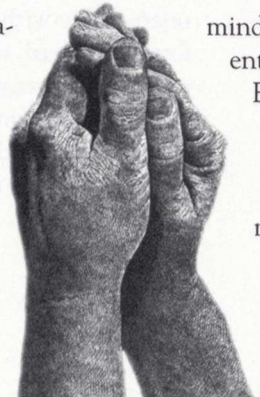
in as a race. On one hand it is apparent that our very evolution depends upon the cultivation of intelligence and the ability to absorb and organize information. And on the other hand spiritual revelation teaches us that our moral and ethical evolution entirely depends upon our willingness to relinquish our attachment to thought. Indeed, revelation shows us that it is only through discovering that which lies beyond thought that THE WAY to sanity, simplicity, selflessness and genuine care for the whole is found.

It appeared that most often great thinkers, those individuals who had the biggest influence in the world of ideas, were individuals who not only had not experienced freedom from thought, but who also were unlikely to have come to that place in their own evolution where the sense of power associated with the ability to accumulate and organize information had been transcended. If that was so, would their relationship to that knowledge be a form of bondage? Would any attachment to that knowledge distort their ability to discriminate? Indeed, would it be possible for them to see clearly as long as they had not utterly liberated themselves from all thought, from all ideas, from all accumulated knowledge?

So our investigation into the relationship between science and spirituality was fueled by this contemplation. What we have found is fascinating indeed. For it seems that scientists often succumb to the same temptation as many great religious thinkers—that is, the very desire to figure it *all* out. To wrap it *all* up. To explain *everything*.

We have found this desire to explain everything, to know everything, to be the ultimate temptation for the ego/mind, and in the end the greatest obstacle to true understanding. And yet it seems that so many great thinkers are fueled by this fire. One who is fueled by this fire will dazzle us with extraordinary explanations that seem to offer us the key to . . . Everything.





So the question is this: How can we use the mind for our own evolution without becoming entrapped by it, without succumbing to the overwhelming temptation to *know*? Indeed, the scientists who impressed us the most were those who manifested that very sense of openness and receptivity that is defined by a mind that has been harnessed by the conviction that its powers are limited. And interestingly enough, they were individuals who did not in any way claim to have found the ultimate answer or final explanation. At first glance they did not seem to be as impressive as those who were trying to do just that, explain everything. What we found was that the actual experience communicated by those who knew that they could *never ultimately know* was very different from the experience communicated by those who thought they already did know or who were trying to find a way to know everything. With the latter, we experienced the thrilling temptation to believe that everything could be known while simultaneously feeling an inner sense of tension and suffocation. With the former, the experience was very different. While equally thought provoking, it was far more mysterious and yet promised nothing!

It was revealing to us to find that it is the ego that is always attracted to ultimate solutions and final answers while it is another part of ourselves altogether that is deeply moved by the sense of that which is mysterious and which never can be known or truly understood.

And so the question of how to use the mind for our own evolution without becoming entrapped by it reveals itself to be all-important. Even more so for those among us who are in positions of power and influence precisely because they are experts at accumulating and organizing enormous amounts of information on our behalf. ■

"When the knowledge of perfection is the ground of all conscious experience...

Knowled & Enligh

by Andrew Cohen

Part One

The attainment of genuine enlightenment

is rare at any time in human history and the significance of its presence cannot be overestimated. The word "enlightenment" points to that which is miraculous. Its attainment represents a penetration into the profound depth of human consciousness through which the ultimate source of being itself becomes accessible. That ultimate source of being is undivided fullness that is empty of time, empty of space, empty of location and empty of mind. The conscious experience of this source is absolute knowing that is entirely free from objects, memory and time. In this knowing there is *only* knowing. In this knowing there is ceaseless recognition of absolute unqualified perfection. Abiding in that perfection always is liberation from time, space, location and mind.

Abiding in the perfection of enlightenment from the point of view of the mind means to remain in a state of *not knowing the mind*. When a human being is able to remain always in a state of not knowing the mind, they will be free from the mind. It is possible to be free from the mind only when one has discovered unequivocally the ultimate source of being and is choicelessly resting there. Choicelessly resting is the result of a doubtless recognition that the ultimate source of being is truth absolute. Doubtlessness is the freedom to abide fearlessly in that state of not knowing the mind *always*. That means that a human being has won final liberation from the mind, which alone allows them to fully embrace the totality of what it means to be alive.

The totality of what it means to be alive can be fully experienced only when a human being is resting in that state of not knowing the mind, because in that state of not knowing the mind, the knowledge of perfection is the very ground of all conscious experience. When the knowledge of perfection is the ground of all conscious experience, the relationship with the world of time, space, location and mind is transformed. Indeed, the relationship with the world of time, space, location and mind is transformed in such a way that that perfection becomes the very *source of mind itself*. In fact, it is the ability to cognize and express that perfection that is the manifestation of the miracle of enlightenment in a world that is locked into the prison of time, space, location and mind.

ge, Power tenment

Part Two

The ability to cognize and express perfection

means that time, space, location and mind are no longer seen as a prison, but are now recognized to be the very ground on which that perfection, which is the expression of the ultimate source of being, can become manifest. That perfection will become manifest only to the degree that a human being is able to sustain that state of not knowing the mind. Indeed, the degree to which a human being is able to sustain that state of not knowing the mind is the degree to which *the mind itself will be enlightened* by the ultimate source of being, and thereby express the perfection that is its nature.

Finally the ability to express that perfection transcends mere cognition, but points toward something even greater, which is the fact that that state of not knowing the mind literally affects the world of time, space, location and mind *as consequence*. In the end, it is the degree to which the mind itself has become enlightened that determines to what degree that perfection will affect the world of time, space, location and mind as consequence.

Part Three

Unless the individual is abiding at least 51%

in that state of not knowing the mind, it will be *impossible to effect any degree of perfection*, which is the true expression of the ultimate source of being, in the world of time, space, location and mind. In the same way, the degree to which the individual is able to abide beyond at least 51% in that state of not knowing the mind determines to what degree that perfection will be expressed as consequence in the world of time, space, location and mind. This fact is subtle and its profound significance could easily be missed. It points to a dimension of perception that demands enormous humility and emptiness of self. Because this means that the ability of a human being to express that perfection that is the ultimate source of being *as consequence* depends not upon the power of mind in and of itself nor the individual's ability to cognize and organize information, but in fact is solely determined by where the individual ultimately abides—*within or beyond the mind*. This truth is so important, and indeed unless one is able to grasp its enormous significance, it is unlikely that one will be able to avoid succumbing to the overwhelming temptation of power that knowledge, not in submission to perfect emptiness, offers us. ■

...the relationship with the world of time, space, location and mind is transformed."

F. David Peat

Look for Truth

No Matter Where It Takes You

WHILE THE LIVES OF every scientist featured in this issue were touched in some way by the great spiritual teacher J. Krishnamurti, no scientist enjoyed a more intimate and enduring association with him than the late David Bohm. Bohm and Krishnamurti first met in 1961 and their friendship, although it suffered a major crisis in 1984, ultimately lasted until Krishnamurti's death two years later.

Bohm began his scientific career as a protégé of J. Robert Oppenheimer, who headed the coordinated scientific effort known as the Manhattan Project to develop atomic weapons during World War II. By the time of his first encounter with Krishnamurti, Bohm had already gained an illustrious if somewhat controversial reputation as one of the most brilliant theoretical physicists of our era. He had developed the theory of the plasma—the fourth known state of matter, after the solid, liquid and gaseous states—and his analysis of the plasmatic behavior of electrons in metals had laid the foundation for much of solid-state physics. Bohm was also a central and outspoken participant in the ongoing debate which to this day surrounds quantum theory, and the creator of several provocative quantum "interpretations." While teaching at Princeton he had befriended Albert Einstein, who having

F. David Peat

on David Bohm, Krishnamurti and Himself

Interview by Simeon Alev

Marco Pavan

spent years searching unsuccessfully for his own alternative to the generally accepted version of quantum mechanics, reportedly referred to Bohm as his "intellectual successor" and proclaimed, "If anyone can do it, then it will be Bohm."

But David Bohm is perhaps best known, especially among nonscientists, for a theory which was as much the expression of a lifelong spiritual quest as it was the fruit of profound scientific insight. This was his theory of the *implicate order*, founded on a vision of wholeness, or totality, in which matter and consciousness are united. Bohm appears to have been obsessed, even as a child, with the notion that we live in a universe in which matter and meaning are inseparable, and his use of the word "totality" to describe aspects of his scientific work during his first private meeting with Krishnamurti reportedly inspired Krishnamurti to jump out of his chair and embrace him.

When I read Bohm's *Wholeness and the Implicate Order* I often had similar feelings. The breadth and integrity of his vision is powerfully reflected in his reasoning, which is at once lucid, spacious, precise and deeply, mysteriously moving. Reading Bohm, one is stunned time and again by his ability to connect orders of phenomena which are staggeringly diverse, and by his passion for revealing the interrelatedness and dynamic cohesion of a world customarily viewed as a form of mechanized chaos in which humans are destined to play little part. Wrenched away from a vantage point of isolation and separateness, one discovers oneself to be deeply implicated in an indivisible universe which is at once palpably real and eternally mysterious, a single multidimensional event without beginning or end.

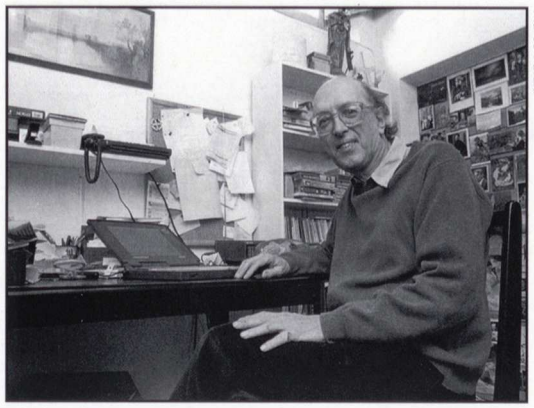
To many of Bohm's colleagues, however, his insistence that the universe is *both* inherently orderly and impossible to fully understand was irritating rather than inspiring. Recalling a personally frustrating interview with Bohm in his recent book *The End of Science: Facing the Limits of Knowledge in the Twilight of the Scientific Age*, science writer John Horgan remarks that "Bohm was desperate to know, to discover the secret of everything, whether through physics or . . . through mystical knowledge. And yet he insisted that reality was unknowable—because, I believe he was repelled by the thought of finality." Horgan's premise, not uncommon these days, is that within twenty years science will have answered every important question known to man. But what Bohm manages to communicate quite clearly in their interaction is his view that final answers are not as important as an approach to understanding the world we live in which is not dependent on fixed ideas or conclusions. It was characteristic of Bohm to insist that the fixed ideas which underlie scientific hypotheses are not aids but obstructions to clarity, and that a methodology which combines discipline with openness would be better equipped to keep pace with the truth that is revealed as scientific investigation progresses and deepens.

But flexibility without rigor, so common in spiritual life, Bohm found equally inadequate. In an interview in the journal *ReVision* in 1981, he said: "Insofar as the mystic chooses to talk about his experience . . . he has to follow the rules governing the domain of the ordinary, that is, he has to be reasonable, logical and clear." And in this respect Bohm demanded no more of mystics than he did of contemporary quantum physicists, many of whom, in light of the paradoxical findings about the subatomic domain, have either dispensed with the need for concrete explanations or developed theories and even cosmologies more mystifying than the most esoteric visions of religious or spiritual figures. Ironically, it was Bohm's demand for purely physical explanations of quantum phenomena which in this case caused many of his colleagues to shun him.

Yet among those scientists who did appreciate his call, Bohm generally inspired great loyalty. One such scientist is the author and physicist F. David Peat, who as a young man listened with rapt attention to Bohm's explanations of quantum mechanics on BBC radio little knowing that several years later he would meet his hero seemingly by chance, that they would then become close friends and colleagues, that they would write a book together (*Science, Order and Creativity*), and that he himself would ultimately write Bohm's biography, *Infinite Potential: The Life and Times of David Bohm*, which was published this past November.

The author of several books, Peat is a man of wide-ranging interests whose explorations of modern physics, visual art, Jungian psychology and Native American spirituality have taken him all over the world. Our interview was conducted by telephone from Pari, the Italian village near Siena where he currently lives. It was a pleasure to be able to speak about David Bohm with someone who knew him so intimately and whose recollections of him were so fresh in his mind. As our conversation makes clear, Peat's outlook on life reflects Bohm's influence in many important respects.

Infinite Potential is a full and candid portrait. While much of Bohm's work is breathtakingly beautiful and inspiring, and clearly the product of unstinting integrity, Peat is also clear-eyed and honest about his friend's shortcomings. "Bohm lived for the transcendental," he writes, "his dreams were of the light that penetrates. . . . Yet his life was accompanied by great personal pain and periods of crippling depression. He never achieved wholeness in his own personal life and the fruits of that life, which are still with us, were gained only at great sacrifice."



Marco Pavani

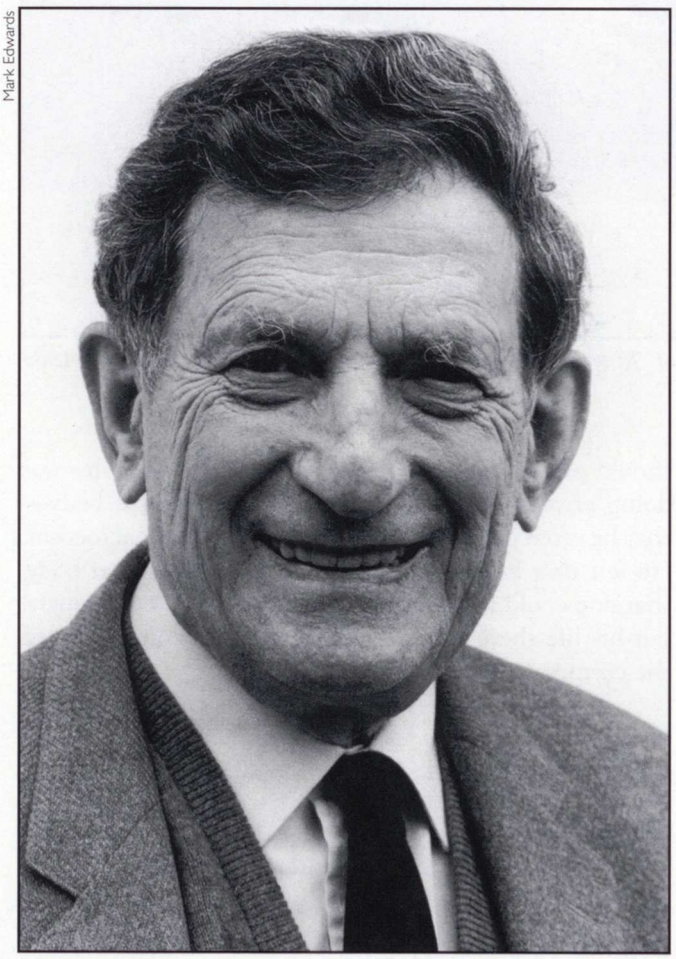
David Peat

WIE:

Why did you feel it was important, at this time, to write a biography of David Bohm?

DAVID PEAT: I think it's a useful book in that it helps to put Dave's life in perspective and to bring all his work together, which has never really been done before. Dave had mentioned wanting to have an autobiography written—you know, trying to do it himself, or with help—and after his death in 1992, I talked it over with those who were closest to him. We all felt a concern that other people might jump in too quickly and decided that maybe we should just get one out now.

You see, it does *look* as if there are many different strands to Dave's work—the early work on plasmas, his theory of hidden variables, the implicate order and his explorations of new orders in physics; also his work with Krishnamurti, and on consciousness and soma-significance. But when you see his life as a whole, you realize that these are all aspects of a single way of looking at the universe, so they are really not different strands at all. I thought it would be helpful to people to see that, particularly some of the people in physics who are starting to take off with some of Dave's ideas, choosing some and not others. I thought it might be helpful to put them all there together so that people could see the extent to which all of his ideas were integrated—which even people who knew him fairly well didn't necessarily realize.



Mark Edwards

David Bohm, 1983

WIE: *His life and work were a coherent whole.*

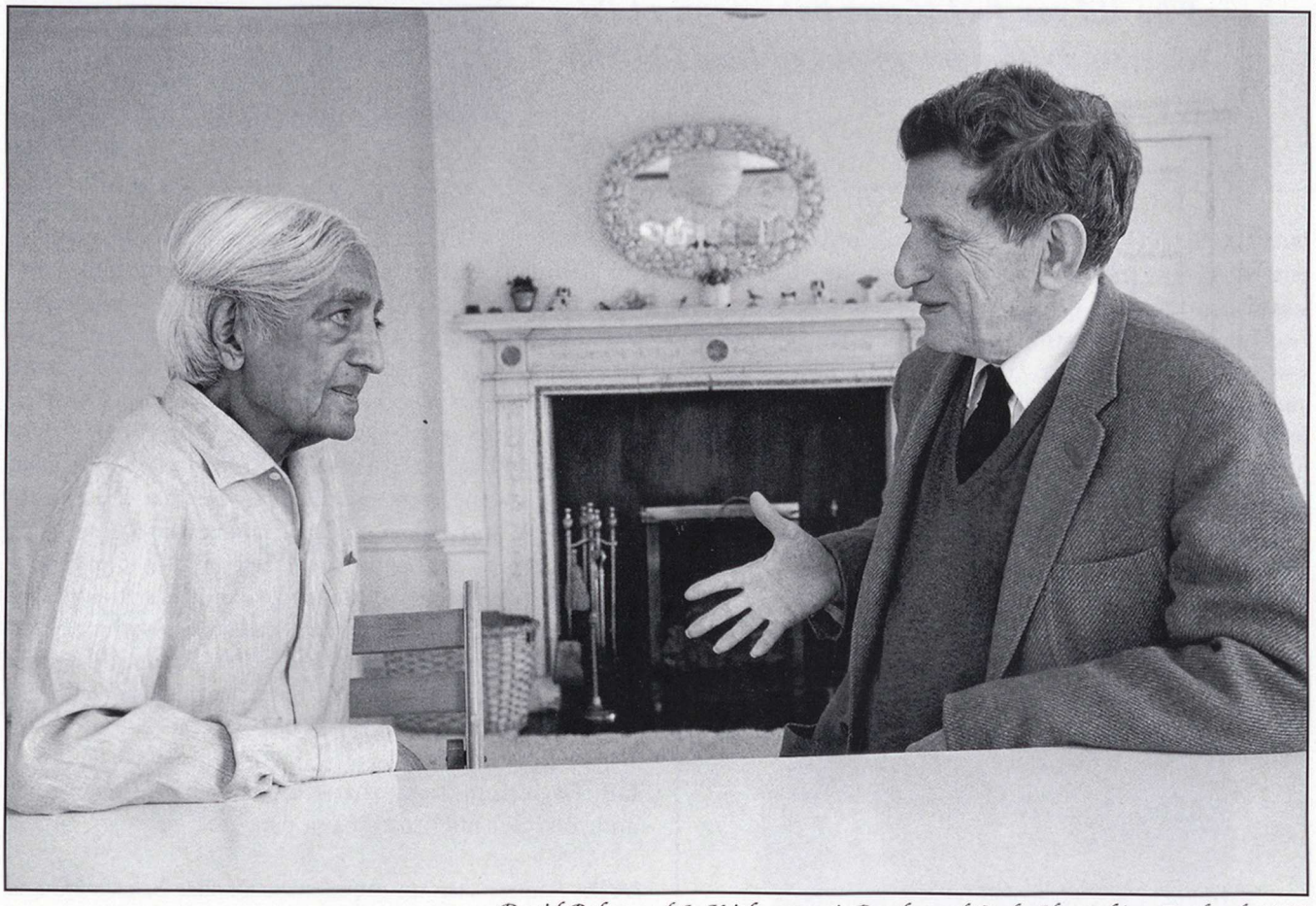
DP: Yes, it seems to me that everything did all tie together and you can't just separate out part of it.

WIE: *Is there then an overall message that Bohm's life and work seems to hold for humanity?*

DP: Well, in some sense it *is* this vision of wholeness—which of course is not new; it's been present in many other philosophies and said before. But I think that each time someone says it, they are renewing it or reinventing it; they are bringing it to their time. And I think that David very much did that for our time. He also stressed the fact that science had fragmented, both within itself, and from spiritual matters and considerations of consciousness and the self. And you can see in the biography that these ideas were expressed through his own struggle. His life was both a personal struggle and a vision, a vision of something transcendent and a personal struggle to reach this condition of wholeness. And now his work, more and more, does seem relevant.

WIE: *How do you see spirituality and science coming together in his work?*

"THE TWO MOST important encounters in his life were with



Mark Edwards

David Bohm and J. Krishnamurti, Brockwood Park, Hampshire, England, 1983

DP: Well, it's certainly true that in his early days he was suspicious of the organized religions, particularly during his Marxist period—and even afterwards—feeling that they weren't really serving the human race in a very good way. But at the same time there was always present a sense of the numinous, of the transcendent—from his early fantasies as a boy of going off into space and his visions of light, of illumination—the sense of an intensity in the mind, as if the mind could reach some truth that is always lying beyond the edge, that beyond some sort of frontier there's some deeper truth to be perceived. So I think his work was a spiritual search in *that* sense, something closer maybe to a mystical search for illumination, for light, for truth. He would often say that you must look for truth, no matter where it takes you; no matter how it looks, you must always face the truth. And in this context I think I should also mention the feeling he had, when he was doing physics, that the universe was inside his body—that he often did feel like a microcosm of the macrocosm. He felt that he could reach truth within his own body, that one could look both outside and inside. So throughout his life there was that sense of direct connection to the cosmos.

WIE: *He also seems to have had a sense that larger groups of people could experience life together in that way.*

DP: Yes, he used to speak about the different dimensions of the human being—the individual, the cosmic and the social—and particularly towards the end of his life he felt that these three should be integrated, and that then maybe some sort of collective consciousness could

Einstein and Krishnamurti. He felt something similar between the two men—the enormous energy that they had, and the intensity, and the honesty."

emerge. He would sometimes talk about the idea of a river that is polluted. You can try to clean up the pollution around the city, locally, but the important thing is to find the source of the pollution, and in the process of doing that you may discover some sort of new order. He felt that part of that pollution was present in language and that we had to get to the root of that, the origin of it, which could only be done in the context of a group, through some sort of a dialogue.

Bohm and Krishnamurti

WIE: *In spite of the fact that Bohm was deeply interested in collaborating with other people, several of his collaborations seem to have ended in some kind of misunderstanding. His association with Krishnamurti is a case in point. How would you describe Krishnamurti's role in Bohm's life? Was that one of his most important relationships?*

DP: I think David Bohm would have felt that. Certainly he did say that the two most important encounters in his life were with Einstein and Krishnamurti. He felt something similar between the two men—the great, enormous energy that both of them had, and the intensity, and the honesty. And with each of them he had a deep friendship, but at an impersonal rather than a personal level. I think both men were quite important to him, but certainly with Krishnamurti the dialogues they had went very, very deep.

On the other hand, I have met people who felt that Bohm's thinking was *not* profoundly changed by Krishnamurti, that his ideas and ways of working were always of the same order, that being with Krishnamurti merely brought him encouragement and inspiration, and helped him through a very dark period when he was becoming disillusioned about the value of doing science in general. These people seem to feel that Krishnamurti was important to Dave at the time, but that his dialogue groups and all of that, and his later ideas about collective consciousness, didn't come from Krishnamurti.

This is a very difficult issue and maybe only time will tell, when we see things in perspective. Because as well as talking about David Bohm, many people are talking now about Krishnamurti too, within the Krishnamurti Foundation and also outside. They're reevaluating Krishnamurti, asking who he was and what was the significance of his life. People are beginning to face Krishnamurti and to ask questions about him. So it has been difficult for me to get clear answers from people about Krishnamurti and Bohm.

WIE: *Did you ever meet Krishnamurti yourself?*

DP: Yes. Dave organized two conferences of scientists to meet with Krishnamurti and I went to both of those.

WIE: *In the biography you go into some detail about their relationship as a whole, including its conclusion. Could you give a summary of how and why their relationship broke down?*

DP: In the biography I just had to go on what people told me, but I had also talked to Dave quite a bit about that. I think that they were building up a great intensity. When those two sat honestly together, openly together, there was a deep intensity between them and Dave did indicate to me that he saw some of the things that Krishnamurti was talking about—some of them directly, and not secondhand.

On the other hand, he did get disturbed by the way that Krishnamurti's image was being fostered by the people around him. Although Krishnamurti said, "Truth is a pathless land. Don't listen to gurus, including the present speaker," people did treat him as a guru and did behave as if he were a guru. And I think that disturbed Dave. He felt there was some sort of incompatibility in this, something paradoxical. He began to wonder about the extent to which Krishnamurti may have been conditioned by his own upbringing and he would ask questions about that.

I think there were also some doubts in his mind about the way the Krishnamurti schools were operating because there seemed to be a lot of conflicts developing in the schools. If people were supposed to be working

"AT THE END there seemed to be a breakdown between them which was, I think, painful for Dave because he didn't fully understand what had happened or why, and although they did continue to meet, they never again explored things together at the depth they had in the past."

without all this conditioning, why then were there so many problems? So he had many questions, and I think that on at least one occasion he was in that frame of mind when he met with Krishnamurti. At the same time, I think he had questions about his own life and his own work, and was maybe moving towards one of his bouts with depression.

Krishnamurti, for his part, began to question why David Bohm, if he had seen so deeply the things Krishnamurti spoke about, was so dependent on other people; he seemed to be very dependent on his wife, and on Krishnamurti himself. So it really was a confrontation, in which Krishnamurti asked David to look at the whole nature of himself, and Dave had questions of his own about Krishnamurti. At the end there seemed to be a breakdown between them which was, I think, painful for Dave because he didn't fully understand what had happened or why, and although they did continue to meet, they never again explored things together at the depth they had in the past.

WIE: *Do you think that their meetings up to that point had been mostly intellectual, or was there a kind of spiritual depth between them such as one might encounter between a guru and a disciple?*

DP: I have talked to many people who were present at the meetings whose words I treat with great respect. And some of them wouldn't have used that image of the guru and the disciple by any means. They would rather use the image of two people exploring together, at a similar level, Dave having very deep insights from physics and a very keen intellect, and Krishnamurti coming from his angle, the two men exploring together, looking together at the same thing. In many cases David Bohm would be helping Krishnamurti to clarify, not so much Krishnamurti's perceptions—he couldn't do *that*—but the way Krishnamurti presented them, the language he used and the course of the discussion. Sometimes there were generalizations Krishnamurti would make that Dave would pounce upon and get him to refine.

But it was not only a meeting of two highly energetic minds; there did seem to be, from Dave's point of view at least, a great deal of warmth and love in it too. That he did feel from Krishnamurti, the warmth. So it didn't seem to be the traditional guru/student relationship, more the relationship between two friends and colleagues. Dave said he also felt like that when he talked with Einstein, that the two of them were exploring together and there was no sense of one being superior to the other. And I think many people who worked with Dave felt that too. You were aware of course that Dave was far smarter than you were—he could run rings around you—but when you worked with him you didn't get the sense that Dave was the boss, but that you were exploring together. I think he had a similar kind of relationship with Krishnamurti.

At the same time, some people did feel that when the two of them were together there was some spiritual presence; in fact, people often said that there was an awareness of something powerful in the room. And certainly those public dialogues were very helpful to a lot of Westerners who felt that listening to them was a way to come to Krishnamurti because David Bohm was engaging them in a more Western way than Krishnamurti.

WIE: *I brought up the guru/disciple aspect of their relationship because of a particular passage in the biography in which you describe the pressure to change which Krishnamurti began to exert on Bohm after they'd been together for about fifteen years—which would normally be considered appropriate, in that context, to his role as a spiritual teacher. But since you also suggest that Bohm had reservations about what he saw happening around Krishnamurti, maybe it really was more a matter of mutual recrimination.*

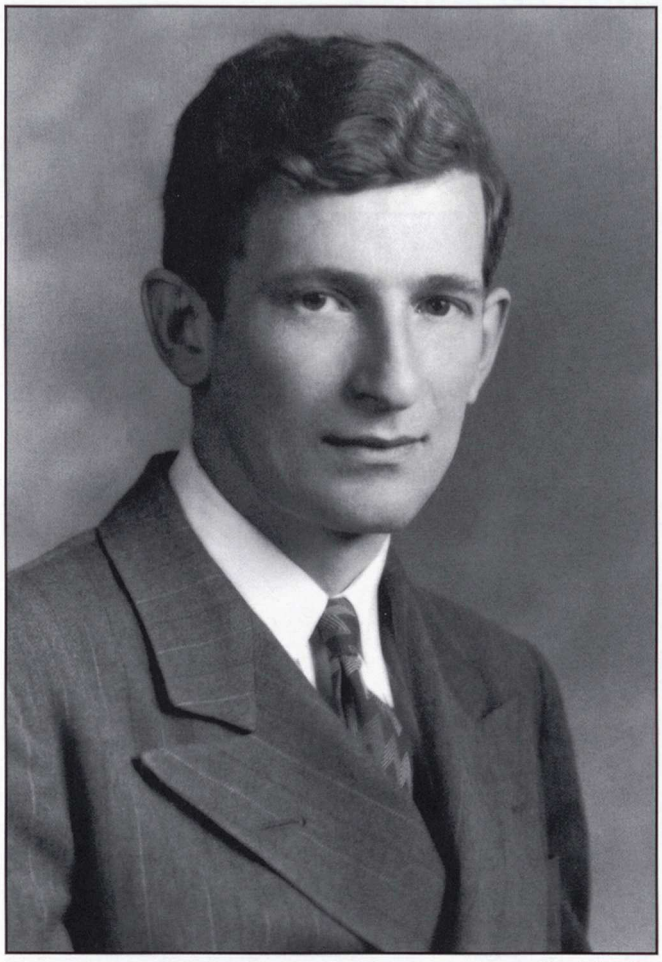
DP: Again, it's difficult to know. I have talked to people who were in Krishnamurti's inner circle and they tell me that this type of a break happened many, many times. It is as if people sat with Krishnamurti for many years, until at some point he appeared almost to turn on them, or challenge them. Even people who Krishnamurti felt comfortable with and who he would allow close to him, he at

which was, I think, painful for Dave because he didn't continue to meet, they never again explored things

Mark Edwards

David Bohm and J. Krishnamurti, Brockwood Park, Hampshire, England, 1983

"RIGHT FROM THE BEGINNING he felt that any theory in it; the human observer had to be in the conventional sense—somethi take account of us, the existential fa



A young David Bohm

some point felt the need to challenge. In that sense, when he challenged Dave about himself and his conditioning, that probably *was* very like the guru/student relationship; it had suddenly switched.

WIE: *Which may have been rather startling to David Bohm.*

DP: From what I gather, yes. But these are difficult things to know about definitively because the people around them all had such strong vested interests. There were some people who felt that Dave was very important to Krishnamurti, and others who would have been happier had Dave not been associated with him. These people felt that he was contaminating Krishnamurti's image, in a sense, that he was pushing Krishnamurti too strongly to speak in a Western, intellectual, rational way, thus losing the poetry. There were some people who felt that—that the poetry was being lost. But then, maybe they didn't see the poetry inherent in David Bohm.

Bohm's Science

WIE: *What were some of the core ideas in Bohm's worldview that made him such an important figure in the movement to unite science and spirituality?*

DP: Dave felt that science didn't have to be separate from everyday life, something abstract or having only to do with mechanisms. Rather, he felt that the universe itself was in a sense a mirror of our basic structure as human beings and of our relationship to the transcendent. That was the key that was present in all his thinking. So that when he began to develop his theory of the implicate order, there was a sense that this wasn't just about the structure of matter but also about the structure of consciousness, because everything mirrors itself. Even his earliest work, on plasmas, came about not so much through thinking about atoms and electrons—which of course he did—but about the basic dilemma of the individual and the collective: Can an individual simultaneously have freedom in a society and contribute to that society? He saw that here too, the basic dilemmas of human beings with regard to free will and obligations to society are somehow mirrored in the very structure of the universe. In fact there was a vision he had, I think when he was living in Brazil, in which he saw the universe as a collection of silver balls, each ball reflecting every other ball, itself included—a sort of infinite reflectivity of the universe in which each part is contained in everything else.

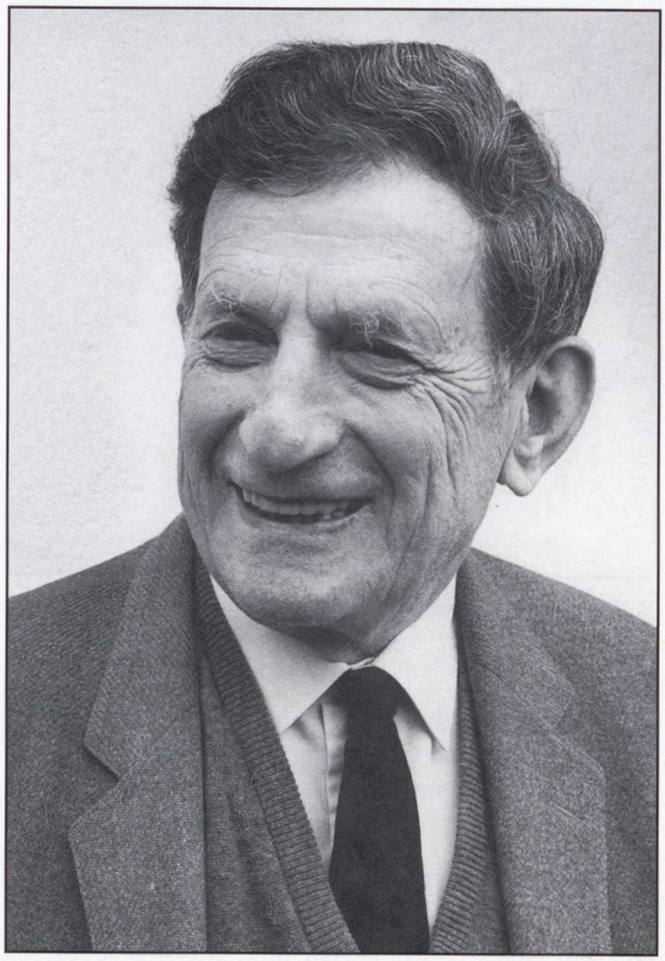
WIE: *Beginning with his work on plasmas, it seems that as time went on his thought acquired an increasingly cosmic dimension.*

about the universe had to include the human being part of the theory. It couldn't be an objective theory ng standing outside of phenomena that doesn't also ct of our being."

DP: Yes, although you could say it had always been that way. Even while he was still in school he was trying to develop a theory about the cosmos based on the idea that it had to include consciousness as well, so right from the beginning he felt that any theory about the universe had to include the human being in it; the human observer had to be part of the theory. It couldn't be an objective theory in the conventional sense—something standing outside of phenomena that doesn't also take account of us, the existential fact of our being. His thought was always cosmic, always all-embracing.

WIE: *Why did so many scientists—why do so many scientists even now—seem to have so much trouble accepting or respecting his ideas?*

DP: Well, I suppose in some cases it's because people like small little bits of work—"resultlets," as David called them, not results but "resultlets." When Dave did his work he really dealt with ideas, with concepts, and in very broad brush strokes; whereas the fashion in physics today is that it should all be hypermathematical, and he always mistrusted mathematics. Mathematics to him was a good tool, but it was a tool and no more. The thing with mathematics, even the most beautiful and elegant mathematics, is that somewhere in there a lot of assumptions have been hidden, and when we speak together, using ordinary language, it's a little bit easier to discover what those assumptions are. Mathematics tends to conceal a lot. He was also suspicious of other aspects of the way physics was being done—for example, all this reliance in particle physics on breaking things apart rather than seeing them in an all-embracing fashion. You see, Dave felt there had been a major revolution in this century in quantum mechanics and relativity, but that our thinking hadn't really caught up with it. In the old order you could fragment things, you could define everything on a Cartesian grid of space and time. Now we needed an entirely new order, and the implicate order, which is inherently infinite, was one of the approaches he was working on. But of course, that's asking too much of physicists. They like to see things small and finite, and Dave was too much of a

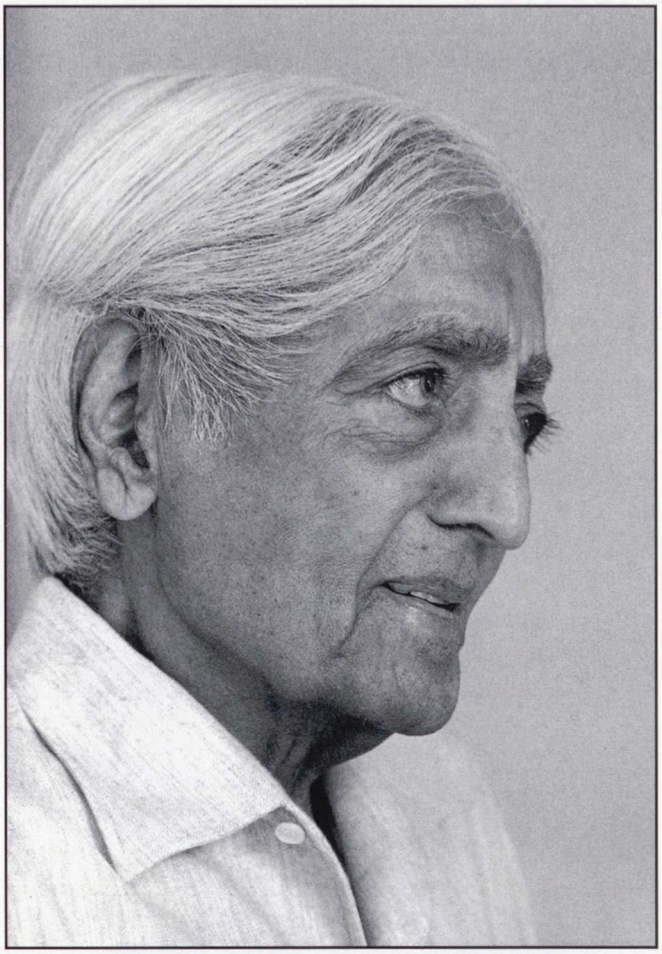


Mark Edwards

David Bohm, 1983

"THE MOST SIGNIFICANT THING Krishnamurti told

In the unknown one finds enormous



Mark Edwards

J. Krishnamurti, Brockwood Park, Hampshire, England, 1983

global thinker, I think, for many of them—except the very good ones, who were sympathetic to Dave because they realized that something new was called for.

WIE: *But to most of the fraternity of physicists it seemed that he had gone beyond the bounds of science?*

DP: Yes. And it is ironic that now, after his death, his hidden variable work—which is the work that caused so much controversy—is now being picked up on by physicists because they see it as a way of making calculations. To Dave it was a completely new way of looking at quantum mechanics, but they are just using it as a way of making calculations. They have left the meat behind and just taken the juice.

WIE: *"Bohmian mechanics," they're calling it?*

DP: Yes, the Bohmian mechanics, that's right. That would have shocked Dave somewhat. It's ironic that that's what they have extracted from his theory. But similar things have happened in the past. He and Basil Hiley realized at one point that the new order they were looking for had already been anticipated by mathematicians like Grassman, Hamilton and Clifford. And in that case too, what had happened was that people had left the real deep stuff behind and just extracted some of the facile ways of doing calculations; the truly deep ideas had always been ignored.

WIE: *It might help people to put all of this information in context if you could give a concise overview of some of Bohm's most important theories.*

DP: Well, one was his theory of hidden variables, which I've just mentioned. He believed that the universe was an infinity of levels, that the universe could never be completely encompassed by human thought. In that respect he differed a great deal from Einstein and there was quite a bit of correspondence between them on this subject. Einstein felt that ultimately there would be a single, unified level that would explain everything, whereas Bohm believed that for each level we'd reach there would be another concealed beneath it, and so we'd never reach the end of it.

This idea also contained an alternative to reductionism because in reductionism you'd discover, say, molecules, and then you'd explain them in terms of atoms, and atoms in terms of elementary particles, and so on; you'd go into smaller and smaller bricks. But for Bohm, the level above and the level below could mutually condition each other. So these were not really independent levels, much as you could say that the human body is made out of organs and cells, but that the cells in turn are determined by the whole order of the body. So the higher conditions the lower, and the lower the higher. He therefore felt that quantum mechanics, which is based on the idea of randomness and indeterminacy at the subatomic level, was

him was, 'Begin with the unknown.'

energy, whereas when you are

just one step on the way to a deeper theory which would include these hidden variables. Like Einstein, Bohm wanted to retain the idea that there was a degree of objectivity at the subatomic level, that things *don't* have to have human observers around to make them happen; and he was also concerned that quantum mechanics doesn't offer any real explanation of how quantum events actually take place. So he developed a theory that he called first the "causal" and then the "ontological" interpretation of these events. These were essentially a way of trying to explain things in a more rational way, and although they didn't meet with much success in the 1950s, more recently people have come to accept them as another way of looking at quantum mechanics, another approach.

Then there was his theory of the implicate order. The world we seem to live in—the world of classical objects, the world of Newtonian physics—Dave referred to as the "explicate order." He felt that what we take for reality is only one particular level or perception of order. And underneath that is what he called the "implicate order," the enfolded order, in which things are folded together and deeply interconnected, and out of which the explicate order unfolds. The explicate is only, you could say, the froth on top of the milk and the implicate order is much deeper. It includes not only matter, but consciousness; it's only in the explicate order that we tend to break them apart, to see them as two separate things. Dave spent a great deal of time in the last decades of his life trying to find a mathematical expression for this vision of reality.

He also felt there was a need to reintroduce *time* into physics. Of course time had always been there as a parameter, but not as an actual dynamic entity which makes things move around. That was the work he was doing up to the very end of his life. And his other work of that period, with dialogue groups, was not separate from that because again, he felt that his theory had to include consciousness as well as matter, which led in this case to the idea that there could be a field of information. His ontological interpretation of the quantum theory gives the notion that matter is always responding to such a field. Up to that point we had two levels in nature—matter and

constantly working from the known, there isn't that energy to penetrate things."

energy. And now Bohm in his ontological interpretation introduced a third, which he called "active information"—information as an activity in nature. The electron moves and does these curious things because it is responding to a field of information, an active field. And the human body also responds to an active field—that's how the immune system works. So he introduced this notion of active information as something which is inherent in both matter and consciousness, a collective and nonlocal phenomenon to which the individual human consciousness, or brain, is capable of responding. He believed it was possible to develop some sort of collectivity if people worked at it together over a period of time, so he developed his dialogue groups based on the idea that it might somehow be possible, through this active information, to produce a transformation in human consciousness. He may have believed that this is what had happened with Krishnamurti—that if you were with Krishnamurti, in the presence of Krishnamurti in a group of people, some change of consciousness took place.

WIE: *This was what he was trying to accomplish by himself, after the break with Krishnamurti.*

DP: Yes, that's right, by working with these groups. Sometimes he felt very encouraged by them and at other times he didn't. But he did believe it was possible

"I PROBABLY HAD wanted to look at all these deeper questi was practical or even possible. But when I saw that Bohm was doing

—because in physics you don't always need an enormous amount of energy to effect a large change—that maybe even a few of these small groups could affect human consciousness.

The Unknown

WIE: *That could be seen as a rather ambitious goal, but one of the things that struck me about Bohm almost as soon as I began reading him is that in spite of his stature he seems to have been extremely humble. He seems to have had profound respect for what he didn't know.*

DP: Yes, that was certainly true. Although there was of course the other side too. He would argue quite forcefully with people; when people were on the wrong lines he wouldn't let them off the hook. But yes, he had a sense that, before the whole universe, we know very little.

WIE: *Do you feel that this humility played a role in his work?*

DP: It certainly made it easy for the people that wanted to work with him. You just sat down and looked at the problem or discussed things. And in the same way it probably allowed him to sit and talk with Krishnamurti without that big sense of self being there. Most of the people that met Krishnamurti were aware that they were in the presence of a guru, which made it somehow difficult for them to speak to him. And his humility probably made it easy for him to speak to Einstein too.

WIE: *And in his thought? Do you think this humility played a role in his ability to draw the conclusions that he did or to have the perspective that he had?*

DP: You know, there's always an easy way out, isn't there? You could take your ideas and say, "I'll present them in a way that the public will find pleasing," or, "I won't take them too far." You can search for approval or for promotion—all of those things which lead inevitably to compromise. If you want to be successful you might find some little field and try to carve it out. But right from the beginning Dave never wanted to do that. He had the honesty and the modesty to do what he really wanted to do, which was to ask the biggest questions. I mean, what makes it possible to ask the biggest questions? You are either very arrogant or you freely admit that you don't know very much.

WIE: *What impact did your association with him have on you, as a human being, and also as a scientist?*

DP: Well, probably it helped me to give up doing science! It came at a very good time, a time when I was questioning a lot of things myself and wanting really to go to an edge in what I was doing. I came to work with Roger Penrose in London for a sabbatical year, met David Bohm almost by chance, and started talking to him. Actually, what happened may be similar to what happened between Bohm and Krishnamurti: it wasn't that Dave revealed anything new to me, but he confirmed the suspicions that I already had. I probably had wanted to look at all these deeper questions, but didn't have the guts to do it, or didn't think it was practical or even possible. But when I saw that Bohm was doing it, I thought, "Well, why not the rest of us?" Maybe Krishnamurti didn't really tell David Bohm anything new. Maybe he just supported him in his inquiries. In my case, the crucial thing was to feel that support from Dave over a number of years. It's not that he thought he was actively supporting me; just his presence was supportive.

He also made a point of rejecting this idea of geniuses, of saying that you don't have to be a genius. Anybody can do it who has the energy to question and to face things, to keep working on something. That's an important point to make. Otherwise a lot of people will give up and say, "Well, I'm not a genius." This is what was said to me when I was doing research, "Well, you're not a genius, so why bother doing *those* things? Pick something small." Whereas Dave made the point that *anybody* can do this work. You have to have some training of course, but the main thing is to keep asking those questions. Anybody can ask those questions.

WIE: *This advice you were given about not being a genius—is it routine for graduate students in physics to hear that kind of thing?*

ons, but didn't have the guts to do it, or didn't think it it, I thought, 'Well, why not the rest of us?'

DP: Yes. Yes it is. It happens quite a lot. Another piece of advice I was given was, "Find a very, very small area in physics and then just publish about ten or fifteen papers on it; then you'll get a reputation. *Then* you can go and do this other stuff." In fact—another little story—when I did go and spend a sabbatical with Bohm, a very senior physicist in England asked me to come visit him for a few days. He took me out to dinner one night and, very fatherly, said he wanted to give me some advice. He said he knew I was working with Bohm and that it probably wasn't a very good thing to be doing. It would be bad for me, and really I should try to dissociate myself from him and go back to doing small pieces of physics. "Do small problems," he said. "That's the way that physics is going to progress, by people doing little bits of things."

Another person told me that his ambition was to be just a footnote in a textbook. Now Dave never thought that way. Dave felt that was a deeply false modesty, when people said that sort of thing, and that really the only important thing was to ask the big questions—otherwise, why do physics? I think this idea was expressed in one of the letters between Dave and Einstein. Einstein wrote, "If this is the way things are going, then there's no point in my doing physics anymore."

WIE: *What are some of the directions your work has taken which you might not have pursued had you not met David Bohm?*

DP: Well, it was more a matter of opening up the inquiry. David Bohm once told me that the most significant thing Krishnamurti had told him was, "Begin with the unknown." Now Krishnamurti didn't have much time for Dave doing physics—I don't think he thought much of it—but that was his advice: "Begin with the unknown." It's out of that, I suppose, that I've spent time talking with Native Americans, trying to understand their world. And over the last few years, I've also talked a lot with visual artists—sculptors, painters—trying to understand the struggle that they are engaged in, which also has to do with looking for a new order, and I've seen incredible similarities between that and what people are looking at in physics. Mainly I'm just trying to ask the biggest possible questions. Maybe that's what Dave left me with.

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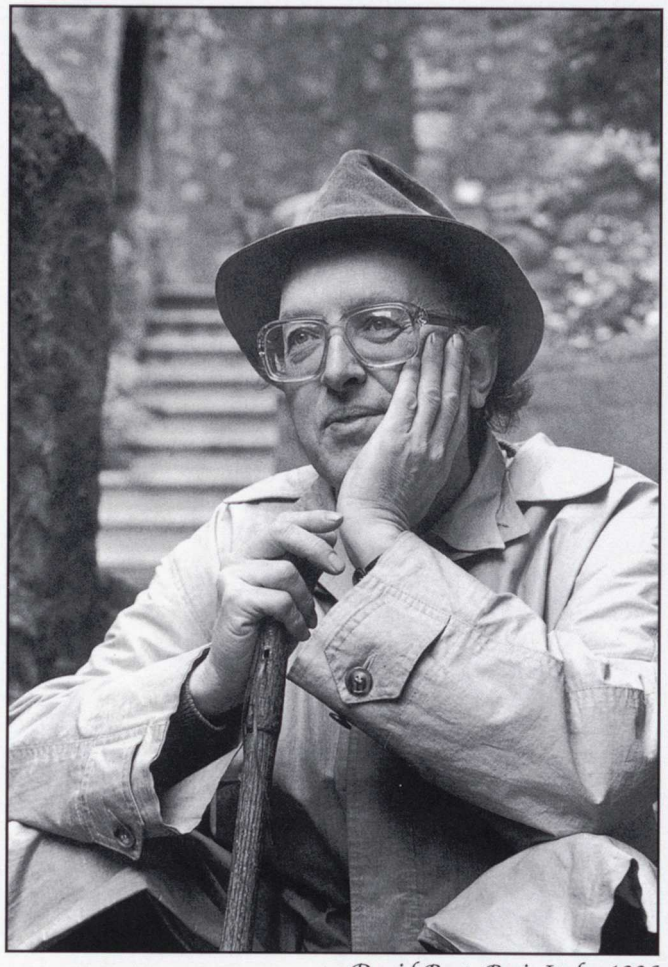
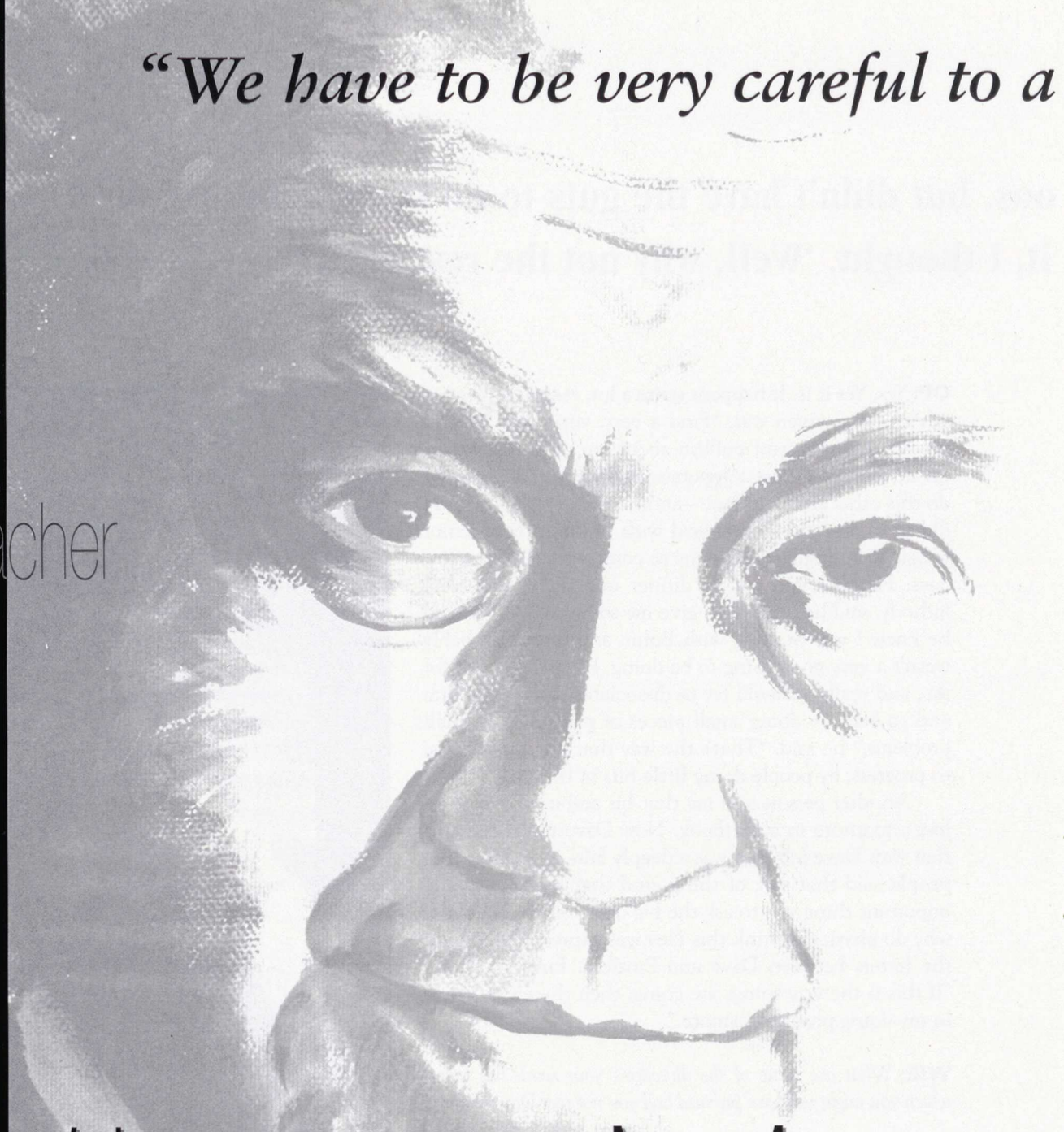


Marco Pavani

David Peat, Pari, Italy, 1996

Mainly I'm just trying to ask the biggest possible questions. Maybe that's what Dave left me with."

"We have to be very careful to a



E. F. Schumacher

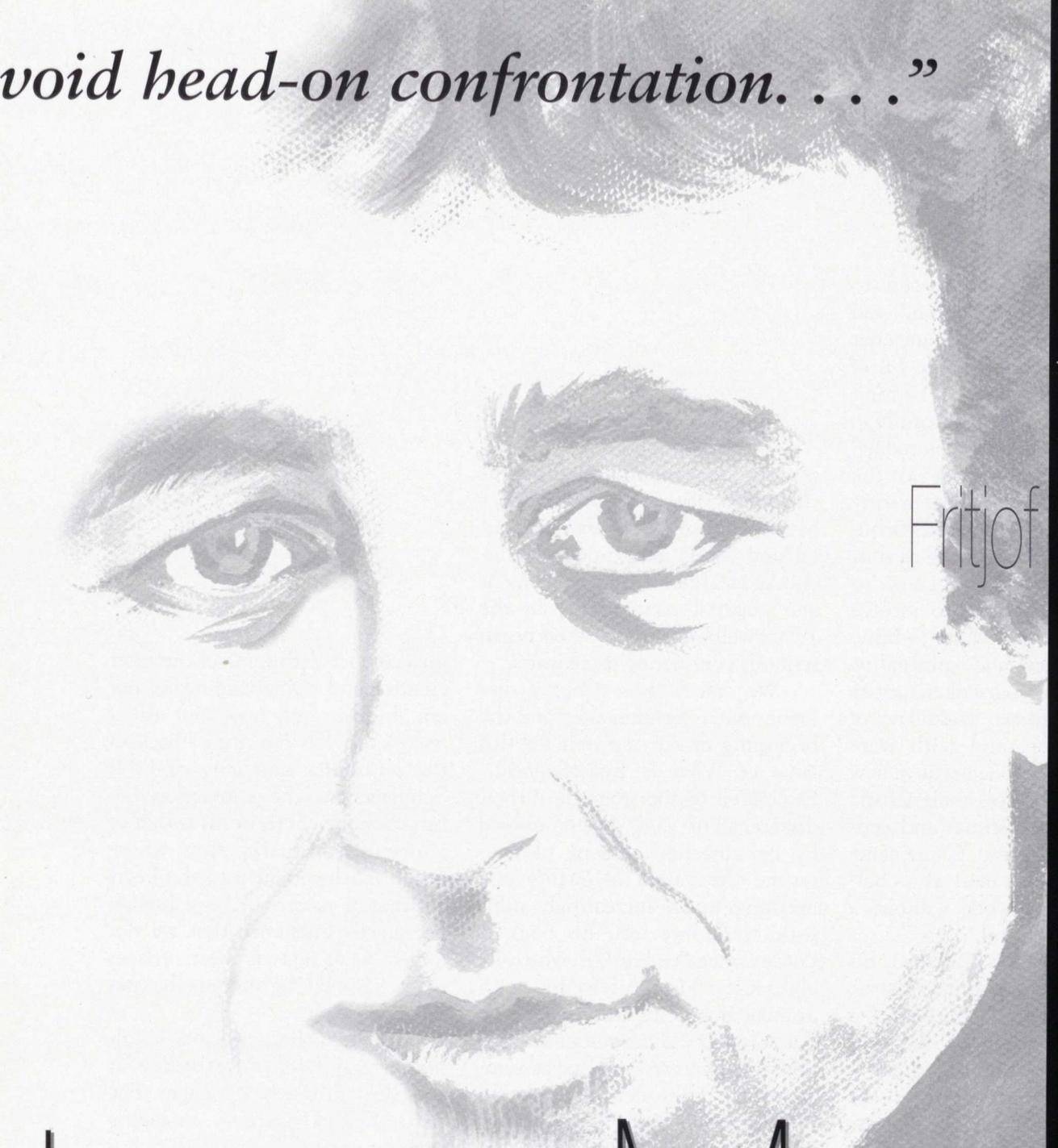
What Mat

page 38

THE Slenderest KNOWLEDGE

by E. F. Schumacher

void head-on confrontation. . . .”



Fritjof Capra

ters Most

ENCOUNTER AT THE Edge OF THE NEW PARADIGM

by Fritjof Capra

page 32

"We have to be very careful to avoid head-on confrontation," said radical economist E. F. Schumacher to the startled author of *The Tao of Physics*, Fritjof Capra. "I don't believe at all that physics can help us in solving our problems today." On reading these words at the opening of Capra's fascinating account of his meeting with Schumacher, one is likely to be as startled as he. Capra had come to Schumacher expecting to receive confirmation of his efforts to bring together science and spirituality. Both men were outspoken critics of the mechanistic worldview of modern science, and both were well known as pioneers of a new paradigm that is less materialistic and emphasizes spiritual and ecological values. Instead, Capra came face to face with a man who challenged his life's work without a moment of hesitation.

Fritjof Capra had risked his career as a theoretical physicist to embark on an investigation of a comprehensive paradigm shift that he saw emerging from the paradoxical findings of modern physics. His first book, *The Tao of Physics*, was one of the first to draw parallels between quantum physics and Eastern spiritual philosophy. His subsequent books further elaborate his view that the most advanced scientific theories of our day can support the cultural transformation that our world so desperately needs.

Most students of economics or ecology are familiar with the late E. F. Schumacher through his groundbreaking book *Small Is Beautiful*, which gained him an international reputation as an innovative economist and forefather of the modern ecology movement. A forward-thinking visionary, Schumacher began addressing the environmental and social implications of unchecked technological development and material consumption in the 1950s, well before most others began seriously considering these issues.

We came across Capra's dialogue with Schumacher at the beginning of our research for this issue of *What Is Enlightenment?*. Fascinated by the strength of their disagreement and deeply moved by Schumacher's urgent plea to restore the values of quality and meaning to an increasingly nihilistic world, we read his book *A Guide for the Perplexed*, in which he elaborates his philosophy with unusual simplicity and conscience. Schumacher's *Guide* resonates with profound common sense and passionately calls the reader to engage the noble struggle to go beyond being "merely human." He proclaims that science, even in light of recent theories which embrace a more holistic worldview, will never be able to engender a truly significant paradigm shift because, in the end, it can only represent a perspective that is fundamentally materialistic.

Fritjof Capra's dialogue with E. F. Schumacher launched us into the far-reaching exploration of the relationship between science and spirituality that appears on the pages of this issue. It has indeed been a thrilling journey, bringing us into contact with some of the most creative and brilliant minds of our era. In the end, however, all of our inquiry has brought us back to the refreshing simplicity of E. F. Schumacher. The conviction behind Schumacher's words is that of a deeply spiritual person whose vision reaches right into the heart of what it means to be a human being. His insistence that we not forget "what matters most" echoes in one's mind long after one has put down his book.

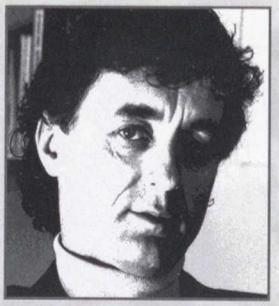
The following two articles illuminate a fascinating debate at the edge of the new paradigm. The first, Fritjof Capra's engaging account of his meeting with Schumacher in 1977, excerpted from his book *Uncommon Wisdom*, illustrates how two bold critics of the classical scientific worldview—both of them ardent proponents of a new vision for humankind—can differ so fundamentally about how to approach the way ahead. The second, excerpted from *A Guide for the Perplexed*, is E. F. Schumacher's powerfully compelling reckoning with the loss of meaning and value in the wake of the scientific revolution.

Introduction by Susan Bridle

Original background photo by Jane English

Fritjof Capra

ENCOUNTER AT THE Edge OF THE NEW PARADIGM



A Dialogue with E. F. Schumacher

In the summer of 1973, when I had just begun to write The Tao of Physics, I sat in the London Underground one morning reading *The Guardian* and as my train rattled through the dusty tunnels of the Northern Line the phrase "Buddhist economics" caught my eye. It was in a review of a book by a British economist, former adviser to the National Coal Board and now, as the reviewer put it, "a sort of economist-guru preaching what he calls 'Buddhist economics.'" The newly published book was entitled *Small Is Beautiful;* and the author's name was E. F. Schumacher. I was intrigued enough to read on. While I was writing about "Buddhist physics" somebody else had apparently made another connection between Western science and Eastern philosophy.

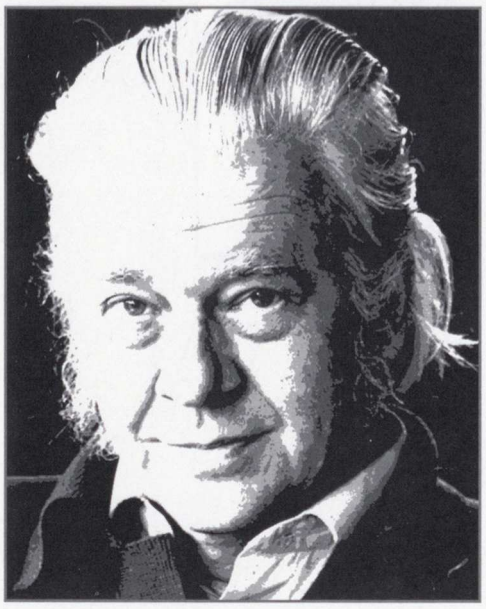
[Several years later,] when I planned to assemble a group of advisers for my project [of investigating the paradigm shift occurring in various fields], I naturally decided to approach Fritz Schumacher, and when I went to London for a three-week visit in May 1977 I wrote to him and asked him whether he would allow me to visit him to discuss my project.

Schumacher replied to my letter very kindly and suggested that I should call him from London to arrange a visit to Caterham, the small town in Surrey where he lived. When I did so he invited me for tea and said that he would pick me up at the railway station. Several days later I took the train to Caterham in the early afternoon of a glorious spring day, and as I rode through the lush, green countryside, I felt excited and yet calm and peaceful.

My relaxed mood was further enhanced when I met Fritz Schumacher

From Uncommon Wisdom *by Fritjof Capra. Copyright ©1988 by Fritjof Capra. Reprinted by permission of Simon & Schuster, Inc.*

E. F. Schumacher



"THE GUIDANCE WE NEED FOR SOLVING THE PROBLEMS OF OUR TIME CANNOT BE FOUND IN SCIENCE.

Physics cannot have any philosophical impact because it cannot entertain the qualitative notion of higher and lower levels of being. With Einstein's statement that everything is relative the vertical dimension disappeared from science and with it the need for any absolute standards of good and evil."

at the Caterham station. He was easy-going and very charming—a tall gentleman in his sixties with long-ish white hair, a kind, open face and gentle eyes twinkling under bushy white brows. He welcomed me warmly and told me that we could walk to his house, and as we fell into a leisurely stroll I could not help thinking that the phrase "economist-guru" described Schumacher's appearance perfectly.

Schumacher's home was idyllic. The rambling Edwardian house was comfortable and open to the outdoors, and as we sat down to tea we were surrounded by an abundance of nature. The vast garden was luxuriant and overgrown. The flowering trees were alive with the activity of insects and birds, a whole ecosystem basking in the warm spring sun. It was a peaceful oasis where the world still seemed whole. Schumacher spoke with great enthusiasm about his garden. He had spent many years making compost and experimenting with a variety of organic gardening techniques, and I realized that this had been his approach to ecology —a practical approach, grounded in experience, which he was able to integrate with his theoretical analyses into a comprehensive philosophy of life.

After tea we moved to Schumacher's study to begin our discussion in earnest. I opened it by presenting the basic theme of my new book [*The Turning Point*]. I began with the observation that our social institutions are unable to solve the major problems of our time because they adhere to the concepts of an outdated worldview, the mechanistic worldview of seventeenth-century science. The natural sciences, as well as the humanities and social sciences, have all modeled themselves after classical Newtonian physics, and the limitations of the Newtonian worldview are now manifest in the multiple aspects of global crisis. While the Newtonian model is still the dominant paradigm in our academic institutions and in society at large, I continued, physicists have gone far beyond it. I described the worldview I saw emerging from the new physics—its emphasis on interconnectedness, relationship, dynamic patterns, and continual change and transformation—and I expressed my belief that the other sciences would have to change their underlying philosophies accordingly in order to be consistent with this new vision of reality. Such radical change, I maintained, would also be the only way to really solve

our urgent economic, social, and environmental problems.

I presented my thesis carefully and concisely, and when I paused at the end I expected Schumacher to agree with me on the essential points. He had expressed very similar ideas in his book and I was confident that he would help me formulate my thesis more concretely.

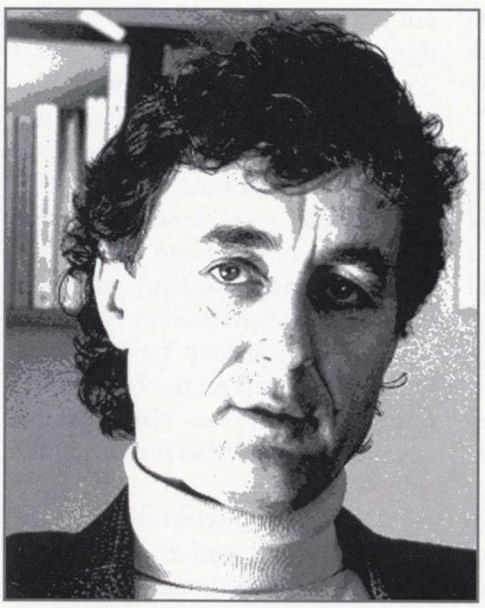
Schumacher looked at me with his friendly eyes and said slowly: "We have to be very careful to avoid head-on confrontation." I was stunned by this remark, and when he saw my puzzled look, he smiled. "I agree with your call for a cultural transformation," he said. "This is something I have often said myself. An epoch is drawing to a close; a fundamental change is necessary. But I don't think physics can give us any guidance in this matter."

Schumacher went on to point out the difference between what he called "science for understanding" and "science for manipulation." The former, he explained, has often been called wisdom. Its purpose is the enlightenment and liberation of the person, while the purpose of the latter is power. During the Scientific Revolution in the seventeenth century, Schumacher continued, the purpose of science shifted from wisdom to power. "Knowledge itself is power," he said, quoting Francis Bacon, and he observed that since that time the name "science" remained reserved for manipulative science.

"The progressive elimination of wisdom has turned the rapid accumulation of knowledge into a most serious threat," Schumacher declared emphatically. "Western civilization is based on the philosophical error that manipulative science is the truth, and physics has caused and perpetuated this error. Physics got us into the mess we are in today. The great cosmos is nothing but a chaos of particles without purpose or meaning, and the consequences of this materialistic view are felt everywhere. Science is concerned primarily with knowledge that is useful for manipulation, and the manipulation of nature almost invariably leads to the manipulation of people.

"No," Schumacher concluded with a sad smile, "I don't believe at all that physics can help us in solving our problems today."

I was deeply impressed by Schumacher's passionate plea. This was the first I had heard of Bacon's role in shifting the purpose of science from wisdom to manipulation. At that moment, however, as I faced Fritz Schumacher in his study at Caterham, I had not given much thought to these issues. I only felt very deeply that science could be practiced in a very different way, that physics, in particular, could be "a path with a heart," as I had suggested in the opening chapter of *The Tao of Physics*.



Fritjof Capra

"THIS WAS INDEED A FUNDAMENTAL DIFFERENCE IN OUR VIEWS OF REALITY.

Although I agreed that physics was limited to a particular level of phenomena, I did not see the differences between various levels as absolute. I argued that these levels are essentially levels of complexity which are not separate but are all interconnected and interdependent."

In defending my point of view I pointed out to Schumacher that physicists today no longer believe they are dealing with absolute truth. "Our attitude has become much more modest," I explained. "We know that whatever we say about nature will be expressed in terms of limited and approximate models, and part of this new understanding is the recognition that the new physics is merely one part of a new vision of reality that is now emerging in many fields."

I concluded that physics, nevertheless, may still be helpful for other scientists who are often reluctant to adopt a holistic, ecological framework for fear of being unscientific. The recent developments in physics can show these scientists, I maintained, that such a framework is not at all unscientific. On the contrary, it is in agreement with the most advanced scientific theories of physical reality.

Schumacher replied that even though he recognized the usefulness of the emphasis on interrelatedness and process thinking in the new physics, he could not see any room for quality in a science based on mathematical models. "The whole notion of a mathematical model has to be questioned," he insisted. "The price of this kind of model building is the loss of quality, the very thing that matters most."

I pointed out that quantification, control, and manipulation represent only one aspect of modern science. The other, equally important aspect, I insisted, has to do with the recognition of patterns. The new physics, in particular, implies a shift from isolated building blocks, or structures, to patterns of relationships. "That notion of a pattern of relationships," I speculated, "seems to be closer, somehow, to the idea of quality. And I feel that a science concerned primarily with networks of interdependent dynamic patterns will be closer to what you call 'science for understanding.'"

Schumacher did not respond immediately. He seemed lost in his thoughts for a while, and finally he looked at me with a warm smile. "You know," he said, "we had a physicist in the family, and I had many discussions of this kind with him." I expected to hear of some nephew or cousin who had studied physics, but before I could make a polite comment Schumacher surprised me with the name of my own hero: "Werner Heisenberg. He was married to my sister." I had been completely unaware of the close family tie between these two revolutionary and influential thinkers. I told Schumacher how much I had been influenced by Heisenberg and recounted my meetings and discussions with him during the preceding years.

Schumacher then proceeded to explain the crux of his discussions with Heisenberg and of his disagreement with my position. "The guidance we need for solving the problems of our time cannot be found in science," he began. "Physics cannot have any philosophical impact because it cannot entertain the qualitative notion of higher and lower levels of being. With Einstein's statement that everything is relative the vertical dimension disappeared from science and with it the need for any absolute standards of good and evil."

In the long discussion that followed Schumacher expressed his belief in a fundamental hierarchical order consisting of four levels of being—mineral, plant, animal and human—with four characteristic elements—matter, life, consciousness and self-awareness—which are manifest in such a way that each level possesses not only its own characteristic element but also those of all lower levels. This, of course, was the ancient idea of the Great Chain of Being, which Schumacher presented in modern language and with considerable subtlety. However, he maintained that the four elements are irreducible mysteries that cannot be explained, and that the differences between them represent fundamental jumps in the vertical dimension, "ontological discontinuities," as he put it. "This is why physics cannot have any philosophical impact," he repeated. "It cannot deal with the whole; it deals only with the lowest level."

This was indeed a fundamental difference in our views of reality. Although I agreed that physics was limited to a particular level of phenomena, I did not see the differences between various levels as absolute. I argued that these levels are essentially levels of complexity which are not separate but are all interconnected and interdependent. Moreover, I observed, the way in which we divide reality into objects, levels or any other entities depends largely on our methods of observation. What we see depends on how we look; patterns of matter reflect the patterns of our mind.

To conclude my argument I expressed my belief that the science of the future would be able to deal with the entire range of natural phenomena in a unified way, using different aspects and levels of reality. But during that discussion, in May 1977, I could not justify my belief with concrete examples. In particular, I was unaware of the emerging theory of living, self-organizing systems that goes a long way toward a unified description of life, mind and matter. However, I explained my view well enough for Schumacher to leave the matter without further argument. We agreed on the basic differences between our philosophical approaches, each of us respecting the other's position.

During our discussion about the role of physics and the nature of science it had become clear to me that the difference in our approaches was too substantial to permit asking

Schumacher to be an adviser to my book project. However, I did want to learn from him as much as I could during that afternoon, and so I engaged him in a long conversation about economics, ecology and politics.

The more I listened to Schumacher, the more clearly I recognized that he was not so much a man of grand conceptual designs as a man of wisdom and action. He had arrived at a clear set of values and principles and was able to apply these in most ingenious ways to the solution of a great variety of economic and technological problems. The secret of his immense popularity lay in his message of optimism and hope.

[As] my visit [drew] to a close I thanked Schumacher for making this such an inspiring and challenging afternoon. "It was a great pleasure," he graciously replied, and after a pensive moment he added with a warm smile: "You know, we differ in our approach, but we don't differ in basic ideas."

On the train journey back to London I tried to evaluate my conversation with Fritz Schumacher. As I had expected from reading his book, I found him to be a brilliant thinker with a global perspective and a creative, questioning mind. More importantly, however, I was deeply impressed by his great wisdom and kindness, his relaxed spontaneity, his quiet optimism and his gentle humor. In our conversation we did not talk much about religion, yet I felt very strongly that Schumacher's outlook on life was that of a deeply spiritual person. But notwithstanding my great admiration for Schumacher I also realized there were substantial differences in our views. ■

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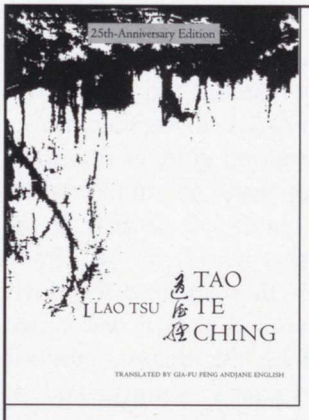

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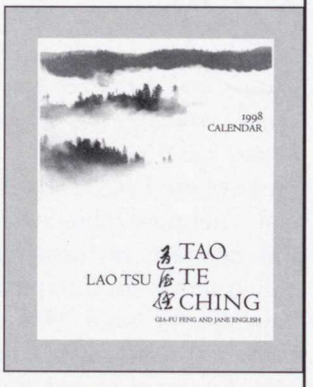

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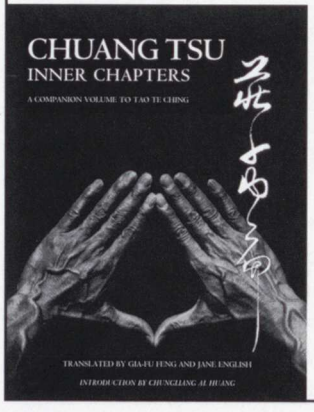

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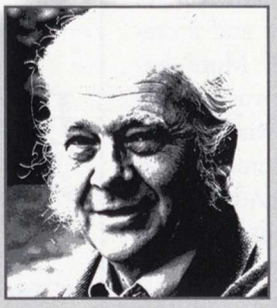

KNOWLE

by E. F. Schumacher

On a visit to Leningrad some years ago, I consulted a map to find out where I was, but I could not make it out. From where I stood, I could see several enormous churches, yet there was no trace of them on my map. When finally an interpreter came to help me, he said: "We don't show churches on our maps." Contradicting him, I pointed to one that was very clearly marked. "That is a museum," he said, "not what we call a 'living church.' It is only the 'living churches' we don't show."

It then occurred to me that this was not the first time I had been given a map which failed to show many things I could see right in front of my eyes. All through school and university I had been given maps of life and knowledge on which there was hardly a trace of many of the things that I most cared about and that seemed to me to be of the greatest possible importance to the conduct of my life. I remembered that for many years my perplexity had been complete; and no interpreter had come along to help me. It remained complete until I ceased to suspect the sanity of my perceptions and began, instead, to suspect the soundness of the maps.

The maps I was given advised me that virtually all my ancestors, until quite recently, had been rather pathetic illusionists who conducted their lives on the basis of irrational beliefs and absurd superstitions. Even illustrious scientists, like Johannes Kepler or Isaac Newton, apparently spent most of their time and energy on nonsensical studies of nonexisting things. These philosophical maps also conveyed that enormous amounts of hard-earned wealth had been squandered throughout history to the honor and glory of imaginary deities, not only by my European forebears, but by all peoples, in all parts of the world, at all times. Everywhere thousands of seemingly healthy men and women had wasted their time on pilgrimages, fantastic rituals, reiterated prayers, and so forth; turning their backs on reality —and some do it even in this enlightened age—all for nothing, all out of ignorance and stupidity; none of it to be taken seriously today, except of course as museum pieces. From what a history of error we had emerged! What a history of taking for real what every modern child knew to be totally unreal and imaginary! Our entire past, until quite recently, was today only fit for museums, where people could satisfy their curiosity about the oddity and

THE Slenderest DGE

incompetence of earlier generations. What our ancestors had written, also, was in the main fit only for storage in libraries, the knowledge of the past being considered interesting and occasionally thrilling but of no particular value for learning to cope with the problems of the present.

All this and many other similar things I was taught at school and university. It was still permissible, on suitable occasions, to refer to God the Creator, although every educated person knew that there was not really a God, certainly not one capable of creating anything, and that the things around us had come into existence by a process of mindless evolution, that is, by chance and natural selection. Our ancestors, unfortunately, did not know about evolution, and so they invented all these fanciful myths.

The maps of *real* knowledge, designed for *real* life, showed nothing except things which allegedly could be *proved* to exist. The first principle of the philosophical mapmakers seemed to be, "If in doubt, leave it out," or put it into a museum. It occurred to me, however, that the question of *what constitutes proof* was a very subtle and difficult one. Would it not be wiser to turn the principle into its opposite and say: "If in doubt, show it *prominently*"? After all, matters that are beyond doubt are, in a sense, dead; they constitute no challenge to the living.

To accept anything as true means to incur the risk of error. If I limit myself to knowledge that I consider true beyond doubt, I minimize the risk of error, but at the same time I maximize the risk of missing out on what may be the subtlest, most important and most rewarding things in life. Saint Thomas Aquinas, following Aristotle, taught that "The slenderest knowledge that may be obtained of the highest things is more desirable than the most certain knowledge obtained of lesser things." "Slender" knowledge is here put in opposition to "certain" knowledge, and indicates uncertainty. Maybe it is necessarily so that the *higher* things cannot be known with the same degree of certainty as can the *lesser* things, in which case it would be a very great loss indeed if knowledge were limited to things beyond the possibility of doubt.

The philosophical maps with which I was supplied at school and university did not merely, like the

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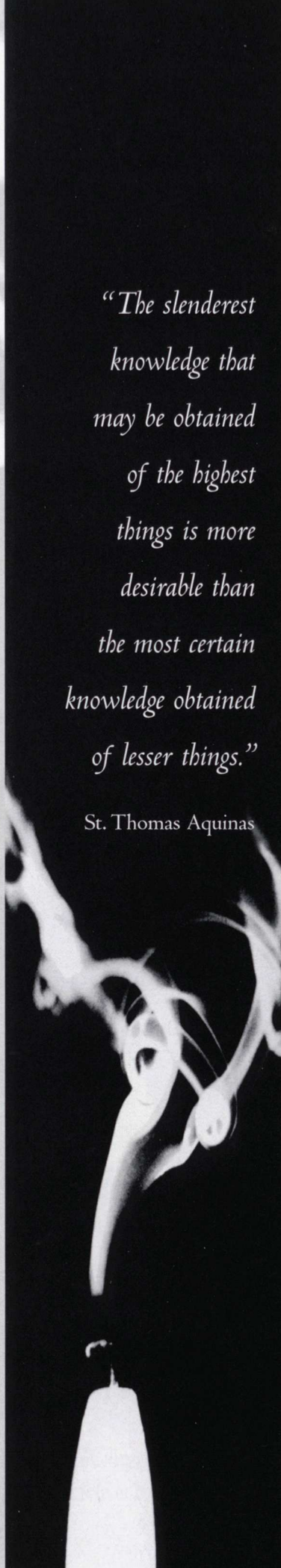
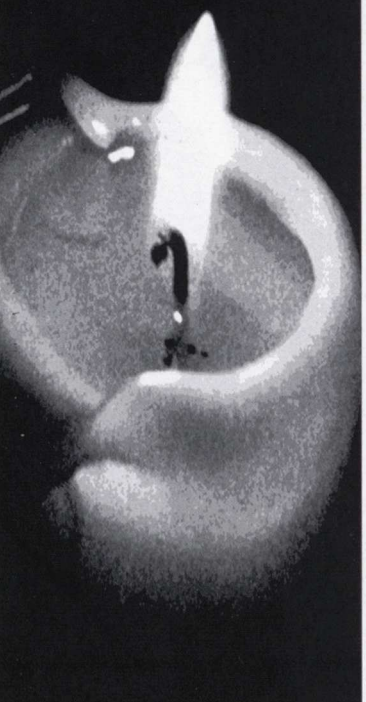
"The slenderest knowledge that may be obtained of the highest things is more desirable than the most certain knowledge obtained of lesser things."

St. Thomas Aquinas



"We are now far too clever to be able to survive without wisdom, and further expansion of our cleverness can be of no benefit whatever."



Jane English

map of Leningrad, fail to show "living churches"; they also failed to show large "unorthodox" sections of both theory and practice in many fields of knowledge. In fact, apart from "museums," the entire map from right to left and from top to bottom was drawn in utilitarian colors: hardly anything was shown as existing unless it could be interpreted as profitable for man's comfort or useful in the universal battle for survival.

Not surprisingly, the more thoroughly acquainted we became with the details of the map, the more we absorbed what it showed and got used to the absence of the things it did not show, the more perplexed, unhappy, and cynical we became. The maps produced by modern materialistic Scientism leave all the questions that really matter unanswered; more than that, they deny the validity of the questions. The situation was desperate enough in my youth half a century ago; it is even worse now because the ever more rigorous application of the scientific method to all subjects and disciplines has destroyed even the last remnants of ancient wisdom—at least in the Western world. It is being loudly proclaimed *in the name of scientific objectivity* that "values and meanings are nothing but defense mechanisms and reaction formations"; that man is "nothing but a complex biochemical mechanism."

After many centuries of theological imperialism, we have now had three centuries of "scientific imperialism," and the result is a degree of bewilderment and disorientation, particularly among the young, which can at any moment lead to the collapse of our civilization. "The true nihilism of today," says psychiatrist Dr. Viktor Frankl, "is reductionism. . . . Contemporary nihilism no longer brandishes the word nothingness; today nihilism is camouflaged as *nothing-but-ness*. Human phenomena are thus turned into mere epiphenomena."

With the rise of materialistic Scientism the soul disappeared from the description of man—how could it exist when it could be neither weighed nor measured?—except as one of the many strange attributes of complex arrangements of atoms and molecules. Why not accept the so-called "soul" as an *epiphenomenon* of matter, just as, say, magnetism has been accepted as such? The Universe was seen simply as an accidental collocation of atoms. If the great Cosmos is seen as *nothing but* a chaos of particles without purpose or meaning, so man must be seen as *nothing but* a chaos of particles without purpose and meaning—a sensitive chaos perhaps, capable of suffering pain, anguish and despair, but a chaos all the same—a rather unfortunate cosmic accident of no consequence whatever.

It is obvious that a mathematical model of the world—which is what Descartes dreamed about—can deal only with factors that can be expressed as interrelated quantities. It is equally obvious that (while *pure quantity* cannot exist) the quantitative factor is of preponderant weight at the lowest Level of Being. As we move up the Chain of Being, the importance of quantity recedes while that of quality increases, and the price of mathematical model-building is the loss of the qualitative factor, the very thing that matters most.

The change of Western man's interest from "the slenderest knowledge that may be obtained of the highest things" to mathematically

precise knowledge of lesser things marks a shift from what we might call "science for understanding" to "science for manipulation." When "science for manipulation" is subordinated to wisdom, i.e., "science for understanding," it is a most valuable tool, and no harm can come of it. But it cannot be so subordinated when wisdom disappears because people cease to be interested in its pursuit. This has been the history of Western thought since Descartes. The old science—"wisdom" or "science for understanding"—was directed primarily "towards the sovereign good," i.e., the True, the Good and the Beautiful, knowledge of which would bring both happiness and salvation. The new science was mainly directed toward material power, a tendency which has meanwhile developed to such lengths that the enhancement of political and economic power is now generally taken as the first purpose of, and main justification for, expenditure on scientific work. The old science looked upon nature as God's handiwork and man's mother; the new science tends to look upon nature as an adversary to be conquered or a resource to be quarried and exploited.

The progressive elimination of "science for understanding"—or "wisdom"—from Western civilization turns the rapid and ever-accelerating accumulation of "knowledge for manipulation" into a most serious threat. We are now far too clever to be able to survive without wisdom, and further expansion of our cleverness can be of no benefit whatever. The steadily advancing concentration of man's scientific interest on "sciences of manipulation" has at least three very serious consequences.

First, in the absence of sustained study of such "unscientific" questions as "What is the meaning and purpose of man's existence?" and "What is good and what is evil?" and "What are man's absolute rights and duties?" a civilization will necessarily and inescapably sink ever more deeply into anguish, despair and loss of freedom. Its people will suffer a steady decline in health and happiness, no matter how high may be their standard of living or how successful their "health service" in prolonging their lives. It is nothing more nor less than a matter of "Man cannot live by bread alone."

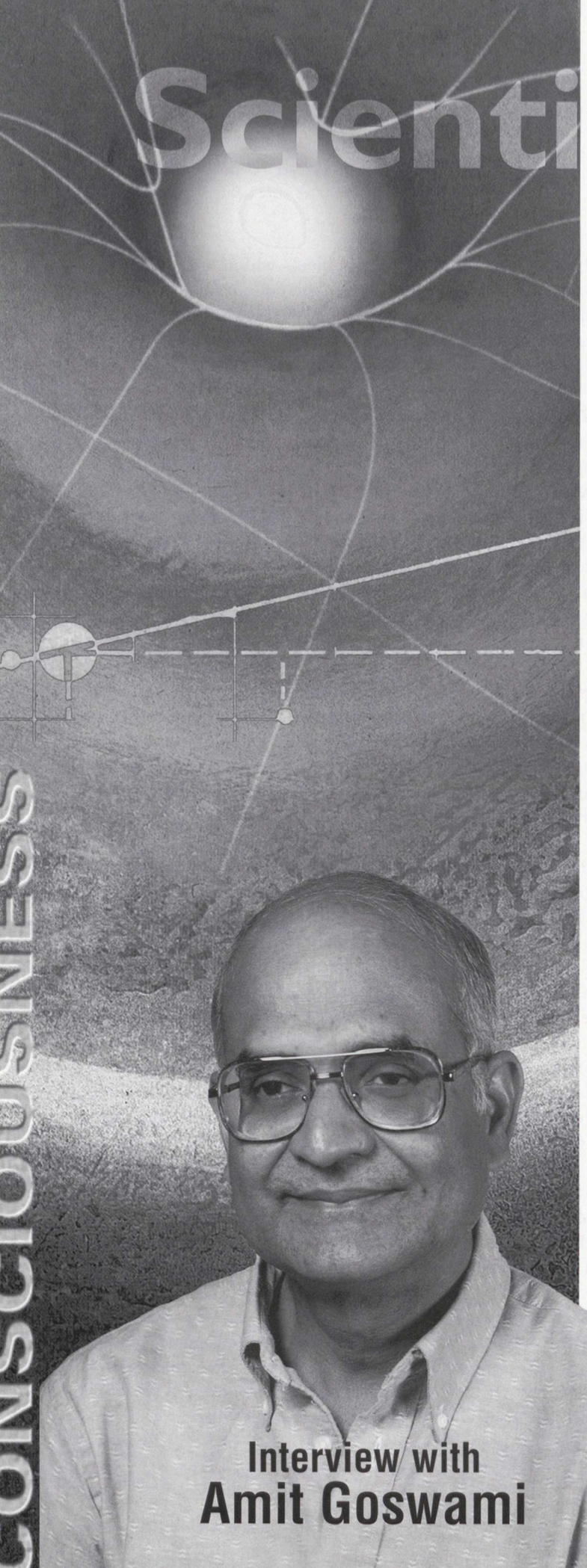
Second, the methodical restriction of scientific effort to the most external and material aspects of the Universe makes the world look so empty and meaningless that even those people who recognize the value and necessity of a "science of understanding" cannot resist the hypnotic power of the allegedly scientific picture presented to them and lose the courage as well as the inclination to consult, and profit from, the "wisdom tradition of mankind." Since the findings of science, on account of its methodical restriction and its systematic disregard of higher levels, never contain any evidence of the existence of such levels, the process is self-reinforcing: faith, instead of being taken as a guide leading the intellect to an understanding of the higher levels, is seen as opposing and rejecting the intellect and is therefore itself rejected. Thus all roads to recovery are barred.

Third, the higher powers of man, no longer being brought into play to produce the knowledge of wisdom, tend to atrophy and even disappear altogether. As a result, all the problems which society or individuals are called upon to tackle become insoluble. Efforts grow ever more frantic, while unsolved and seemingly insoluble problems accumulate. While wealth may continue to increase, the quality of man himself declines.

More and more people are beginning to realize that "the modern experiment" has failed. It received its early impetus from what I have called the Cartesian revolution, which, with implacable logic, separated man from those higher levels that alone can maintain his humanity. Man closed the gates of Heaven against himself and tried, with immense energy and ingenuity, to confine himself to the Earth. He is now discovering that the Earth is but a transitory state, so that a refusal to reach for Heaven means an involuntary descent into Hell.

It may conceivably be possible to live without churches; but it is not possible to live without religion, that is, without systematic work to keep in contact with, and develop toward, higher levels than those of "ordinary life" with all its pleasure or pain, sensation, gratification, refinement or crudity—whatever it may be. *The modern experiment to live without religion has failed,* and once we have understood this, we know what our "postmodern" tasks really are.

Can we rely on it that a "turning around" will be accomplished by enough people quickly enough to save the modern world? This question is often asked, but no matter what the answer, it will mislead. The answer "Yes" would lead to complacency, the answer "No" to despair. It is desirable to leave these perplexities behind us and get down to work. ■



Scientific Proof of

Has Physics Found a Way

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BEFORE YOU READ ANY FURTHER, stop and close your eyes for a moment. Now consider the following question: for the moment your eyes were closed, did the world still exist even though you weren't conscious of it? How do you know? If this sounds like the kind of unanswerable brain teaser your Philosophy 101 professor used to employ to stretch your philosophical imagination, you might be surprised to discover that there are actually physicists at reputable universities who believe they have answered this question—and their answer, believe it or not, is *no*.

Now consider something even more intriguing. Imagine for a moment the entire history of the universe. According to all the data scientists have been able to gather, it exploded into existence some fifteen billion years ago, setting the stage for a cosmic dance of energy and light that continues to this day. Now imagine the history of planet Earth. An amorphous cloud of dust emerging out of that primordial fireball, it slowly coalesced into a solid orb, found its way into gravitational orbit around the sun, and through a complex interaction of light and gases over billions of years, generated an atmosphere and a biosphere capable of not only giving birth to, but sustaining and proliferating, life.

Now imagine that none of the above ever happened. Consider instead the possibility that the entire story only existed as an abstract potential—a cosmic dream among countless other cosmic dreams—until, in that dream, life somehow evolved to the point that

the Existence of God

to Demonstrate That Consciousness Creates the Material World?

by Craig Hamilton

a conscious, sentient being came into existence. At that moment, solely because of the conscious observation of that individual, the entire universe, including all of the history leading up to that point, suddenly came into being. Until that moment, nothing had actually ever happened. In that moment, fifteen billion years happened. If this sounds like nothing more than a complicated backdrop for a science fiction story or a secular version of one of the world's great creation myths, hold on to your hat. According to physicist Amit Goswami, the above description is a scientifically viable explanation of how the universe came into being.

Goswami is convinced, along with a number of others who subscribe to the same view, that the universe, in order to exist, requires a conscious sentient being to be aware of it. Without an observer, he claims, it only exists as a possibility. And as they say in the world of science, Goswami has done his math. Marshalling evidence from recent research in cognitive psychology, biology, parapsychology and quantum physics, and leaning heavily on the ancient mystical traditions of the world, Goswami is building a case for a new paradigm that he calls "monistic idealism," the view that consciousness, not matter, is the foundation of everything that is.

A professor of physics at the University of Oregon and a member

New York Chronicle

Wednesday afternoon
January 1, 2000
PM Edition
TWENTY-FIVE CENTS

Weather
Sunny Skies
Highs 40-45°
Lows 35-40°

"Jesus Is Not a Wave Function!"
Christian Leaders React A4

Perhaps the Buddha Was Wrong
Dalai Lama convenes Buddhist congress to question Buddha's negation of God A5

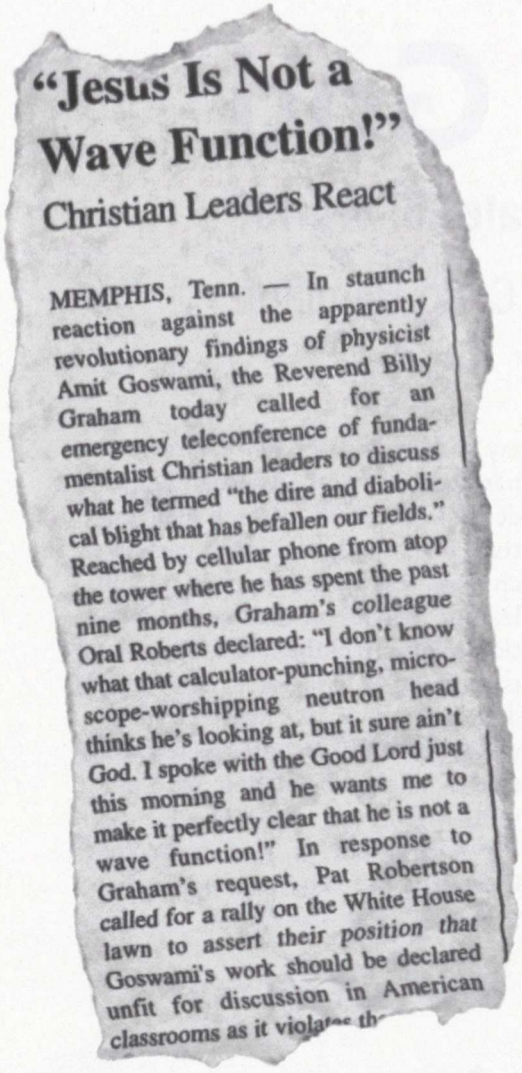
Stunning Experiment

SCIENTIST PROVES GOD EXISTS!

EUGENE, Ore. (API) — Scientists from all over the world converged this morning at 10 A.M. at the University of Oregon's Institute of Theoretical Science to witness history in the making. Dr. Amit Goswami, creator of the Physis-Transcendent God Hypothesis, which only last year revolutionized modern science more completely than had even his predecessor Albert Einstein's formulation of the theory of relativity at the turn of the century, was about to initiate his long-awaited Quantum Divinity Wave Detection Experiment. Minutes later Dr. Goswami shocked and amazed the international scientific and religious communities by offering conclusive and incontrovertible proof of the existence of God.

"This is a momentous event of vast and unthinkable implications," said transpersonal psychologist Ken Wilber, Goswami's most vocal detractor over the six-month period which led up to this moment, during which the determined and tireless physicist had been seeking public support for his efforts to bring humanity together, and forever banish conflict and division from the face of the earth, by convincing materialist-oriented scientists, social thinkers, politicians and shapers of international economic policy of, in his words, "the primacy of human consciousness as the ground of all being, based on the undeniable existence of a supreme divinity which will inevitably reveal itself in my painstakingly precise configuration of quantum measurement."

Pope John Paul II immediately invited President Clinton and the presidents and prime ministers of the E.E.C. nations, as well as the Dalai Lama and Muslim and Jewish leaders, to meet with him at the Vatican to discuss how best to implement the sweeping changes which Dr. Goswami's discovery are sure to bring about. cont. A4



"Jesus Is Not a Wave Function!"

Christian Leaders React

MEMPHIS, Tenn. — In staunch reaction against the apparently revolutionary findings of physicist Amit Goswami, the Reverend Billy Graham today called for an emergency teleconference of fundamentalist Christian leaders to discuss what he termed "the dire and diabolical blight that has befallen our fields." Reached by cellular phone from atop the tower where he has spent the past nine months, Graham's colleague Oral Roberts declared: "I don't know what that calculator-punching, microscope-worshipping neutron head thinks he's looking at, but it sure ain't God. I spoke with the Good Lord just this morning and he wants me to make it perfectly clear that he is not a wave function!" In response to Graham's request, Pat Robertson called for a rally on the White House lawn to assert their position that Goswami's work should be declared unfit for discussion in American classrooms as it violates th-

of its Institute of Theoretical Science, Dr. Goswami is part of a growing body of renegade scientists who in recent years have ventured into the domain of the spiritual in an attempt both to interpret the seemingly inexplicable findings of their experiments and to validate their intuitions about the existence of a spiritual dimension of life. The culmination of Goswami's own work is his book *The Self-Aware Universe: How Consciousness Creates the Material World*. Rooted in an interpretation of the experimental data of quantum physics (the physics of elementary particles), the book weaves together a myriad of findings and theories in fields from artificial intelligence to astronomy to Hindu mysticism in an attempt to show that the discoveries of modern science are in perfect accord with the deepest mystical truths.

Quantum physics, as well as a number of other modern sciences, he feels, is demonstrating that the essential unity underlying all of reality is a fact which can be experimentally verified. Because of the enormous implications he sees in this scientific confirmation of the spiritual, Goswami is ardently devoted to explaining his theory to as many people as possible in order to help bring about what he feels is a much needed paradigm shift. He feels that because science is now capable of validating mysticism, much that before required a leap of faith can now be empirically proven and, hence, the materialist paradigm which has dominated scientific and philosophical thought for over two hundred years can finally be called into question.

Interviewing Amit Goswami was a mind-bending and concept-challenging experience. Listening to him explain many ideas with which he seemed perfectly at home, required, for me, such a suspension of disbelief that I at times found myself having to stretch far beyond anything I had previously considered. (Goswami is also a great fan of science fiction whose first book, *The Cosmic Dancers*, was a look at science fiction through the eyes of a physicist.)

But whether or not one ultimately accepts some of his more esoteric theories, one has to respect the creativity and passion with which he is willing to inquire. Goswami is clearly willing to take risks with his ideas and is fervently dedicated to sharing his investigation with audiences around the world. He speaks widely at conferences and other forums about the exciting discoveries of the new science and their significance, not only for the way science is done, but for society as a whole. In India, the country of his birth, he is actively involved in a growing organized movement to bridge the gap between science and spirituality, through which he is helping to pioneer a graduate institute in "consciousness studies" based on the premise that consciousness is the ground of all being.

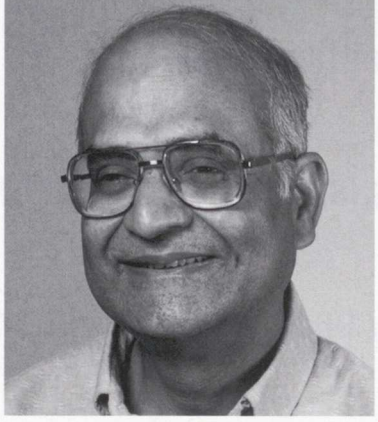
Goswami is considered by some to be a pioneer in his field. By attempting to bring material realism to its knees and to integrate all fields of knowledge in a single unified paradigm, he hopes to pave the way for a new holistic worldview in which spirit is put first. In fact, as far as we know, he is the only new paradigm scientist who is taking a clear stand against the relativism so popular among new age thinkers. At a time when the decay of human values and the erosion of any sense of meaning has reached epidemic scale, it is hard to imagine what could be more important than this.

And yet, for all the important and valuable work he seems to be doing, in the end we are left with serious reservations as to whether Goswami's approach will ultimately lead to the kind of transformation he hopes for. Thinkers such as Huston Smith and E. F. Schumacher have pointed to what they feel is an arrogance, or at least, a kind of naiveté, on the part of scientists who believe they can expand the reach of their discipline to somehow include or explain the spiritual dimension of life. Such critics suggest that the very attempt to scientifically validate the spiritual is itself a product of the same materialistic impulses it intends to uproot and, because of this, is ultimately only capable of reducing spirit, God and the transcendent to mere objects of scientific fascination.

Is science capable of proving the reality of the transcendent dimension of life? Or would science better serve the spiritual potential of the human race by acknowledging the inherent limits of its domain? The following interview confronts us with these questions.

WIE: *In your book* The Self-Aware Universe *you speak about the need for a paradigm shift. Could you talk a bit about how you conceive of that shift? From what to what?*

Amit Goswami:



The current worldview has it that everything is made of matter, and everything can be reduced to the elementary particles of matter, the basic constituents—building blocks—of matter. And *cause* arises from the interactions of these basic building blocks or elementary particles; elementary particles make atoms, atoms make molecules, molecules make cells, and cells make brain. But all the way, the ultimate cause is always the interactions between the elementary particles. This is the belief—all cause moves from the elementary particles. This is what we call "upward causation." So in this view, what human beings—you and I—think of as our free will does not really exist. It is only an epiphenomenon or secondary phenomenon, secondary to the causal power of matter. And any causal power that we seem to be able to exert on matter is just an illusion. This is the current paradigm.

Now, the opposite view is that everything starts with consciousness. That is, consciousness is the ground of all being. In this view, consciousness imposes "downward causation." In other words, our free will is real. When we act in the world we really are acting with causal power. This view does not deny that matter also has causal potency—it does not deny that there is causal power from elementary particles upward, so there is upward causation—but in addition it insists that there is also downward causation. It shows up in our creativity and acts of free will, or when we make moral decisions. In those occasions we are actually witnessing downward causation by consciousness.

WIE: *In your book you refer to this new paradigm as "monistic idealism." And you also suggest that science seems to be verifying what a lot of mystics have said throughout history—that science's current findings seem to be parallel to the essence of the perennial spiritual teaching.*

AG: It *is* the spiritual teaching. It is not just parallel. The idea that consciousness is the ground of being is the basis of all spiritual traditions, as it is for the philosophy of monistic idealism—although I have given it a somewhat new name. The reason for my choice of the name is that, in the West, there is a philosophy called "idealism" which is opposed to the philosophy of "material realism," which holds that only matter is real. Idealism says no, consciousness is the only real thing. But in the West that kind of idealism has usually meant something that is really dualism—that is, consciousness and matter are separate. So, by monistic idealism, I made it clear that, no, I don't mean that dualistic kind of Western idealism, but really a monistic idealism, which *has* existed in the West, but only in the esoteric spiritual traditions. Whereas in the East this is the mainstream philosophy. In Buddhism, or in Hinduism where it is called Vedanta, or in Taoism, this is the philosophy of everyone. But in the West this is a very esoteric tradition, only known and adhered to by very astute philosophers, the people who have really delved deeply into the nature of reality.

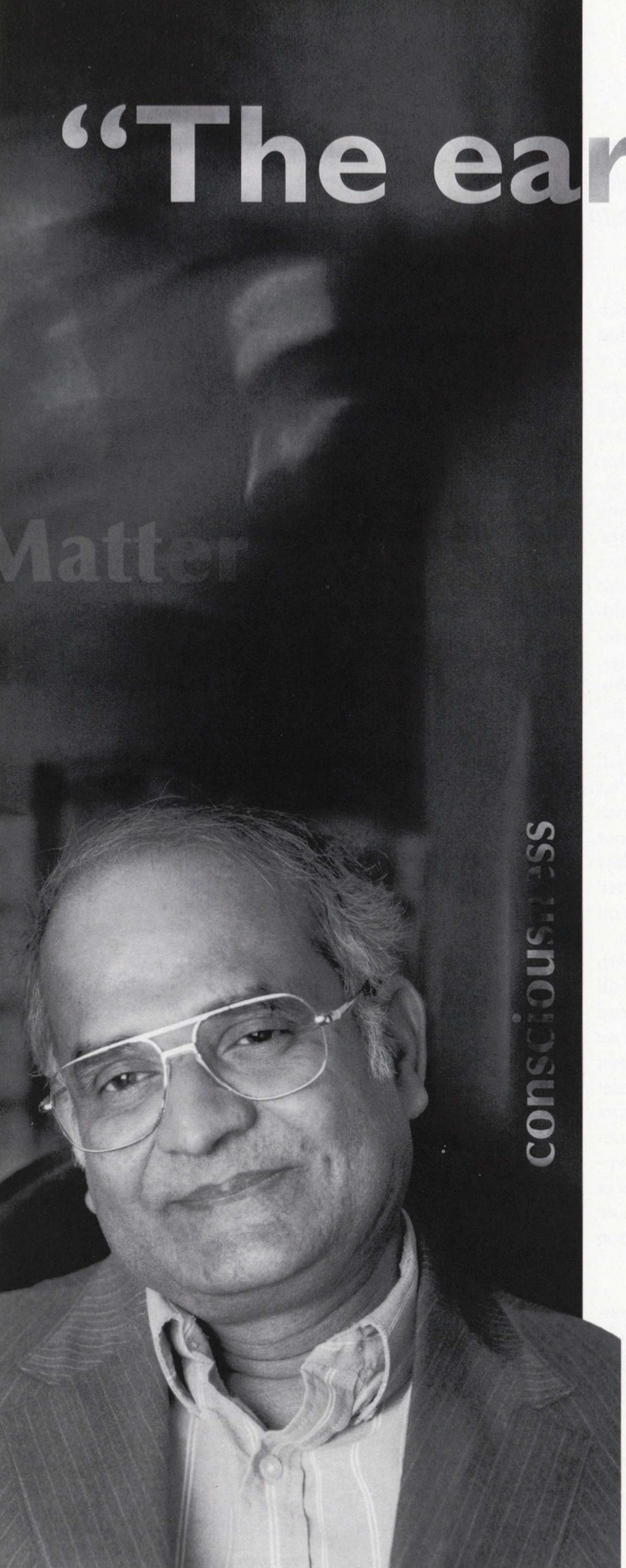
WIE: *What you are saying is that modern science, from a completely different angle—not assuming anything about the existence of a spiritual dimension of life—has somehow come*

Perhaps the Buddha Was Wrong

Dalai Lama convenes Buddhist congress to question Buddha's negation of God

DHARAMSALA, India (API) — Declaring Dr. Amit Goswami "a bodhisattva in a lab coat," H. H. the Dalai Lama today convened an international Buddhist congress to discuss the implications of Goswami's discovery of God for the Buddhist doctrine of "emptiness." When asked what kind of impact he expects this to have on the Buddhist community worldwide, the spiritual leader stated: "We must always be willing to question our views. This is the very essence of Buddhism. And this is going to be a time of tremendous questioning for all of us."

American Buddhist teacher Jack Kornfield, reached at his home in Marin County, California, said that he felt there was no real conflict between Goswami's views and those of Buddhism. "To me," he stated, "Buddhism is about tolerance. If you tell me you've proven there's a God, I say 'Okay, there's a God.' The important thing is how it makes people feel, and if people feel more comfortable and secure knowing there's a God, then to me, the aims of Buddhism have been served."



"The early work, like *The Tao of Physics,* did not challenge the material realists' view that everything is made up of matter. In fact, my book was the first one which challenged it squarely and which was still based on a rigorous explication in scientific terms. Outside of transpersonal psychology, no tradition of science and no scientist has seen it so clearly."

back around, and is finding itself in agreement with that view as a result of its own discoveries.

AG: That's right. And this is not entirely unexpected. Starting from the beginning of quantum physics, which began in the year 1900 and then became full-fledged in 1925 when the equations of quantum mechanics were discovered, quantum physics has given us indications that the worldview might change. Staunch materialist physicists have loved to compare the classical worldview and the quantum worldview. Of course, they wouldn't go so far as to abandon the idea that there is only upward causation and that matter is supreme, but the fact remains that they saw in quantum physics some great paradigm-changing potential. And then what happened was that, starting in 1982, results started coming in from laboratory experiments in physics. That is the year when, in France, Alain Aspect and his collaborators performed the great experiment that conclusively established the veracity of the spiritual notions, and particularly the notion of transcendence. Should I go into a little bit of detail about Aspect's experiment?

WIE: *Yes, please do.*

AG: To give a little background, what had been happening was that for many years quantum physics had been giving indications that there are levels of reality other than the material level. How it started happening first was that quantum objects—objects in quantum physics—began to be looked upon as waves of possibility. Now, initially people thought, "Oh, they are just like regular waves." But very soon it was found out that, no, they are not waves in space and time. They cannot be called waves in space and time at all—they have properties which do not jibe with those of ordinary waves. So they began to be recognized as *waves in potential*, waves of possibility, and the potential was recognized as *transcendent*, beyond matter somehow.

But the fact that there is transcendent potential was not very clear for a long time. Then Aspect's experiment verified that this is not just theory, there really *is* transcendent potential, objects really *do* have connections outside of space and time—outside of space and time! What happens in this experiment is that an atom emits two quanta of light, called photons, going opposite ways, and somehow these photons affect one another's behavior at a distance, without exchanging any signals through space. Notice that: without exchanging any signals through space but instantly affecting each other. Instantaneously.

Now Einstein showed long ago that two objects can never affect each other instantly in space and time because everything must travel with a maximum speed limit, and that speed limit is the speed of light. So any influence must travel, if it travels through space, taking a finite time. This is called the idea of "locality." Every signal is supposed to be local in the sense that it must take a finite time to travel through space. And yet, Aspect's photons—the photons emitted by the atom in Aspect's experiment—influence one another, at a distance, without exchanging signals because they are doing it instantaneously—they are doing it faster than the speed of light. And therefore it follows that the influence could not have traveled through space. Instead the influence must belong to a domain of reality that we must recognize as the transcendent domain of reality.

WIE: *That's fascinating. Would most physicists agree with that interpretation of his experiment?*

AG: Well, physicists *must* agree with this interpretation of this experiment. Many times of course, physicists will take the following point of view: they will say, "Well, yeah sure, experiments. But this relationship between particles really isn't important. We mustn't look into any of the consequences of this transcendent domain—if it can even be interpreted that way." In other words, they try to minimize the impact of this and still try to hold on to the idea that matter is supreme.

But in their heart they know, as is very evidenced. In 1984 or '85, at the American Physical Society meeting at which I was present, it is said that one physicist was heard saying to another physicist that, after Aspect's experiment, anyone who does not believe that something is really strange about the world must have rocks in his head.

WIE: *So what you are saying is that from your point of view, which a number of others share, it is somehow obvious that one would have to bring in the idea of a transcendent dimension to really understand this.*

AG: Yes, it is. Henry Stapp, who is a physicist at the University of California at Berkeley, says this quite explicitly in one of his papers written in 1977, that things outside of space and time affect things inside space and time. There's just no question that that happens in the realm of quantum physics when you are dealing with quantum objects. Now of course, the crux of the matter is, the surprising thing is, that we are *always* dealing with quantum objects because it turns out that quantum physics is the physics of every object. Whether it's submicroscopic or it's macroscopic, quantum physics is the only physics

we've got. So although it's more apparent for photons, for electrons, for the submicroscopic objects, our belief is that all reality, all manifest reality, all matter, is governed by the same laws. And if that is so, then this experiment is telling us that we should change our worldview because we, too, are quantum objects.

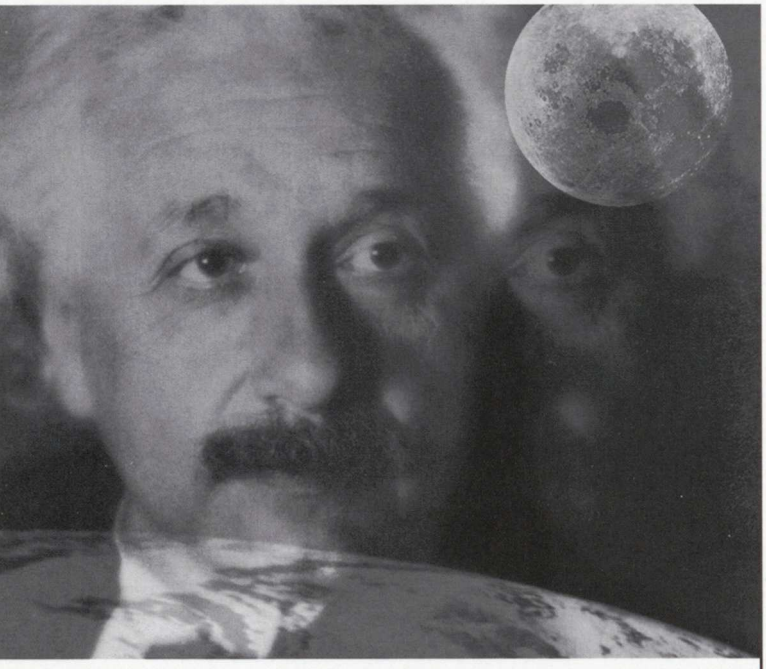
WIE: *These are fascinating discoveries which have inspired a lot of people. A number of books have already attempted to make the link between physics and mysticism. Fritjof Capra's* The Tao of Physics *and Gary Zukav's* The Dancing Wu Li Masters *have both reached many, many people. In your book, though, you mention that there was something that you felt had not yet been covered which you feel is your unique contribution to all this. Could you say something about what you are doing that is different from what has been done before in this area?*

AG: I'm glad that you asked that question. This should be clarified and I will try to explicate it as clearly as I can. The early work, like *The Tao of Physics*, has been very important for the history of science. However, these early works, in spite of supporting the spiritual aspect of human beings, all basically held on to the material view of the world nevertheless. In other words, they did not challenge the material realists' view that everything is made up of matter. That view was never put to any challenge by any of these early books. In fact, my book was the first one which challenged it squarely and which was still based on a rigorous explication in scientific terms. In other words, the idea that consciousness is the ground of being, of course, has existed in psychology, as transpersonal psychology, but outside of transpersonal psychology no tradition of science and no scientist has seen it so clearly.

It was my good fortune to recognize it within quantum physics, to recognize that all the paradoxes of quantum physics can be solved if we accept consciousness as the ground of being. So that was my unique contribution and, of course, this has paradigm-shifting potential because now we can truly integrate science and spirituality. In other words, with Capra and Zukav—although their books are very good—because they held on to a fundamentally materialist paradigm, the paradigm is not *shifting*, nor is there any real reconciliation between spirituality and science. Because if everything is ultimately material, all causal efficacy must come from matter. So consciousness is recognized, spirituality is recognized, but only as causal epiphenomena, or secondary phenomena. And an epiphenomenal consciousness is not very good. I mean, it's not *doing* anything. So, although these books acknowledge our spirituality, the spirituality is ultimately coming from some sort of material interaction.

But that's not the spirituality that Jesus talked about. That's not the spirituality that Eastern mystics were so ecstatic about. That's not the spirituality where a mystic recognizes and says, "I now know what reality is like, and this takes away all the unhappiness that one ever had. This is infinite, this is joy, this is consciousness." This kind of exuberant statement that mystics make could not be made on the basis of epiphenomenal consciousness. It can be made only when one recognizes the ground of being itself, when one cognizes directly that One is All.

Now, an epiphenomenal human being would not have any such cognition. It would not make any sense to cognize that you are All. So that is what I am saying. So long as science remains on the basis of the materialist worldview, however much you try to accommodate spiritual experiences in terms of parallels or in terms of chemicals in the brain or what have you, you are not really giving up the old paradigm. You are giving up the old paradigm and fully reconciling with spirituality only when you establish science on the basis of the fundamental spiritual notion that consciousness is the ground of all being. That is what I have done in my book, and that is the beginning. But already there are some other books that are recognizing this too.



"I **RECALL** that during one walk Einstein suddenly stopped, turned to me and asked whether I really believed that the moon exists only when I look at it."

-Abraham Pais

Einstein's moon

Ken Wilber on physics and mysticism

"**WHAT IF WE SAID** that Buddha's enlightenment just received corroboration from physics? What then happens when, a decade from now, new scientific facts replace the current ones (as they must)? Does Buddha then lose his enlightenment? We cannot have it both ways. If we hitch mysticism to physics now, mustn't we ditch it then?"

"**ASK ALMOST ANY PHYSICIST** if the connections between, say, a macroscopic tree and river are as intense and unitary as those between subatomic particles, and he will say no. The mystic will say yes. That is a fundamental issue and shows, in fact, that the physicist and mystic aren't even talking about the same world. The physicist says: 'The ordinary Newtonian world is, for all practical purposes, separate and discrete, but the subatomic world is a unified pattern.' The mystic says, 'The ordinary Newtonian world is, as I directly perceive it, one indivisible whole; as for the subatomic realm, I've never seen it.'"

"**INTERVIEWER:** I've seen so many attempts by new age thinkers to derive human free will from electron indeterminacy, or to say that human volition is free *because of* the indeterminate wave nature of its subcellular components, or some such.

KEN WILBER: Yes, it appears the thing to do. It's a reflex thing to do—finally, after decades of saying the physical universe is deterministic and therefore human choice is an illusion, you find a little indeterminacy in the physical realm and you go nuts. It's only natural you then try to explain human freedom and even God's freedom as a blowup of the lowest level. You get so excited you forget you have just pulled the reductionist feat of the century."

WIE: *So there are people corroborating your ideas?*

AG: There are people who are now coming out and recognizing the same thing, that this view is the correct way to go to explain quantum physics and also to develop science in the future. In other words, the present science has shown not only quantum paradoxes but also has shown real incompetence in explaining paradoxical and anomalous phenomena, such as parapsychology, the paranormal—even creativity. And even traditional subjects, like perception or biological evolution, have much to explain that these materialist theories *don't* explain. To give you one example, in biology there is what is called the theory of punctuated equilibrium. What that means is that evolution is not only slow, as Darwin perceived, but there are also rapid epochs of evolution, which are called "punctuation marks." But traditional biology has no explanation for this.

However, if we do science on the basis of consciousness, on the primacy of consciousness, then we can see in this phenomenon creativity, real creativity of consciousness. In other words, we can truly see that consciousness is operating creatively even in biology, even in the evolution of species. And so we can now fill up these gaps that conventional biology cannot explain with ideas which are essentially spiritual ideas, such as consciousness as the creator of the world.

WIE: *This brings to mind the subtitle of your book,* How Consciousness Creates the Material World. *This is obviously quite a radical idea. Could you explain a bit more concretely how this actually happens in your opinion?*

AG: Actually, it's the easiest thing to explain, because in quantum physics, as I said earlier, objects are not seen as definite things, as we are used to seeing them. Newton

"In quantum physics, objects are not seen as definite things. The material world of quantum physics is just possibility. It is consciousness, through the conversion of possibility into actuality, that creates what we see manifest. In other words, *consciousness creates the manifest world.*"

taught us that objects *are* definite things, they can be seen all the time, moving in definite trajectories. Quantum physics doesn't depict objects that way at all. In quantum physics, objects are seen as possibilities, possibility waves. Right? So then the question arises, what converts possibility into actuality? Because, when we see, we only see actual events. That's starting with us. When you see a chair, you see an actual chair, you don't see a possible chair.

WIE: *Right—I hope so.*

AG: We all hope so. Now this is called the "quantum measurement paradox." It is a paradox because who are we to do this conversion? Because after all, in the materialist paradigm we don't have any causal efficacy. We are nothing but the brain, which is made up of atoms and elementary particles. So how can a brain which is made up of atoms and elementary particles convert a possibility wave that it itself *is*? It itself is made up of the possibility waves of atoms and elementary particles, so it cannot convert its own possibility wave into actuality. This is called a paradox. Now in the new view, consciousness is the ground of being. So who converts possibility into actuality? Consciousness does, because consciousness does not obey quantum physics. Consciousness is not made of material. Consciousness is transcendent. Do you see the paradigm-changing view right here—how consciousness can be said to create the material world? The material world of quantum physics is just possibility. It is consciousness, through the conversion of possibility into actuality, that creates what we see manifest. In other words, *consciousness creates the manifest world.*

WIE: *To be honest, when I first saw the subtitle of your book I assumed you were speaking metaphorically. But after reading the book, and speaking with you about it now, I am definitely getting the sense that you mean it much more literally than I had thought. One thing in your book that really stopped me in my tracks was your statement that, according to your interpretation, the entire physical universe only existed in a realm of countless evolving possibilities until at one point, the possibility of a conscious, sentient being arose and that, at that point, instantaneously, the entire known universe came into being, including the fifteen billion years of history leading up to that point. Do you really* mean *that?*

AG: I mean that literally. This is what quantum physics demands. In fact, in quantum physics this is called "delayed choice." And I have added to this concept the concept of "self-reference." Actually the concept of delayed choice is very old. It is due to a very famous physicist named John Wheeler, but Wheeler did not see the entire thing correctly, in my opinion. He left out self-reference. The question always arises, "The universe is supposed to have existed for fifteen billion years, so if it takes consciousness to convert possibility into actuality, then how could the universe be around for so long?" Because there was no consciousness, no sentient being, biological being, carbon-based being, in that primordial fireball which is supposed to have created the universe, the big bang. But this *other* way of looking at things says that the universe remained in possibility until there was self-referential quantum measurement—so that is the new concept. An observer's *looking* is essential in order to manifest possibility into actuality, and so only when the observer looks, only then does the entire thing become manifest—including time. So all of past time, in that respect, becomes manifest right at that moment when the first sentient being *looks*.

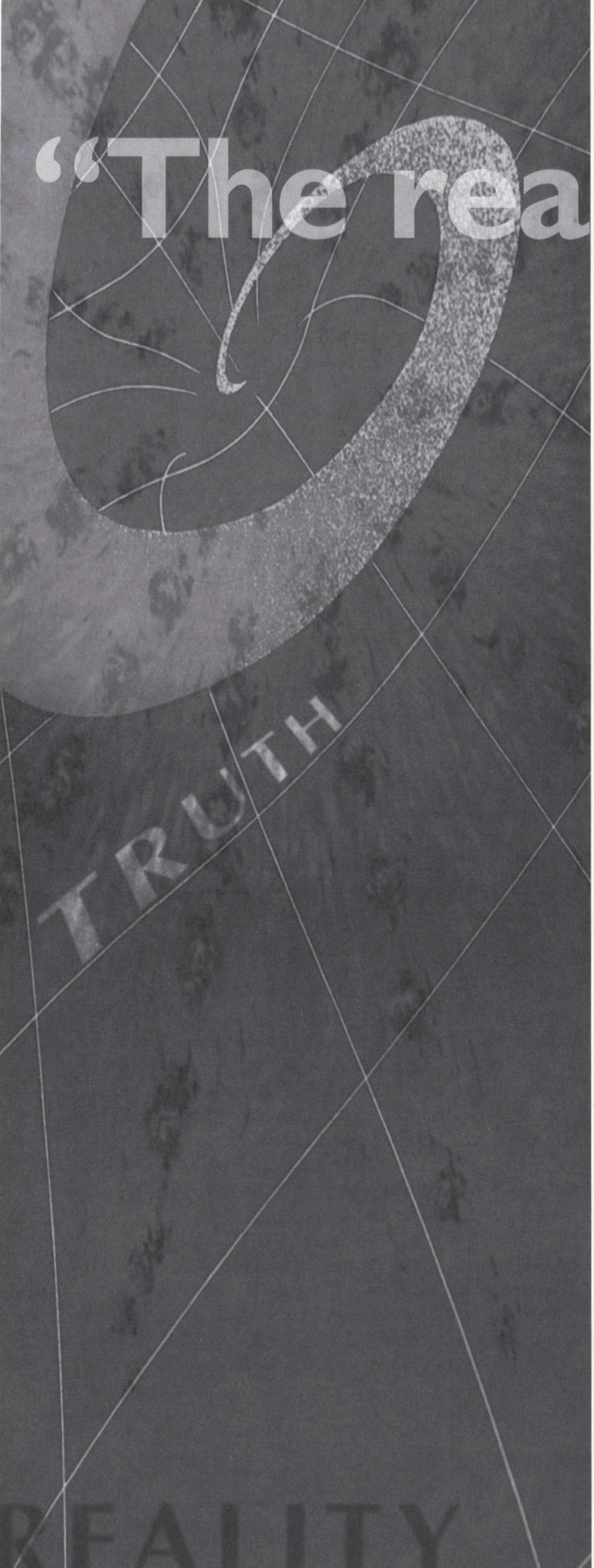
It turns out that this idea, in a very clever, very subtle way, has been around in cosmology and astronomy under the guise of a principle called the "anthropic principle." That is, the idea has been growing among astronomers—cosmologists anyway—that the universe has a purpose. It is so fine-tuned, there are so many coincidences, that it seems very likely that the universe is doing something purposive, as if the universe is growing in such a way that a sentient being will arise at some point.

WIE: *So you feel there's a kind of purposiveness to the way the universe is evolving; that, in a sense, it reaches its fruition in us, in human beings?*

AG: Well, human beings may not be the end of it, but certainly they are the first fruition, because here is then the possibility of manifest creativity, creativity in the sentient being itself. The animals are certainly sentient, but they are not creative in the sense that we are. So human beings certainly right now seem to be an epitome, but this may not be the final epitome. I think we have a long way to go and there is a long evolution to occur yet.

WIE: *In your book you even go so far as to suggest that the cosmos was created for our sake.*

AG: Absolutely. But it means sentient beings, for the sake of all sentient beings. And the universe is us. That's very clear. The universe is self-aware, but it is self-aware through us. We are the meaning of the universe. We are not the geographical center of the universe—Copernicus was right about that—but we are the meaning center of the universe.



"The reason that I lost the joy of science was because I had made it into a professional trip. I lost the ideal way of doing science, which is the spirit of discovery, the curiosity, the spirit of knowing truth. So I was not searching for truth anymore through science, and therefore I had to discover meditation, where I was searching for truth again, truth of reality."

WIE: *Through us the universe finds its meaning?*

AG: Through sentient beings. And that doesn't have to be anthropocentric in the sense of only earthlings. There could be beings, sentient beings on other planets, in other stars—in fact I am convinced that there are—and that's completely consonant with this theory.

WIE: *This human-centered—or even sentient-being-centered—stance seems quite radical at a time when so much of modern progressive thought, across disciplines from ecology to feminism to systems theory, is going in the opposite direction. These perspectives point more toward interconnectedness or interrelatedness, in which the significance of any one part of the whole—including one species, such as the human species—is being de-emphasized. Your view seems to hark back to a more traditional, almost biblical kind of idea. How would you respond to proponents of the prevailing "nonhierarchical" paradigm?*

AG: It's the difference between the perennial philosophy that we are talking about, monistic idealism, and what is called a kind of pantheism. That is, these views—which I call "ecological worldviews" and which Ken Wilber calls the same thing—are actually denigrating God by seeing God as limited to the immanent reality. On the face of it, this sounds good because everything becomes divine—the rocks, the trees, all the way to human beings, and they are all equal and they are all divinity—it sounds fine, but it certainly does not adhere to what the spiritual teachers knew. In the Bhagavad Gita, Krishna says to Arjuna, "All these things are in me, but I am not in them." What does he mean by that? What he means is that "I am not exclusively in them."

So there *is* evolution, in other words, in the manifest reality. *Evolution* happens. That means that the amoeba is, of course, a manifestation of consciousness, and so is the human being. But they are not in the same stage. Evolutionarily, yes, we are ahead of the amoeba. And these theories, these ecological-worldview people, they don't see that. They don't rightly understand what evolution is because they are ignoring the transcendent dimension, they are ignoring the purposiveness of the universe, the creative play. Ken Wilber makes this point very, very well in his book *Sex, Ecology, Spirituality*.

WIE: *So you would say they have part of the picture but that without this other aspect that you are bringing in, their view is very—*

AG: It's very limited. And that's why pantheism is very limited. When Westerners started going to India, they thought it was pantheistic because it has many, many gods. Indian philosophy tends to see God in nature, in many things—they worship rocks sometimes, that kind of thing—so they thought it was pantheistic and only somewhat later did they realize that there is a transcendent dimension. In fact, the transcendent dimension is developed extremely well in Indian philosophy, whereas the transcendent dimension in the West is hidden in the cave of a very few esoteric systems such as the Gnostics and a few great masters like Meister Eckhart. In Jesus' teachings you can see it in the Gospel according to Thomas. But you have to really dig deep to find that thread in the West. In India, in the Upanishads and the Vedanta and the Bhagavad Gita, it is very much explicit. Now, pantheism *sounds* very good. But it's only part of the story. It's a good way to worship, it's a good way to bring spirituality into your daily life, because it is good to acknowledge that there is spirit in everything. But if we just see the diversity, see the God in everything, but don't see the God which is beyond every particular thing, then we are not realizing our potential. We are not realizing our Self. And so, truly, Self-realization involves seeing this pantheistic aspect of reality, but also seeing the transcendent aspect of reality.

WIE: *In addition to being a scientist, you are also a spiritual practitioner. Could you talk a little bit about what brought you to spirituality?*

AG: Well, I'm afraid that is a pretty usual, almost classic, case. The ideal classic case, of course, is the famous case of the Buddha, who recognized at the age of twenty-nine that all of his pleasure as a prince was really a waste of time because there is suffering in the world. For me it was not that drastic, but when I was about thirty-seven the world started to fall apart on me. I lost my research grant, I had a divorce and I was very lonely. And the professional pleasure that I used to get by writing physics papers stopped being pleasure.

I remember one time when I was at a conference and all day I had been going around, beating my own drums and arguing with people. Then in the evening when I was alone, I felt so lonely. And I realized that I had heartburn, and I had already exhausted a full bottle of Tums and still it would not go away. I discovered suffering; I discovered suffering literally. And it is that discovery of suffering that brought me to spirituality, because I couldn't think of anything else. I couldn't think of any other way—although I had given up the idea of God entirely and had been a materialist physicist for quite some time. In fact, when my young children asked me one time, "Are you an atheist?" I said something like, "Yeah." And, "Is there a God?" And

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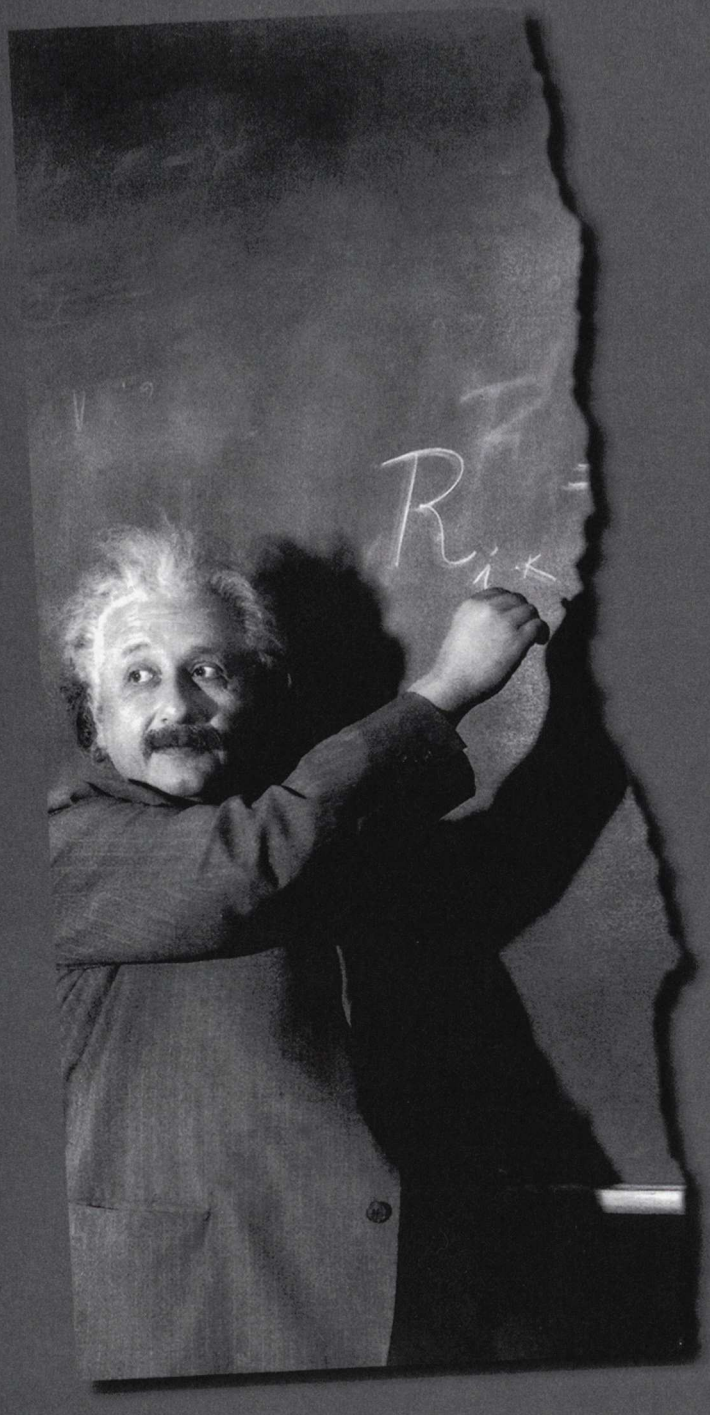
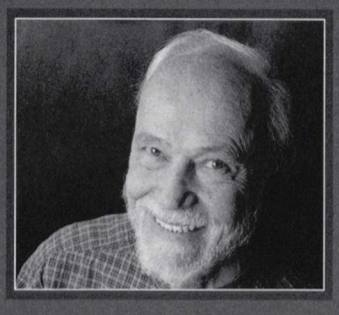


WHERE DO YOUR LOYALTIES LIE?

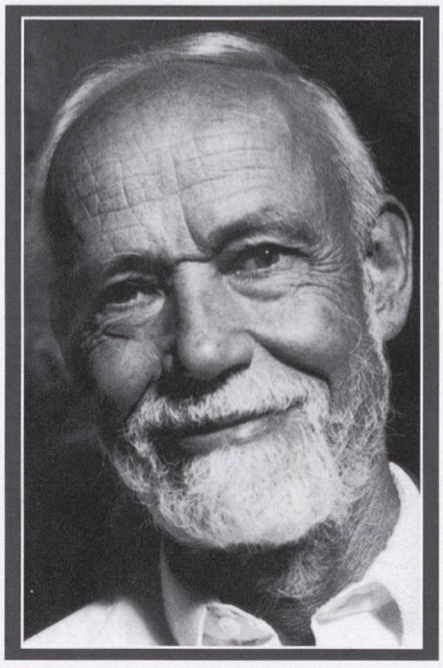


HUSTON SMITH
on the Sanctification of Science

and the Dethroning of God

INTERVIEW BY MICHAEL TOMS

It was during his professorship in the often overlooked departments of philosophy and religion at M.I.T., bastion of scientific and technological research, that Huston Smith became increasingly vocal in his criticism of what he saw as science's overreach of its rightful grasp. Today Smith is widely recognized as one of the foremost authorities on world religions, and a leading exponent of the importance of religious experience and understanding in the modern world. He has given considerable thought to the relationship between science and spirituality, and when we embarked on our own investigation of this subject for this issue of *What Is Enlightenment?*, we knew that it would have to include his passionate critique of the role of science in our time.



A professor of philosophy and religion at several noted American universities for over fifty years, Smith is the author of many books, including the classic text *The World's Religions*, which has sold over two million copies. He recently became known to an international audience through Bill Moyers's widely acclaimed PBS series *The Wisdom of Faith with Huston Smith*. A central theme in Smith's work is his assertion that while the scientific method is enormously powerful and has yielded great benefits, it has definite limits. In his book *Beyond the Post-Modern Mind* he writes: "Were we capable of keeping . . . science . . . in its place, there would be no problem, but the triumphs of science have been too impressive to allow this. Method has mushroomed into metaphysics, science into scientism, the latter defined as the drawing of conclusions from science that do not logically follow. . . . Scientism is a mark of our times, one we are all victims of and responsible for: in Descartes's fall, we sinned all."

While primarily a scholar, Smith has also spent many years as a practitioner of Christianity, Sufism, Tibetan and Zen Buddhism, and Vedanta. Reading Smith's books or hearing him speak, one encounters a man whose humor and soft-spoken eloquence never disguise his bold and unwavering message: that the spiritual dimension of life and the sense of the sacred are of the utmost importance for the fulfillment of our humanity. He laments, quoting Saul Bellow: "It is a long time since the knees were bent in piety." In a time when this perspective is often considered to be old-fashioned or too absolute, we are impressed by Huston Smith's strength of conviction in what, to him, is perfectly obvious. His fearless stand against scientific materialism and existentialism within the very institutions most responsible for the promotion of these views is remarkable and inspiring. His voice is a touchstone in today's bewildering world of modern philosophies—a world in which it is all too easy to lose one's way.

The following interview was conducted by Michael Toms for *New Dimensions Radio*.

MICHAEL TOMS: *Huston, why have religious structures seemingly lost the Vision, so that people have to seek it elsewhere?*

HUSTON SMITH: I think that they, like perhaps all the other institutions in the modern world, were taken in by a development that goes back about three or four hundred years and set the modern world on its course. That development was, of course, the emergence of modern science.

Science in the generic sense had been around as long as art and religion. But what was discovered then—in the sixteenth, seventeenth centuries—was the controlled experiment, which escalated science to a new order of power and exactitude. That power proved to be enough to create both a new world, this world that we now live in, and a new worldview. In the process it brought many, many benefits. But in terms of worldview, it inflicted a great blow on the human psyche by making it appear that life's material side is its most important side. Now this is a logical mistake. Science didn't really *say* this, but because its power derived from attending to the material aspects of nature, and because that power is great and effective and gave us many benefits, the outlook of modernity is unprecedentedly materialistic.

Now, you asked about religious institutions, the mainline churches. Unfortunately, they too succumbed to some extent to that slip. Not intentionally. But transcendence, as that which is not just larger than we are but also better than we are, got pushed into the background and lost our attention. All modern institutions, churches included, have suffered that loss.

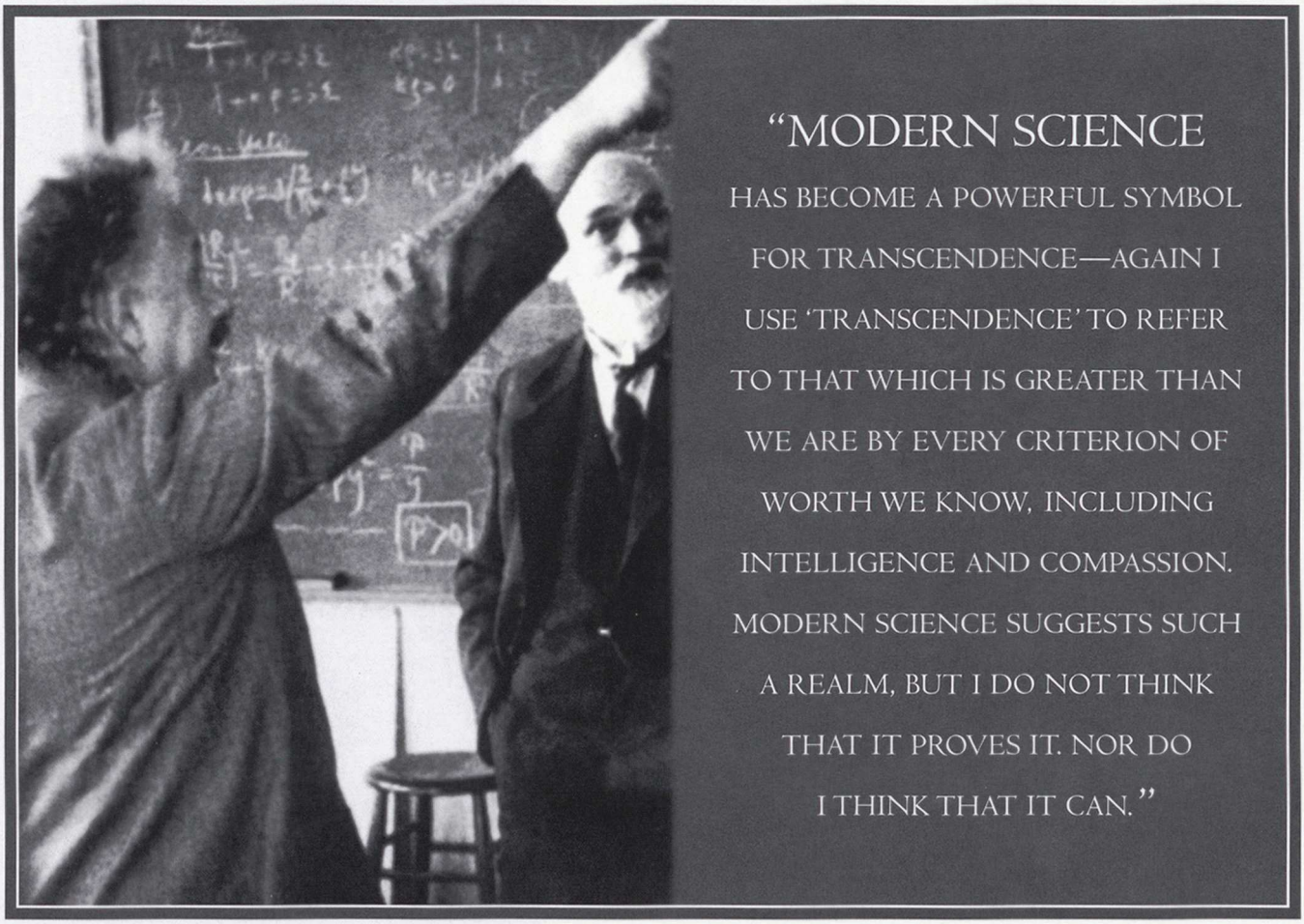
Churches are doing many good things—social service causes, taking in the street people, and so on. They're doing very good work. But the reason that they've failed to inspire as they once did is that their grasp on transcendence has slipped. That also accounts for why Asian spirituality has begun to appeal to people in the West. Not having suffered the modern reduction of reality, they have maintained a firmer hold on transcendence.

MT: *Asian spirituality puts more emphasis on the experience. I think of my grandmother, for example. She was deeply saddened when the Catholic Church decided to change the ritual and go to an English Mass. The mystery of the Latin—the mystique—was changed, was transformed, in that simple act.*

HS: That's right. And the so-called liturgical reform that you're referring to is an ambiguous move. Certain reemphases were perhaps called for, but there have also been losses. You mentioned one; I'll mention another. I recently was at a gathering with Robert Bellah, the noted sociologist and author of *Habits of the Heart*. He's a wise and right-thinking man. But he claimed that when the priest stopped facing the altar and turned to face the congregation, the Catholic Church gained, for the congregation felt included. Well, I have to confess that my take is just the opposite. Togetherness is nice. But it can't match the symbolism of the priest and the people—everybody, the priest included—facing the cross, as something that is beyond them all. That's what people need, more than they need the sense of togetherness or creating your own theology—the whole anthropological turn. Once more I'll say that the situation is ambiguous. It's not totally black-and-white. Because the gains are touted more than the losses, it's important to balance the picture. I'm glad you brought up the issue.

MT: *The aspect of community also comes up for me as we're talking about the shift. In the previous form—with the priest and the congregation facing the cross, as you put it—there's a recognition, I think, of each individual on his or her own journey in community.*

HS: Right.



MT: *Whereas, shifting it around it's like, well, we're all in this "together."*

HS: That's right.

MT: *But it's not quite that way, it seems. It's different. As you say, ambiguous is a good way to put it.*

Another thing that keeps coming up for me as we're talking about this has to do with the educational system, of which you've been a part for so many years. With the increasing emphasis on business, career and opportunity—at the sacrifice of what's called the humanities, the bedrock of establishing values and ethics in ourselves—courses on those subjects are going by the by. What about that?

HS: I think it's a serious matter. You may have seen a poll of students recently, freshmen, throughout the nation. One of the questions in the poll was, "Why have you come to college?" Seventy-five percent said, straight out, that their top priority was to make money, make more money. Few checked the option, "to develop a meaningful philosophy of life."

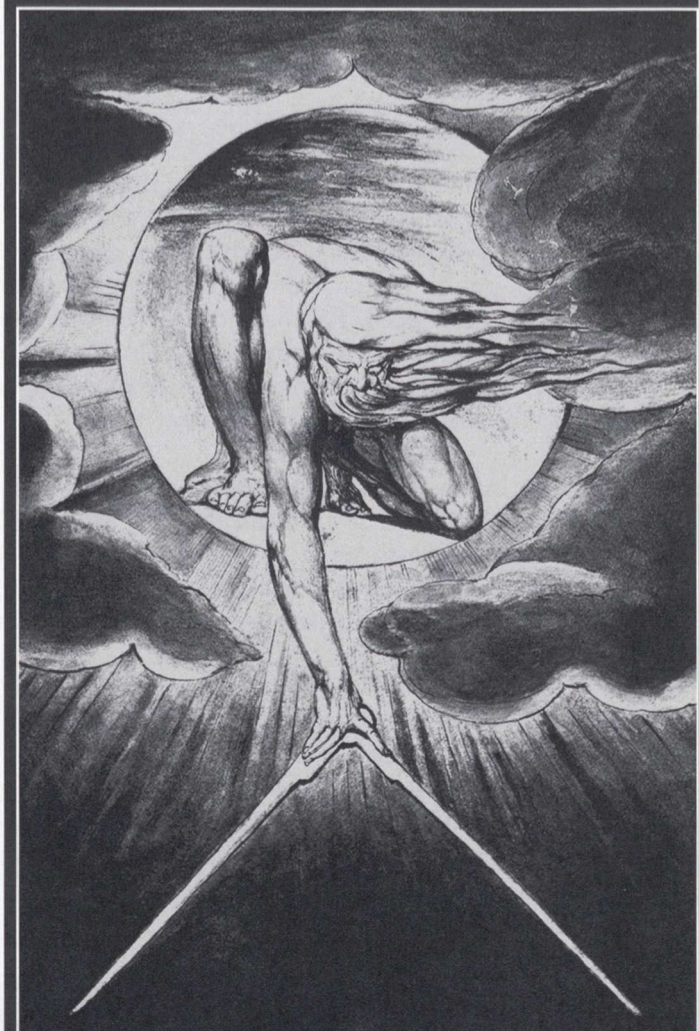
MT: *That's almost a direct reversal of the way it was twenty years ago, in the 1960s.*

HS: Exactly. I see the shift as ominous. The universities and colleges might say, "Well, that's just a problem of our time. We face the yuppies, and that's what they're coming for." But I personally think that we in academia have to take some responsibility for the shift. Again, there's been no wrong intent. We've simply not seen clearly what has happened. And what has happened in academia is, as President Steven Muller of Johns Hopkins said in an interview, "The university is rooted in the scientific method, and the scientific method cannot provide a sense of values. As a result, we're turning out skilled barbarians."

Now, I think that's basically true. But what academics do not see clearly enough is the way that their own disciplines, including their criteria for knowing, gravitate towards scientific ways of knowing which emphasize objective knowledge—public knowledge that can be verified.

MT: *All the proper footnotes and bibliographies.*

HS: That's part of it. There's also the jargon and the academese, much of which is unreadable. There's the added problem that because such a large proportion of our population is going to college, professors can get their books published just by requiring their students to read them! There's an ingrown character to academic writing. Professors speak to their colleagues and their own



"WHEN I HEAR PEOPLE SAY THAT WE NEED A NEW SCIENCE THAT IS LARGER IN SCOPE AND CAN PROVE THESE TRANSCENDENT REALITIES, MY IMPULSE IS TO SAY, 'IN PROPOSING THAT MOVE, YOU SHOW ME WHERE *YOUR* LOYALTIES LIE, NAMELY, IN SCIENCE! YOU'RE FOR TRANSCENDENCE BUT YOU WON'T REALLY BELIEVE IT EXISTS UNTIL SCIENCE PROVES THAT IT DOES.' "

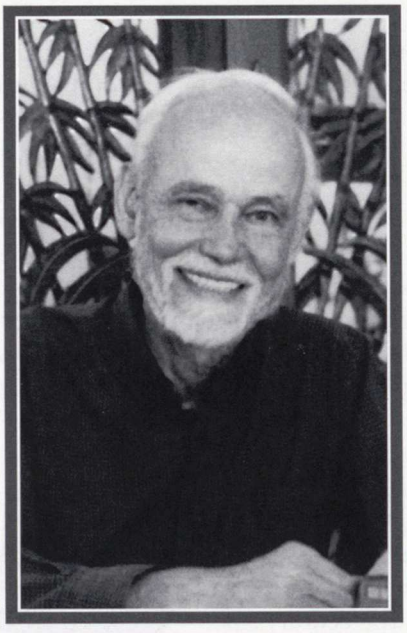
students. A gap emerges between the university mind and our public consciousness.

MT: *Huston, you're mentioning how the scientific paradigm has crept into academic circles, how the scientific model has actually become part of the research into the humanities, and how it can stifle creativity and originality. But in your writings you've also referred to David Bohm's theory of wholeness and the implicate order. David Bohm is certainly one of the foremost theoretical physicists of our era and has pioneered, I think, a theory of physics that almost sounds like a spiritual philosophy.*

HS: It does indeed.

MT: *One very similar to some of the Oriental philosophies you're so familiar with. What is your view of the possible coming-together, the linking, with science coming back around to its roots in natural philosophy?*

HS: It's an immensely exciting time. The outcome hasn't been determined; we'll find out how things go, but the incursions are fruitful. On one hand, the developments in science have undercut a kind of crass Newtonian view of reality as consisting of ultimate little atoms that are unrelated to other things—our century has undercut that. The interrelation between the parts of being—which David Bohm emphasizes with his concept of implicate wholeness—clearly is a move back towards the unity which traditional philosophies, those of Asia included, emphasized.



At the same time, I think we have to be careful here. Modern science has become a powerful symbol for transcendence—again I use "transcendence" to refer to that which is greater than we are by every criterion of worth we know, including intelligence and compassion. Modern science suggests such a realm, but I do not think that it proves it. Nor do I think that it can, for this reason: The crux of modern science is the controlled experiment; that's what distinguishes modern science from generic science, and what gives it its power by virtue of its power to prove. It can winnow hypotheses and discard those that are inadequate. What we don't see is the corollary of all this, which is that we can control only what is inferior to us. Things that are greater than we are, including more intelligent, dance circles around *us*, not we they. So there's no way that we are going to get angels, or God, or whatever other beings there may be that are greater than we are, into our controlled experiments. So I think modern science will never prove anything in the area of the human spirit. But it can suggest, and I find it suggesting powerfully. For me, modern science has come to rival, even outstrip at times, sacred art and virgin nature as a symbol of the divine.

Now, if I can continue one more step. I think there's a trap if those who share our kinds of spiritual interests rush on to say, "Well, that's true of science up to this point. But that only shows that we need a new science that is larger in scope and can prove these transcendent realities." When I hear that, and I hear it very often, my impulse is to say, "In proposing that move, you show me where *your* loyalties lie, namely, in science! You're for transcendence, but you won't really believe it exists until science proves that it does. So your move shows that you continue to accept science as the ultimate oracle as to what exists." That acceptance is the heart of modernity's problem, so the call for a science that proves transcendence only perpetuates the problem.

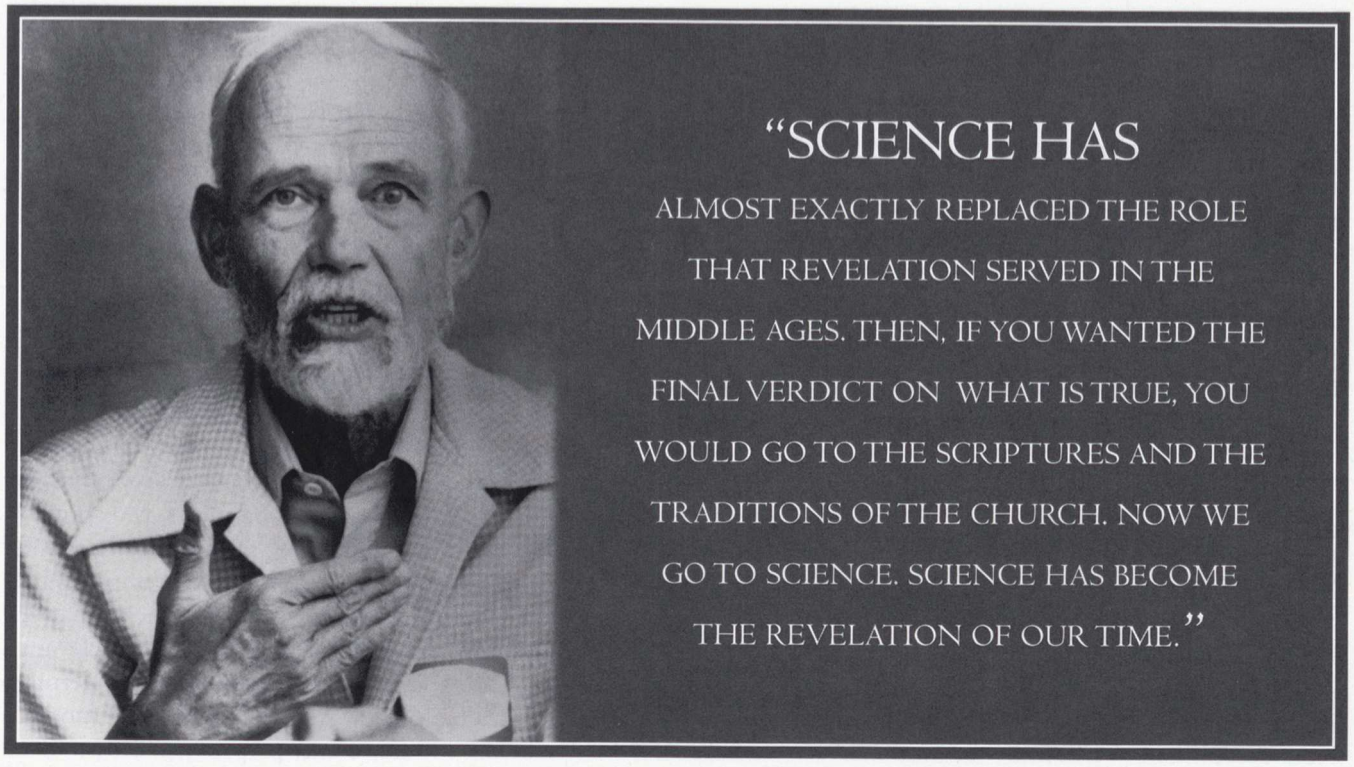
In probing the physical, material world, science is brilliant; it is a near perfect way of telling us about that. And to know about nature is a great good, for nature is awesome in its own right.

But science doesn't have to do everything. And if we try to make it do everything, with every step of its expansion we will decrease its power and will end up with a kind of mushy science. Of course, we can define "science" in any way we please. I prefer keeping it hard-nosed, powerful and precise, while insisting that it can only disclose a *part* of reality.

MT: *It occurs to me as I hear you present your case here—which I think is very compelling—that it may explain why it's so difficult to get psychic and paranormal experiences to happen in the scientific laboratory.*

HS: Exactly. I believe that paranormal powers are real. But to get anything into a laboratory, we have to reduce the variables to a single alternative so we can discover which side of it is true. Where the object in question exceeds us in complexity, we can't do that.

MT: *This may also explain why it has been so easy to change*



the agenda of colleges and universities, through the federal budget and the like. We've made science into some kind of god.

HS: Oh, clearly.

MT: *And science has become our religion.*

HS: Alex Comfort has a nice line on that. He says, "science is our sacral mode of knowing." Sacral is a coined word—it comes from "sacred." I think he's right. Science has almost exactly replaced the role that revelation served in the Middle Ages. Then, if you wanted the final verdict on what is true, you would go to the scriptures and the traditions of the Church. Now we go to science. One intellectual historian has pointed out that as far back as a hundred years ago, more people believed, really believed, in the truth of the periodic table of chemical elements than believed anything in the Bible. In the century since then, we've moved further in that direction. Science *has* become the revelation of our time.

And to return to our previous point, it *should* be with regard to the material world. The slip is that we have turned science into scientism—scientism being defined as the assumption that science is the only reliable way of getting at truth, and that only the kinds of things it tells us about really exist.

MT: *It may require some sense of humility to admit that we have confused science with scientism.*

HS: It will. In a way, we know what we need to know. It's one of these things that we know but never learn.

MT: *Or that we know but haven't integrated.*

HS: That's right. It has to be assimilated. But everything in our culture—almost everything—works against that assimilation. The visible bombards us from dawn to night. The tangible is so much with us that it's hard to put it in perspective. That's all we need to do, just put it in perspective. But that saving grace is difficult to allow. ■

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Renée Weber: I want to propose considering a

Is It Tru

the Buddha W

From an interview with physicist Fritjof Capra by Renée Weber, a professor of philosophy at Rutgers University

hypothetical example, let's call it science fiction or philosophy fiction.

Let's postulate that there is a physicist who is so good at his work that he is Nobel caliber; he's a Nobel prize winning particle physicist who later in his life also explores consciousness to such a depth that he becomes the equivalent of a Buddha figure. In my mind, this person has to be both a Nobel quality physicist and a "Nobel quality" spiritual person. He's absolutely adept at both. What, if anything, can he tell us that an ordinary physicist, an ordinary mystic, could not tell us? In particular, I guess, I'm asking, would he know more? Is his advantage only that he would be better able to relate one paradigm to the other? Or could he propose, for example, by virtue of his also being an enlightened consciousness, more perceptive, crucial experiments in physics that would somehow bear on inner states of consciousness? I'm curious as to whether you have any views on this.

e That . . . ould Just Be a Physicist?!

Fritjof Capra: Well, it's of course very difficult to imagine such a person because of the complementary nature of the two approaches. You would have a hard time becoming a Buddha figure after being a Nobel caliber physicist. But anyway, let us talk about a first rate Einstein, or any of the great physicists. Now such a person has already a high degree of intuition. And this intuition will be sharpened through the mystical training. And then once he went through this mystical training and became enlightened, he would be sublime in his intuition; he would also, by some miracle, not have forgotten his mathematics. He will be able to get back and resume where he left off and do the physics.

WEBER: *Would he have an advantage over other physicists in doing pure physics?*

CAPRA: He would have the advantage of being able to work much better. Because somebody who goes very far into meditation can marshall his or her energies in a much better way. I know this from experience because I know physicists who are involved in mystical traditions, who are Zen Buddhists or Vedantists; they do the same work in six hours that other people would do in ten hours. That would be one advantage.

WEBER: *My next question is: could he forge a bridge between the language of physics and the language of mysticism, or the models thereof? Could he better interpret the one world for those in the other world?*

CAPRA: Well, one would think so, but it depends on what kind of physicist we are talking about. If we are talking about a Niels Bohr figure, then he would have difficulty with language, as Bohr had. If we talk about a Feynman—but that's almost a contradiction in terms because Feynman is so against this whole mysticism.

WEBER: *I know that, but remember this is my science fiction example, and we're allowed to speculate wildly.*

CAPRA: Okay, we'll do some genetic engineering combining Feynman and the Buddha into one person. So then he would have an advantage, and he would be able to interpret mystical experience in terms which make contact with the scientific terms. As far as coming up with mathematical models is concerned, I think he would do it just on the basis of being a good physicist.

WEBER: *I suppose that is a more conservative interpretation of what I have in*

mind. I mean something much wilder. Could he as a scientist formulate experiments that no one now has the imagination to propose?

CAPRA: No, I don't think so.

WEBER: *Why is that?*

CAPRA: Because this requires a totally different mind frame. You see, not even the theorists are often very good at proposing experiments. It's the experimental physicists who are good at this, because they know the machines. They have this direct contact with the apparatus, and they are good at proposing experiments. In the good physics institutions and research centers, there's always a close collaboration and a close contact between the theorists and the experimenters. But I don't think that any mystical insights would help with those details.

WEBER: *But you feel the* theoretical *component would be affected.*

CAPRA: Yes, because theories are always based on a certain philosophy, or predilection.

WEBER: *And an intuition. This person would be more deeply in touch with alternative modes of space and time and consciousness and interconnectedness, not just intellectually but literally. He would have lived in and experienced those modes.*

CAPRA: Yes, but you know, as I said before, physicists also have that without being mystics.

WEBER: *But to a lesser degree, you were saying. Now this is a full blown version of it, isn't it?*

CAPRA: Well, I don't know whether he could be any more full blown than Bohr was. I really don't know.

WEBER: *Do you think Bohr felt himself indissolubly one with the universe?*

CAPRA: Definitely, definitely.

WEBER: *There is evidence?*

CAPRA: Oh yes, definitely.

WEBER: *But that is the description you've attached to the mystic?*

CAPRA: Yes.

WEBER: *So you're saying Bohr was a mystic.*

CAPRA: Yes, oh yes.

WEBER: *Earlier in the interview you said he was a highly intuitive person, but now you are going further.*

CAPRA: Well, I now take mystic in a broader sense. Bohr did not have any mystical training, and I don't think he meditated on a regular basis. But his work was his meditation.

WEBER: *I understand. He got a personal conviction of the unity of things in a way that didn't necessarily involve sitting down cross-legged in a room.*

CAPRA: Right. Bohr's science was his mysticism. And you know, I would almost suspect that this hypothetical person, if he really wanted to do physics and were a mystic, would just do physics. You see, in the Eastern traditions, the most enlightened becomes the most ordinary. And so these great sages just went around cutting firewood and drawing water.

WEBER: *After you're enlightened, the mountain is once again a mountain.*

CAPRA: Yes, and the proton would become a proton, the electron an electron, and our Buddha would just be a physicist. ■

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GOD OF THE GALAXIES, GOD IN THE GLUONS

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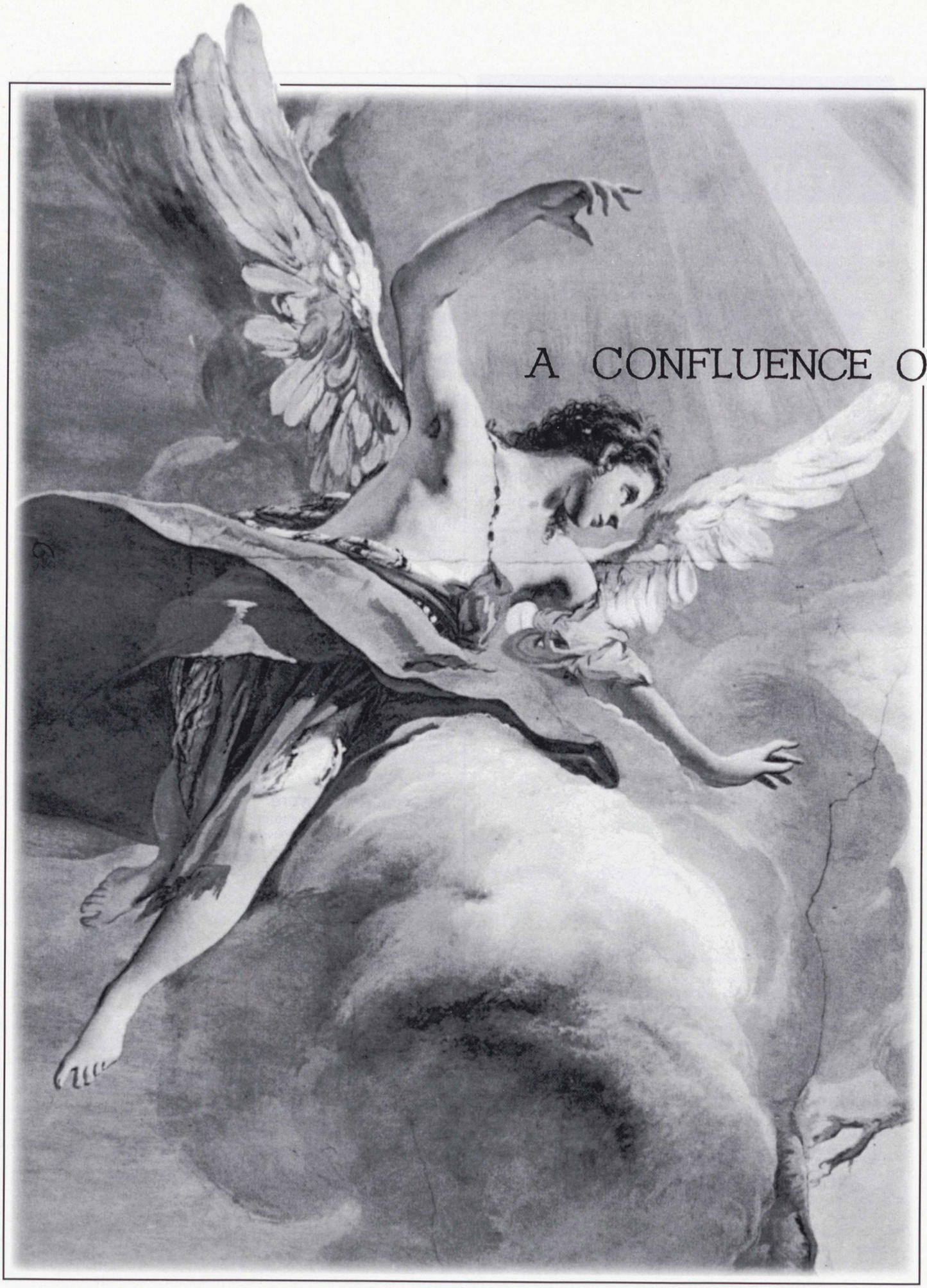
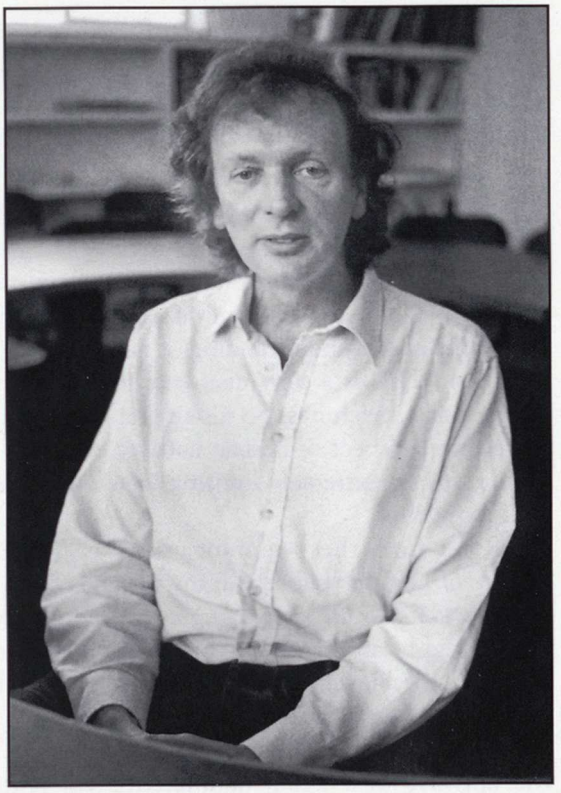

A CONFLUENCE OF

MAYBE ANGELS

IMAGINATION AND RATIONAL INQUIRY



I met controversial biologist Rupert Sheldrake the night he and theologian Matthew Fox celebrated the publication of their new collection of dialogues, *The Physics of Angels*. I knew that Sheldrake was not afraid to challenge orthodoxy by entering realms of thought usually eschewed by other scientists. A former Research Fellow of the Royal Society and Director of Studies in biochemistry and cell biology at Clare College, Cambridge University, England, his most unorthodox work is not easily dismissed, even by his more traditional peers. His first major book, the controversial *A New Science of Life*, published in 1981, was called "the best candidate for burning there has been in years" by the prominent scientific journal *Nature*, but was simultaneously praised by the equally well respected *New Scientist* as "an important scientific inquiry into the nature of biological and physical reality." His work ever since has been notable for its revolutionary attempt to bring an awareness of the intelligent and living quality of what we often view as brute nature, for trying to heal the Cartesian split between the physical and the mental, and for adventurously crossing the well-guarded boundary between the worlds of science and spirituality. Still, I wondered how far a scientist could go before he had truly left science's legitimate domain. Angels? Surely this must be a whimsical metaphor for something more rational, more in line with modernity, more, well, material.

Interview with RUPERT SHELDRAKE by Hal Blacker

Speaking with Sheldrake showed me I was wrong, in part. His belief in the *possibility* of the existence of angels, or of intelligences operating in the universe that are greater than our own, is not metaphorical. Nor is it tinged with the wishful fantasy which pervades so much of new age spirituality. Instead, it is the latest exploration of a visionary thinker who is unafraid to take the immense risks that go with entering the territory of the unknown.

In our conversation, Rupert Sheldrake revealed himself to be not only an innovative scientist but a man of impressive erudition in many other fields of learning, and also one whose scientific and philosophical investigation is fueled by a passionate concern for all of life. While some of his theories may seem more fanciful than factual, blurring the line between science and science fiction, speaking with him was a mind-expanding journey that had me, a few nights later, staring into a starry sky and wondering, despite myself, if there was someone or something out there staring back. More significant to our investigation of the relationship between scientific exploration and enlightenment, Rupert Sheldrake showed a quality that is rare in men of his intelligence and breadth of knowledge—a pervasive humility and respect for what is not known, and for that which it may never be possible for the intellect to grasp.

WIE: THE FIRST QUESTION I WANT TO ASK YOU IS, WHY ANGELS? IT SEEMS LIKE AN UNUSUAL THING FOR A SCIENTIST TO BE TALKING ABOUT.

RUPERT SHELDRAKE: I'm interested in the recovery of the sense of the life of nature. The thrust of all my work is to try to break out of the mechanistic view of nature as inanimate, dead and machinelike, which forces the whole of our understanding of nature into a machine metaphor. This is a very man-centered metaphor. Only people make machines. So looking at nature in this way projects one aspect of human activity onto the whole of nature. It's an extremely limiting view of nature, and an alienating one.

Right from the beginning, since my book *A New Science of Life* was published, my aim has been to try to find a wider picture or paradigm for science that is not constricted to an inanimate, mechanistic view of things. In a way, the bigger picture is the idea of the whole universe as a living organism.

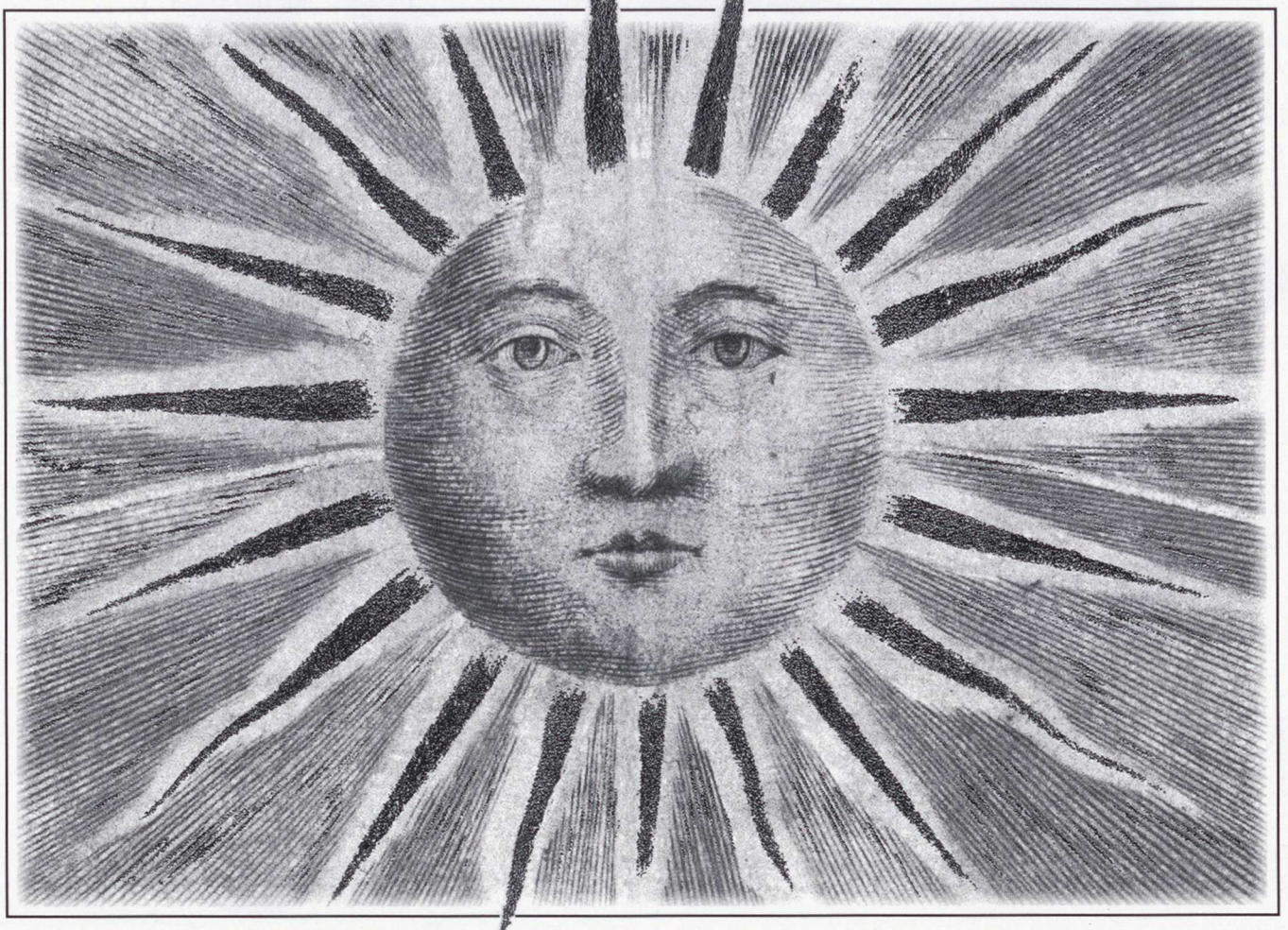
The big bang theory gives a picture of the origin of the universe in a small, undifferentiated, primal unity. The universe then expands and grows, and new forms and structures appear within it. This is more like a developing organism than like a machine. So implicitly we've got a new model of the universe as a developing organism.

Physics, also, has broken out of the old mechanistic universe. The old idea of determinism has given way to indeterminism and chaos theory. The old idea of the earth as dead has given way to Gaia, the idea of the living earth. The old idea of the universe as purposeless has been replaced by a new physics based on the notion of attractors, of things being drawn towards ends or goals. And the old idea of the universe as uncreative has given way to the idea of creative evolution, first in the realm of living things, through Darwin, and now we see that the whole cosmos is in creative evolution. So, if the whole universe is alive, if the universe is like a great organism, then everything within it is best understood as organisms rather than machines.

Then the next question that arises is: Well, if the universe is alive, if solar systems are alive, if galaxies are alive, if planets are alive, are they conscious? Or are they alive but unconscious, in the same way that perhaps a worm or a bacterium might be alive but unconscious? And, is the kind of life that may exist in the cosmos more conscious than ourselves or do we have to assume it's a great deal less conscious than ourselves? Are we the smartest beings in the universe? Now the usual answer of science is yes. I think that's a very improbable assumption. So, if we come to the idea of many forms of consciousness, if the galaxy has a life and a consciousness, then it would be a consciousness far greater than our own—greater in extent, greater in its implications and power, and in the spread of its activities. This, from the point of view of science, is a ridiculous idea, because science has wiped out consciousness from everything in the universe except human brains.

"Does a galaxy have a **life** and a

CONSCIOUSNESS?



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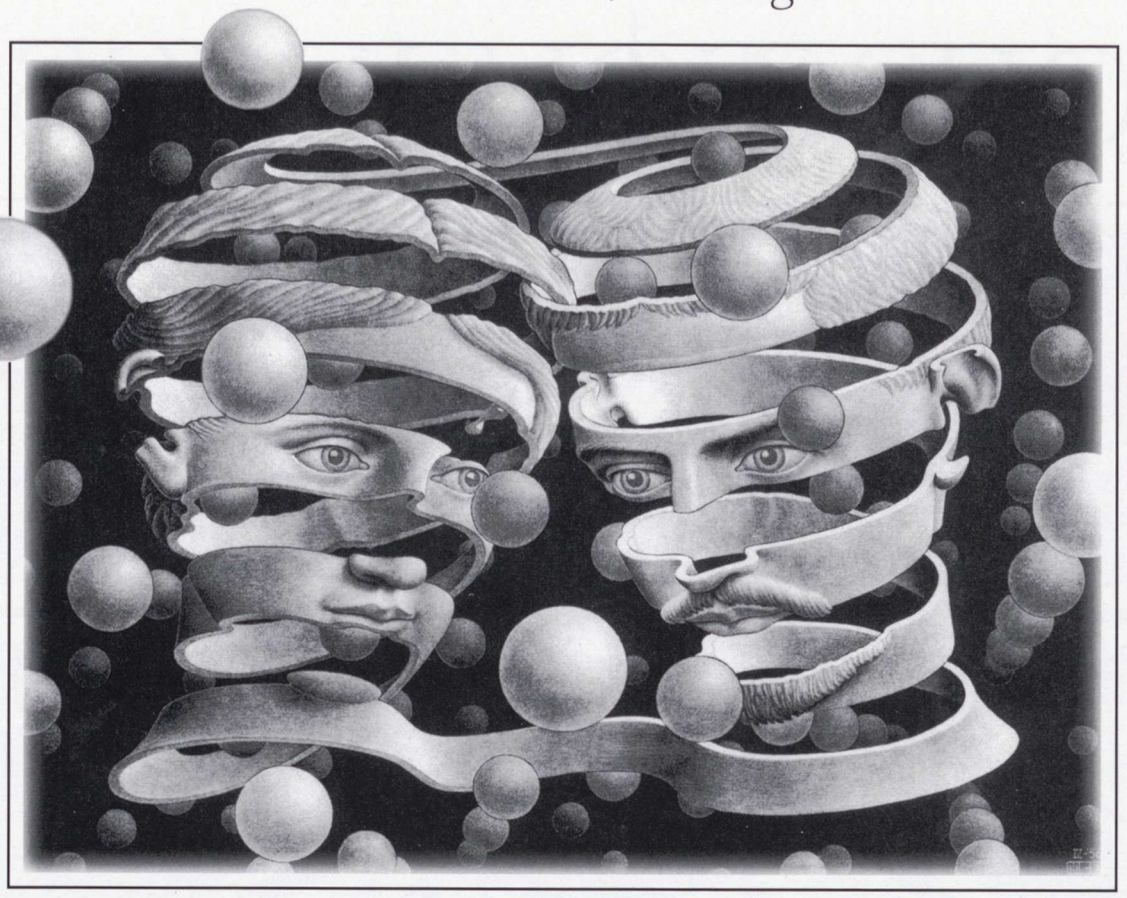
"I think that **self-awareness** comes about through



MUTUAL AWARENESS.

I don't think that self-awareness arises within a solipsistic world of **navel gazing**."

But there is in the Christian tradition, in the Jewish tradition and in all traditions, the idea of many beings with greater levels of consciousness than our own. In the Western traditions they are called angels. So, in my book with Matthew Fox, *The Physics of Angels*, our aim was to explore what the Western tradition actually has to say to us about angels, and see what relevance that might have in the context of new cosmology.

My interest is in a new view of science, where we see the universe as alive, and in an exploration of what it could mean to see that there are forms of consciousness above the human consciousness. If one thinks of a divine consciousness embracing all things, and then this human consciousness here, the traditional view is that there are many, many other levels and kinds of consciousness in between. It's not that you leap straight from divine

consciousness to human consciousness, with nothing but brute matter in between.

WIE: *When you are speaking about consciousness, do you mean self-awareness?*

RS: I think that self-awareness comes about through mutual awareness. I don't think self-awareness arises within a kind of solipsistic world of navel gazing. "Consciousness" means, literally, *con scire*, to know with, or to know together. I think that the reason that we are conscious is because we are *interconscious* in relationship to other people. Consciousness is shared, and I don't think an individual human being, without language and without relationship with other people or any other thing, would be conscious. I think that consciousness has to be understood in relationship, not as a kind of isolated thing. And, since I'm Christian, the model of consciousness that I like particularly in the Christian tradition is the notion of the Holy Trinity. Divine consciousness is not just an undifferentiated unity in the Christian tradition. It's one of relationship and it always has relationship within it.

I think that if a galaxy is conscious, then its consciousness would depend on its relationship to the stars and solar systems within it, and also, probably, its relationship with other galaxies. There'd be a kind of intersubjectivity of galaxies, a communion or community of galaxies.

WIE: *Last night, when you and Matthew Fox were celebrating the publication of* The Physics of Angels, *you spoke about the possibility of the sun being conscious. You said that the sun is a complex system with a great deal of electromagnetic activity, and so is the brain. So, like the brain, the sun might be conscious. When you talk about galaxies or the sun being conscious, how literally do you mean this?*

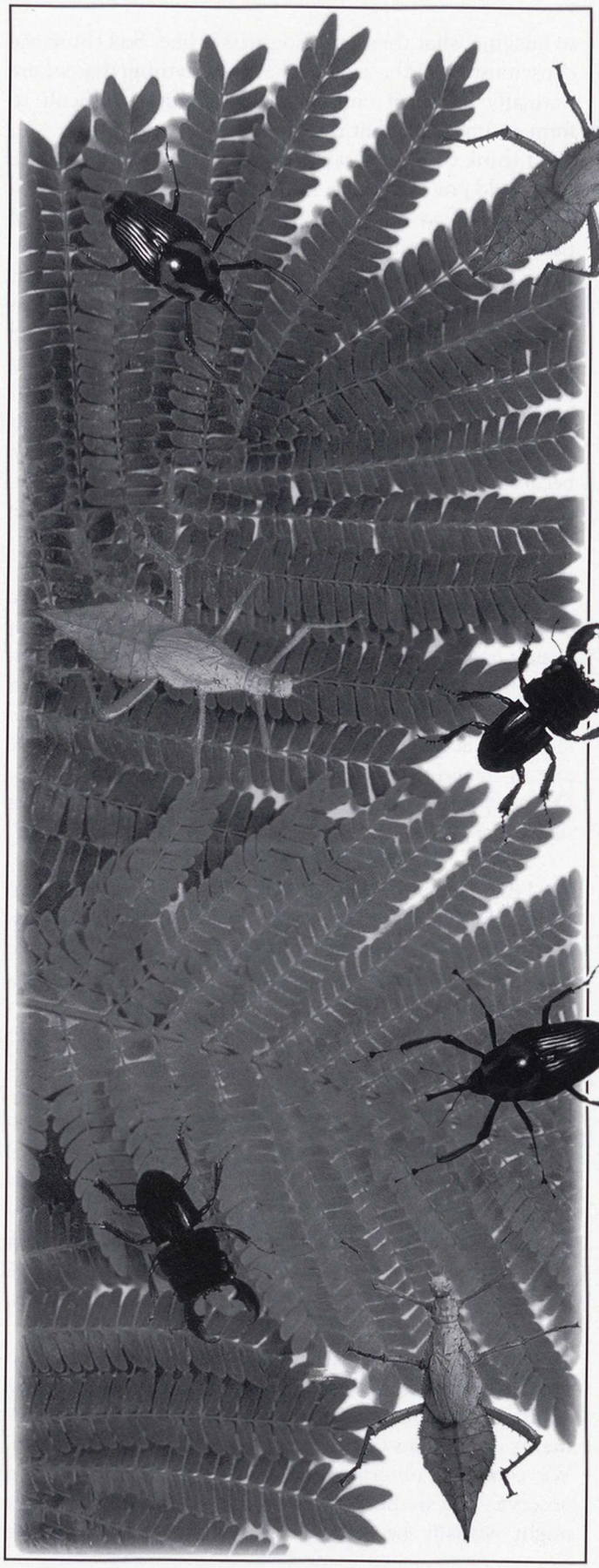
RS: Well I do mean it literally but it's difficult to know about any form of consciousness other than one's own, and even that is a mystery. I don't know what your consciousness is like, let alone the consciousness of a dog or a cat or a bird. Even with organisms we know are alive and probably aware, it's hard to penetrate the inner life of their consciousness. But since you speak English, I would imagine quite a lot of it depends on the English language, as my own does. The sun presumably doesn't speak English and doesn't have language of the human kind at all. And it's very hard for us to imagine what any consciousness is like that isn't formulated on human language. A dog's consciousness or a dolphin's consciousness is obviously not formulated in terms of human language and it's a great exercise of the imagination to try to imagine what their consciousness is like. So I think the consciousness of the sun is so beyond anything that we are normally aware of ourselves, it's extremely difficult to form an image of what it might be.

I think one could say that the scale of interest of the sun would presumably be, first and foremost, the solar system. I think we'd have to think of the consciousness of the sun as not embedded just within the sun but as something that would be centered in the sun but extends through the solar system, just as our own consciousness is not confined to the inside of our heads but spreads out to our entire perceptual world around us and links us to everything we relate to. So I would imagine the solar consciousness embraces the whole solar system and also its relationship to the other stars and the whole galaxy, because the sun is not an isolated unit, nor is the solar system. It's part of a larger organism, it's like a cell within the body of the galaxy.

WIE: *Professor Huston Smith, who has written a great deal about science and religion, is skeptical about the usefulness of science in the area of spirituality. Because science is so dependent on the experimental method, he doubts that it can either prove or disprove the existence of consciousnesses superior to our own since if such superior beings exist, we would not be able to compel them to submit to our scientific experiments. Do you feel that the existence of beings with consciousness superior or greater than our own can be scientifically proven?*

RS: I don't agree with Huston Smith that the only way we can study things scientifically is by compelling things to submit to our experiments, because if that were true the whole of astronomy wouldn't exist. We can't do experiments on galaxies. We can't tweak a galaxy to see which way it goes, or give an electric shock to a solar system to see whether it jerks in a particular way. All the standard experimental methods have never applied to astronomy. Astronomy is an observational science, not an experimental one. I think that the emphasis on the experimental method in science is somewhat misplaced in Huston Smith's view, because the paradigmatic science, the science from which the scientific revolution was born, is astronomy, and astronomy is not an experimental science in the sense of altering variables, controlling conditions, and so on.

I think we are in the same position with respect to the consciousness of the stars and the celestial bodies as we are in relation to astronomy itself. We can't do experiments on the sun or on the galaxy or on other galaxies. We can only observe them, and learn from what we observe. But if there is a consciousness of the sun, it might actually be slightly easier because it might be



"The idea that the whole universe evolved so that **human beings** could come into existence and smart guys could be **professors** in major American universities is VERY GRATIFYI But it doesn't **explain** why you needed millions of species of **beetles** for millions of years before **human beings** arrived on the scene."

something we can interact with. We'd have to interact with it through our consciousness, rather than through physical instruments.

I could learn a lot about what's going on in your body from electroencephalographs and electrocardiograms and that kind of thing, but I still wouldn't know what was going on in your consciousness. The only way of really finding out about that would be by meeting you, being with you, talking to you, empathizing or whatever. So I think the same would apply to the consciousness of the sun or the galaxy or the celestial beings. If we are going to communicate with them we are going to have to do it by means of our own consciousness, through consciousness, possibly by some kind of intergalactic telepathy. This is obviously not within the present methodology of physical science. But that doesn't mean that it's totally beyond investigation forever.

WIE: *So you are suggesting bringing consciousness into the study of what we normally consider to be inanimate matter and inanimate systems?*

RS: Well, I think that we have to bring consciousness into our study of consciousness and, obviously, if we assume the sun and the galaxy *are* inanimate, then the issue doesn't arise. If we just explore the possibility that they are conscious, then the possibility arises of actual conscious communication with them. Now, how that might happen I don't know. To me, there are a lot of rather unwelcome attempts at conscious communication in the cacophony of channeling that's going on at the moment. You know, people who claim to be channeling the Pleiades and that kind of thing. In a way, this is a dangerous path because it would be an open invitation to California channelers to start telling us what the stars are thinking. So, how it might happen I don't know. I haven't started this investigation myself but, if I did start it, I think that the first thing would be to look through the traditions—the Hindu tradition, the Buddhist tradition, Native American traditions, native traditions around the world—at what people have said and thought about their relation to the stars. Most traditions have the idea that human beings are linked to the stars and that human consciousness is linked to them. In Japan the emperor is supposed to be descended from the sun. The whole pyramid cult and the pharaoh cult were based on the idea that the soul of the dead pharaoh could be projected up into the stars, particularly into the constellation of Orion. The new theory of the pyramids, which I find convincing, is that the three pyramids in Giza are a model on Earth of the belt of Orion. They thought the consciousness of the pharaohs was projected out into that constellation, and that somehow those stars, or that region of the heavens, was specially related to the land of Egypt, to the consciousness of the pharaohs and to the highest consciousness which they could conceive of human beings attaining.

So there's a great deal in the history of religion and in mythology that tells us something about what people thought in the past. And these are people who probably spent a great deal of time over many generations actually relating to the stars, probably by lying out at night actually looking at them, observing them very closely. No one now looks at the stars. Astronomers have fancy telescopes that take radio readings that go into computers. Astrologers, who are interested in stellar patterns, never look at the stars, they just look at Macintosh screens to see what the ephemeris says. The number of people who actually look at the stars and know them nowadays is vanishingly small—a few amateur astronomers, a few old-style celestial navigators who have been trained in the Navy or something. Otherwise most modern people haven't a clue. So there are very few people around today who have that kind of living relationship with the stellar realm.

NG TO OUR COLLECTIVE EGO.

WIE: *You are suggesting making direct contact with what one is studying in a way that sounds much more experiential than the way science is usually done.*

RS: Well, science starts from direct contact and then it gets more and more into details. The science of animals and plants starts with observing animals and plants. Natural history is the starting point of any science, and that starts through direct contact. Linnaeus didn't classify all the families of flowering plants by looking at their cells under a microscope or grinding them up and isolating their enzymes. He did it by looking at them, by holding them, touching them, feeling them, seeing them growing in the field or squashed onto herbarium sheets. He was looking at the actual plant form. We have to start from

"A lot of my work is **based on the assumption** that the so-called LAWS OF NATURE may *not* have been **fixed** through all time. In an evolutionary universe, why shouldn't **they evolve**?"

direct contact and experience. That's the basis of our primary knowledge of things.

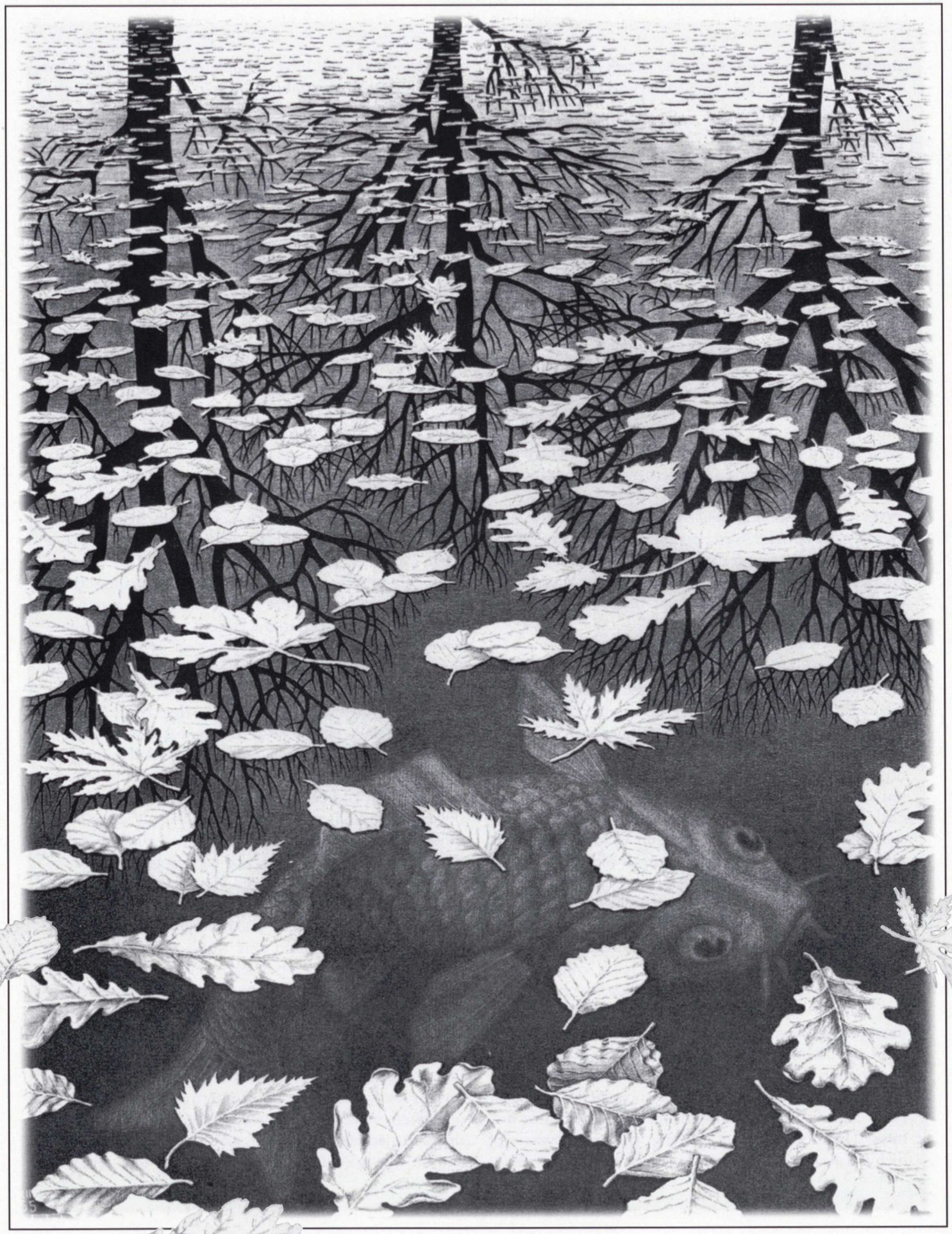
WIE: *What do you think of the view of neo-Darwinians such as Richard Dawkins or Stephen Jay Gould, who believe that evolution is without purpose or design and is the result of blind chance and natural selection?*

RS: I think this is an act of faith on their part. It's not scientifically proven that it is without design—it is simply their assumption to start with. They want to believe that it is without purpose or design and so they say so. They are materialists and, as materialists, their view of the universe, their philosophy, has no place for purpose or design in evolution. Without looking at a single piece of evidence or data, they can deduce that it has no purpose or design because it follows from the premise from which their entire world philosophy starts.

I think that they are tied up in a way of looking at the world which starts not from observation but from dogma. I don't think there's anything in science itself that can tell us that evolution has no purpose or design. Maybe there's nothing that can prove scientifically that it *does* have purpose or design either. What we see is a variety of organisms amazingly well adapted to their environment. We see in evolution an amazingly creative process. Their philosophy says this is just chance and natural selection. But there are other evolutionary philosophers who say, "Okay, natural selection plays a part, it weeds out unfit organisms. But the creative process in evolution is a mystery."

Creativity is not blind chance. It's only blind chance if you start with the dogma that it has to be blind chance—the materialist dogma. Alfred Russel Wallace who, together with Charles Darwin, discovered the principle of natural selection and founded evolutionary theory, ended up with the idea that evolution was guided by intelligent spirits, that the creative side of evolution was guided by an immanent creative intelligence, or many kinds of intelligences, within the natural world. And that's just as compatible with the evolutionary facts as the neo-Darwinist dogmas. However, even if evolution is guided by intelligent spirits or—just to put it more generally—by intelligence immanent in nature, that doesn't necessarily mean that this immanent intelligence is working in accordance with an overall master plan or that human cultural evolution is guided by an intelligence immanent in human beings. You know, every innovation, every gadget that's invented, every new advertising slogan, every new book that's written, every new piece of music or work of art that's made, is guided by a creative intelligence. But that doesn't mean that we know where we are going. It doesn't mean that these creative intelligences are working in accordance with some master plan for the destiny of humanity. Mostly they are working in accordance with much more short-term goals.

So for me, it's an open question as to whether the intelligence that underlies the creativity in life is working in accordance with some fixed goal for the end of evolution. I don't get that impression. If you look at the diversity of life—several million species of beetles, for example, on this planet—you get the impression that there's a kind of creativity for its own sake, a proliferation of form and variety. It's not at all clear why there should be so many millions of species of beetles. A quote I like is J. B. S. Haldane's reply when someone asked him, "Mr. Haldane, you have spent so many years studying life. What do your



studies of life tell you about the nature of God?" "Sir," Haldane answered, "He seems to have an inordinate fondness for beetles."

Any narrowly anthropocentric view of evolution, the kind of view of evolution that sees it all moving towards the evolution of humanity—the idea that the whole universe came into existence so that life could evolve on Earth, so that human beings could come into existence here, so that smart guys could be professors in major American universities—is very gratifying to our collective ego. But it doesn't explain why you needed millions of species of beetles and countless species of ants and termites in the tropical rainforests, existing for tens or hundreds of millions of years before human beings arrived on the scene. Why is all that necessary for the evolution of human intelligence? Especially since we are driving thousands of species a week to extinction and most people don't even know they existed in the first place. It's a great mystery as to why life and evolution should involve such an incredible proliferation of diversity and creativity.

WIE: *If one thinks of the universe as having immanent intelligence, or as pervaded by consciousness or guiding intelligence, or thinks of God as the mind of the universe as a whole, a troubling question arises. How can one explain the apparent cruelty of much of nature, the fact that nature is "red in tooth and claw," as the poet said?*

RS: Well, I think if there's a universe of diversity and of becoming, which is what our universe is, then all things are mortal. Nothing lasts forever in a universe of becoming. If we lived in a frozen, crystalline universe where nothing ever changed, I daresay there'd be no claws and no blood. But the nature of existence, as we see it in the universe, is that all things come to an end and are recycled. Even the most long-lasting things we know of, like stars, come to an end. The forms in which things come into being have a limited lifespan, so all organisms are going to die sooner or later. And it's the very nature of animal life that animals make their living by eating plants or other animals. So, if you are going to have animals which by their very nature have to eat other organisms, you're going to have red claws and teeth somewhere or other. Plants make their living by getting energy from the sun, but even plants don't live forever either. Decay, disease, death and suffering are built into the very nature of an evolutionary universe of this kind. So, if we have an evolutionary universe in which change and development are built in, in which there is a constant becoming of forms and dissolution of forms, these are inevitable features. The God of such a universe, the consciousness of such a universe, has to encompass these kinds of processes. You could, perhaps, have a different kind of universe, as I said, where everything is frozen in crystalline unity forever. But that would be a different sort of universe, a universe without becoming, without development, and also without creativity. It seems to me an inevitable consequence of the kind of universe we have that there's going to be red teeth and claws around, and suffering, disease and death.

WIE: *For many people that's somehow inconsistent with the idea that the universe is ultimately a whole which is intelligent and good.*

RS: I don't see any reason why an intelligent, good, whole has to be thought of as a frozen, timeless being. This is a Greek conception of God, not a Jewish one. The Jewish conception of God is God working in time and history and process. The Greek conception is a kind of Platonic version of something totally disembodied, totally detached from the natural world, floating above space and time in an eternal changelessness. No doubt that's one aspect of the Divine Being, a kind of absolute sense of being rather than becoming. I think that's a pole of divinity. But there's another side of divinity which has to do with becoming, process, time, and that's something that's strongly emphasized in the Jewish and the Christian tradition but not so much in the Eastern traditions. All of us, whether we like it or not, are shaped by this Western sense of process, becoming, of the meaning of history and of things developing and changing in time. If one wants a God who's not involved in time in that kind of a way, then there are religious paths that are based on that view. One can view the whole of creation as a terrible mistake, as nothing but a series of endless, futile cycles of becoming and birth and death, and rebirth and redeath and so on, going on and on forever. Then the only answer is a kind of vertical takeoff into a realm of timeless being where you just forget all this and leave it behind you.

When I was living in India I found that some Hindu teachers took that view, and some of the Theravada Buddhists take that view. Their whole aim is to detach themselves entirely from this world of becoming and undergo a vertical takeoff of individual salvation. I don't think that view is deeply attractive to most Westerners. We are too embedded, perhaps, in cultural conditioning about wanting to help people or save the world, or do something. It's built into our whole culture. Maybe it's just a different way of responding to the sense of the divine. But I think that the Western sense of divinity is one where suffering and process are inherent in it all. In the Christian view this is extremely clear. Jesus was crucified on the cross. It's not about a God totally removed

"I don't think you can prove spiritual **truths** by scientific means. **Science is a limited** method of inquiry. It looks at the repetitive aspects of the natural world, so its **sphere of interest** is RELATIVELY CONFINED."

from suffering, process, history and so on, but one who actually has an aspect of his being within it all.

WIE: *Do you find that this Western view is more supported by science, particularly by the scientific theory of evolution, than the other view?*

RS: Well, I would say that the whole of the Western evolutionary view says that the entire world, the entire universe, is in a process of development and change in time, that there's an historical process of development inherent in it all. In most Indian and Buddhist traditions, as well as in that of the ancient Greeks, you have a cyclical view of history. There is just an endless recurrence of cycles. Only in the Jewish religion, and in derivative religions like Islam and Christianity, do you have this very strong emphasis on process and time. And now the West comes up with evolutionary theory, and suddenly it turns out that this is the process of not just biological life on Earth but the entire universe. Is this a vast cultural projection and justification of our religious assumptions? Or is it a fantastic confirmation of them from science? It's hard to know which.

WIE: *Do you feel that there is an objective truth ascertainable through science, or is all of science possibly a projection of certain basic assumptions?*

RS: I think all of science is the projection of certain basic assumptions. You start from a hypothesis and your hypothesis has a plausibility depending on your assumptions. The universe is reflexive—in other words, it reflects what we are looking for. If you believe the most important thing in the universe is polarity, you can see it everywhere—you know, heads and feet, north and south poles, roots and shoots in plants. If you think the most important thing is trinities, threes, you can find threes everywhere you look. If you think it's fours you find fours—the four points of the compass, squares, corners and so on. You're always meeting people who have got philosophies where the secret of life is this or that, and you can find plenty of evidence for all of these philosophies.

The universe can reflect an infinite number of points of view, it seems. But in science the way that you decide between competing views is by means of experiments. In philosophy you can have rival schools of thought that go on for thousands of years. But in science the general rule of the game is that if you have one hypothesis and someone else has another, you can actually say, "Okay, now can we do an experiment to find out which is better?" You have a kind of contest, and by agreeing on the experiment and doing it you ask nature to decide which is the better hypothesis. It's like an oracle. You ask a question of nature and the answer comes back from the experiment. The experiment doesn't always resolve the question. There are always disputed points of view in science. But you *can* resolve some things in science.

Evolutionary theory says that if there were many forms of life in the past that don't exist now, they should have left various traces. And indeed, you look and there are all these bones of animals that no longer exist buried in the earth in strata and layers and this seems like pretty good evidence of change in time. Then you have the idea that all forms of life are related, and that all animals and plants within a given family are related to each other. And when you look at their DNA and their proteins, you find *those* are all related, that there is a family resemblance even at the molecular level.

I think the evidence is pretty plausible for this process of development in time. So I think that some things are indeed supported by evidence and you can decide certain questions by evidence. There are some more metaphysical

questions that you can't, like "Is there a purpose in evolution?" That's not the kind of question that's easy to decide by evidence.

WIE: *Do you feel that having certain ultimate beliefs or assumptions, even if they cannot actually be proven or disproven by science, can inform science, or open it up to other realms that it might not be open to without them?*

RS: Well, science is inevitably based on assumptions about the nature of the universe. In the seventeenth century the view that most scientists started from was a kind of neoplatonic conception of God, where there's a sort of timeless mind underlying the universe, essentially mathematical in nature. In this view, the mind of God is filled with mathematical equations and mathematical forms which are what ultimately shape and govern the whole of nature. The conventional scientific assumption of universal changeless laws of nature is simply derived from this neoplatonic theology of the seventeenth century. Most scientists have eliminated the mind of God from the world machine, but what they are left with is the ghost of the mind of that God, which is the idea of eternal laws of nature, fixed forever and applying to the whole universe. The big bang theory itself depends on this assumption. You assume that the laws of nature observed over the last fifty years in the laboratories on Earth apply throughout the entire fifteen-billion-year history of the entire universe, without variation, in every single part of the universe, even parts as yet unobserved by our extra-large arrays of radio telescopes. And, on this assumption, you then crank back the calculations to arrive at the big bang. But the assumption of universal laws of nature that never change, that have all been there from the beginning, is a pure assumption. There's no empirical evidence for it whatever.

Insofar as people have tried to study the laws and constants of nature on Earth, they vary. I mean, we are always updating our view of the laws of nature and the so-called constants, like the speed of light. If you look at the data, they've actually fluctuated wildly over the last fifty or a hundred years in which they've been studied. These fluctuations have been dismissed as experimental errors. But in my book *Seven Experiments That Could Change the World* I actually go through the history of the fundamental constants, and I discuss how constant *are* the fundamental constants. The empirical evidence shows they are *not* very constant. The assumption is that, okay, if the empirical facts show variation, the empirical facts must be wrong because we know they are constant, because they are *constants*. Science is based, through and through, on metaphysical assumptions about the nature of the universe, and this one of eternal laws and unvarying constants is in fact, in my opinion, very questionable.

A lot of my own work is based on the assumption that the so-called laws of nature may *not* have been fixed through all time. In an evolutionary universe, why shouldn't *they* evolve? And in fact, my own view is that they are not laws at all. They are more like habits. There's a kind of memory in nature and these habits of nature evolve as time goes on. They are not fixed laws that were all there from the beginning—a position that can never be proved by experiment, but can only be assumed as an axiom. Yet most scientists take this for granted, as an unquestioned assumption. So I think science is based on all sorts of assumptions about nature which are essentially theological or metaphysical. In point of fact, most of the ones that science is dominated by at the moment come from a particular kind of theology common in the seventeenth century, this very Greek neoplatonic theology of God as beyond all space and time, with a mind that is eternally full of changeless mathematical ideas, and with the universe coming forth from that kind of mathematical God. If you don't call it "God," you just call it the laws of nature, or mathematical reality or something. But this is the assumption. Stephen Hawking and Steven Weinberg and all the leading physicists of today, including Einstein, all subscribe to this kind of view. Even though they wouldn't call it "God," they believe the ultimate reality is a timeless mathematical realm.

WIE: *It sounds like the kind of universe you are describing is much more dynamic and also more mysterious.*

RS: Yes. Their universe is the universe of rationalism. It's the idea that the ultimate reality is a rational mathematical mind. The only really valid form of human thought is rational mathematical thought as exercised by great mathematicians and Nobel prize winning physicists, and all the rest is kind of messy detail that hasn't yet been sorted out. The truth, for them, lies in this ultimate mathematical reason. It's mysterious in its way, and it's founded on a kind of mysticism. This view started with Pythagoras in ancient Greece; it all comes from the Pythagorean mystery school, which was a mystical school of thought. So, implicit in conventional science is indeed a kind of mystical insight. But many scientists have lost sight of its mystical origins and it's just become a kind of dogma.

WIE: *It seems that the universe they have created is much more fixed than what you are suggesting.*

RS: Yes, even though science itself has revealed that the universe is evolving. The data have revealed that the

whole universe is radically evolutionary, even though these assumptions are still in place that it's radically nonevolutionary. That's why there's a big conflict within science from its own findings. My own work starts from this conflict, saying, "Okay, let's take seriously the evolutionary nature of reality." Then we have to question the idea that it's all based on totally fixed unquestioned mathematical laws.

WIE: *I understand that you taught at Cambridge University for ten years. What compelled you to leave traditional academia and strike out into the more risky, unorthodox and uncharted waters that you have been exploring since then? And what role has spiritual practice and experience played in this journey?*

RS: When I was at Cambridge I was very conscious of the great limitations of biological theory. Although I enjoyed doing research and teaching biology there, I became increasingly aware that the mechanistic theory of nature was a very limited way of looking at things. It didn't correspond to the fullness of what living things were doing. Just grinding them up and isolating enzymes and so on tells you something about organisms, but it doesn't tell you how they relate to each other in societies, how they behave in the wild, and that kind of thing. All of that perpetually eludes this reductionistic kind of science.

Then, to find out more about tropical botany, I spent a year in Malaysia, where I worked at the University of Malaysia. This was in 1968. On my way there, I traveled through India for three months. That had a huge impact on me. I suddenly saw this astonishing culture which I found completely fascinating, which had riches and depths beyond anything I had ever been taught about in England.

I got interested in meditation and when I got back to England I did Transcendental Meditation for a while. Then I got into other forms of Indian meditation. I didn't want to go on with the narrow, reductionist science at Cambridge, and the scientific community there was so committed to this narrow view. So I found a job in India, at an international agricultural institute, where I could do real science, working on Indian crops, that might potentially be useful, and at the same time live in India, which was where I wanted to be. I spent four or five years living and working in Hyderabad, at the International Crops Research Institute for the Semiarid Tropics, where I was the crop physiologist. During this time I had the opportunity to find out about Sufism, because of the Sufis in

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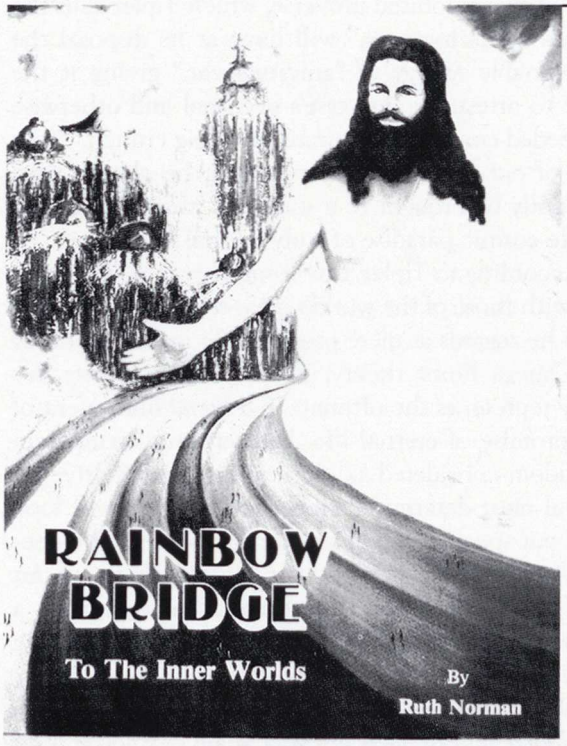

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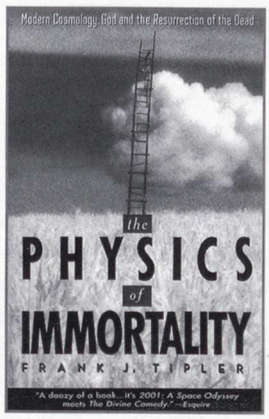


We first encountered Frank J. Tipler, Professor of Physics at Tulane University and highly regarded cocreator of the anthropic principle in relativist cosmology, at a point in our investigation of the relationship between science and spirituality when we thought we had heard *everything*. But despite having waded through almost every conceivable variation on the science-meets-spirituality theme, we found ourselves completely unprepared for what awaited us between the covers of Dr. Tipler's recently published treatise, *The Physics of Immortality*, which opens with the following declaration:

"This book is a description of the Omega Point Theory, which is a testable physical theory for an omnipresent, omniscient, and omnipotent God who will one day in the far future resurrect every single one of us to live forever in an abode which is in all essentials the Judeo-Christian Heaven. Every single term in the theory . . . will be introduced as pure physics concepts. . . . I shall make no appeal, anywhere, to revelation. I shall appeal instead to the solid results of modern physical science. . . . I shall describe the physical mechanism of the universal resurrection. I shall show exactly how physics will permit the resurrection to eternal life of everyone who has ever lived, is living, and will live. I shall show exactly why this power to resurrect which modern physics allows will actually exist in the far future and why it will in fact be used. If any reader has lost a loved one, or is afraid of death, modern physics says: Be comforted, you and they shall live again."

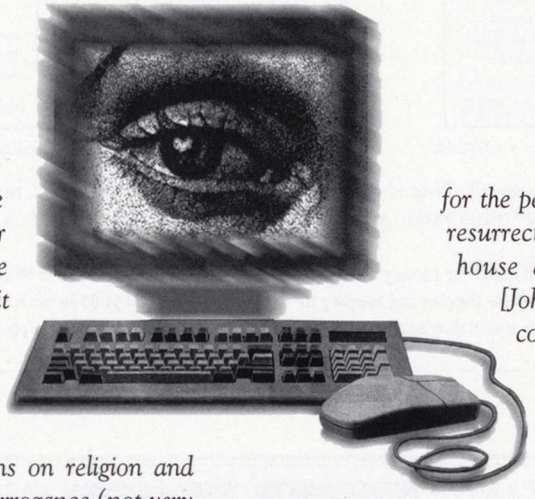
If Tipler is right, *The Physics of Immortality* may one day in the distant future be regarded with such piety and reverence that the sacred texts of the modern world's most cherished religious traditions will seem like the relics of a prerational, superstitious and barely scientific era. If he is wrong, we can at least delight in his extraordinary imagination by daring to fully experience the profound implications of his frighteningly materialistic spirituality. Tipler, ever the unrepentant reductionist, tackles without hesitation what he considers to be mankind's three fundamental spiritual questions—"Does God exist?," "Do we as human beings have free will?," and most importantly, "Is there life after death?" According to Tipler, modern science has very good news for all of us: the answer to all three of these questions is probably "Yes."

It is not only Tipler's considered opinion that each of us will one day be resurrected; he claims to offer the closest thing possible to scientific *proof* that well before the end of the next century we shall have been able to transfer our entire minds, with the full sensuous enjoyment- and feeling-capacity of our biological inheritance, into self-replicating nanotechnological computers weighing no more than 100 grams each, in which form we will ultimately succeed (after several million million years) at colonizing the *entire universe*. At that stage the vastly expanded collective intelligence of this colonized universe, which Tipler calls the "Omega Consciousness," will have at its disposal the unimaginable energy of "gravity-shear," giving it the power to arrest the universe's eventual and otherwise unimpeded contraction towards the "big crunch." As a result of our inevitable intervention, he claims, time will finally be brought to a standstill, thereby creating a stable cosmic paradise of truly eternal finite life.

According to Tipler, this cosmology in no way conflicts with those of the world's great religious traditions, which he regards as mere prescientific intuitions of his own Omega Point theory; in fact, Tipler asserts, his theory represents the ultimate and *literal* fulfillment of their promise of eternal life. His certainty stems from the seldom-considered axiom that humanity's drive for survival *must* determine what the far future will look like if our species is to exist literally forever. The doctor (whose mastery of computer complexity theory far surpasses the Ph.D. level) expresses his ideas with a degree of confidence in science which is compelling and terrifying at the same time.

"We physicists," he declares unapologetically, *"are by and large an extremely arrogant group of scholars. Our arrogance stems from the reductionist perception that ours is the ultimate science, and from our undoubted achievements*

Well before the end of the next century we shall have been able to transfer our ENTIRE minds, with the FULL sensuous enjoyment- and feeling-capacity of *OUR BIOLOGICAL INHERITANCE*, into self-replicating nanotechnological computers weighing NO MORE than 100 grams.



over the past few centuries. What we promise, we generally deliver. Whatever one thinks of the social significance of the nuclear bomb, there is no doubt that it works. Solar eclipses occur exactly when we predict they will. As one who has spent his entire life as a physicist . . . I not surprisingly share this arrogance. In my previous publications on religion and physics I have attempted to conceal this arrogance (not very successfully). In this book, however, I have not bothered, mainly because such concealment in the past has prevented me from presenting the strongest case for reductionism. And reductionism is true. Furthermore, accepting reductionism allows one to integrate fully religion and science."

Our investigation into the relationship between science and spirituality began with the question of whether a scientific perspective could ever be truly compatible with the spiritual dimension of human life. The one possibility we had never considered was that scientific reductionism might itself turn out to be the very ground upon which our own spiritual destiny would have to unfold! Even more surprising was the fact that when we dared to seriously entertain Tipler's promise of immortality, we actually began to experience for ourselves the strange yet liberating certainty that *we would never die*. And once we knew beyond any doubt that we were immortal, it hardly seemed to matter that our experience of infinite personal cosmic existence might be confined to cyberspace:

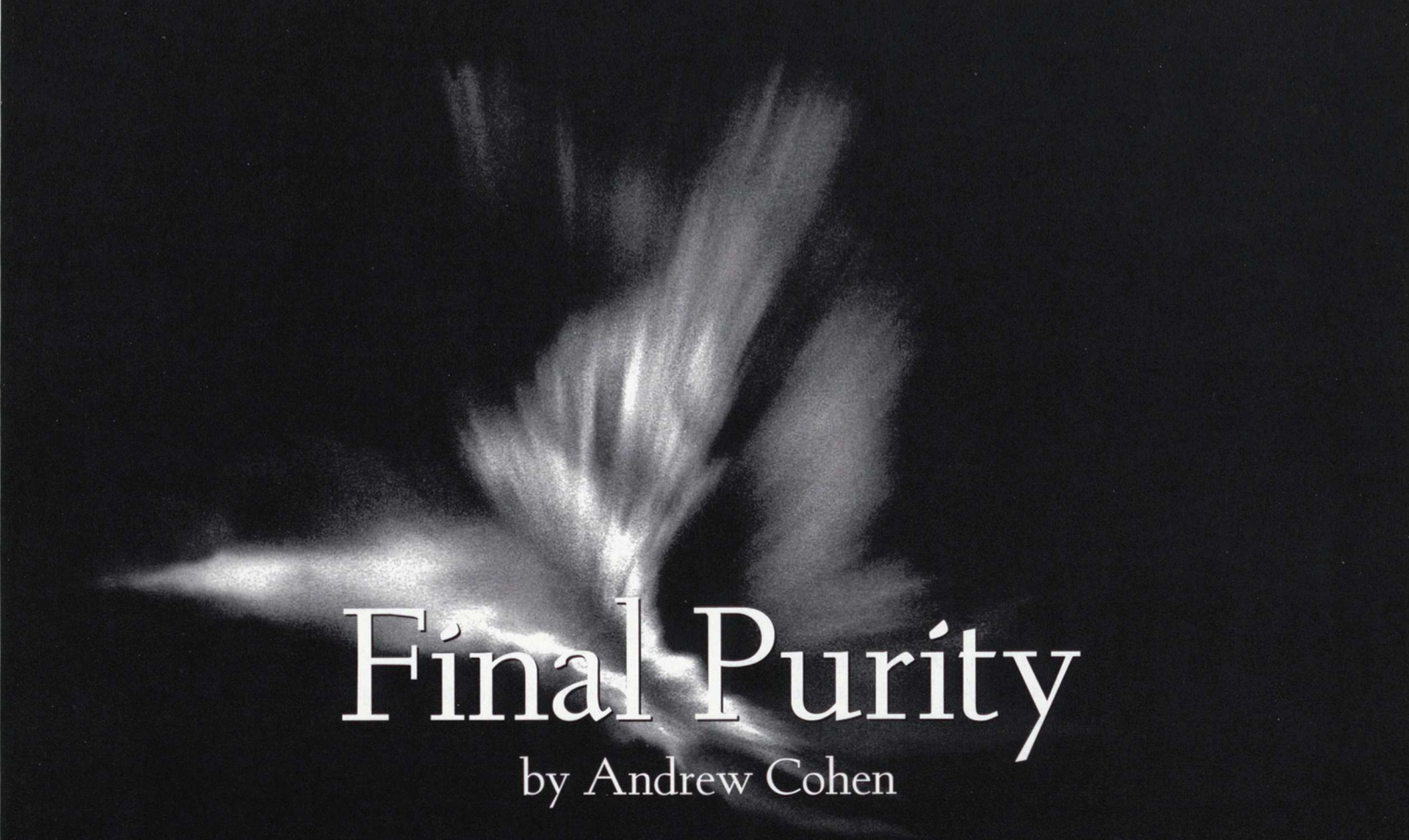
"Let me illustrate the richness of experience available in the afterlife by analyzing 'elbow room.' It would be possible for the Omega Point to simulate an entire visible universe for the personal use of each and every resurrected human ('In my Father's house are many mansions . . .' [John 14:2,KJV].) The required computer capacity is not measurably greater than that required to simulate all possible visible universes ($10^{10^{123}} \times 10^{10^{45}} \approx 10^{10^{123}}$; remember that all exponents add, so that $10^{123} + 10^{45} \approx 10^{123}$). Each private visible universe could also be simulated to contain 10^{10} separate planet Earths, each a copy of the present Earth, or the Earth as it was at different times in the past. (There are about 10^{20} stars in the visible universe, so replacing a mere 10^{10} solar systems in a visible universe would be a minor modification.) This is more Earths than a single human could explore before exhausting his/her memory storage capacity of 10^{15} bits, to say nothing of the memories stored while visiting other humans in their private universes."

Is Frank Tipler serious?

"I am quite serious. But I am as surprised as the reader. When I began my career as a cosmologist some twenty years ago, I was a convinced atheist. I never in my wildest dreams imagined that one day I would be writing a book purporting to show that the central claims of Judeo-Christian theology are in fact true, that these claims are straightforward deductions of the laws of physics as we now understand them. I have been forced into these conclusions by the inexorable logic of my own special branch of physics. . . ."

As Dr. Tipler concludes, "Religion is now a part of science." ■

$10^{10^{123}} \times 10^{10^{45}} \approx 10^{10^{123}}$



Final Purity

by Andrew Cohen

There is a way to respond to life that is always miraculous, that is free from fear and that always transcends the mind's ability to grasp or understand. Indeed, responding to life in the way that I'm speaking about demands that we know how to act in such a way that moves faster than any form of premeditation would allow. Learning this secret enables us to endlessly discover a mystery that cannot be imagined.

To be able to live in this way that is always miraculous, we must be willing to be in a state of not knowing. That means we have to be ready to embrace a kind of austerity that is relentless. This austerity is the unconditional renunciation of the need to know. Indeed, there can be no final purity in any spiritual attainment unless one can do this perfectly. Purity can become manifest only when one is able to live without reservation in that knowledge that one doesn't know and will never know.

I'm describing a way of living that most would consider strange, nonsensical and even dangerous. You see, one discovers that one doesn't need to know in order to be able to function perfectly. That's the miracle, that's the mystery and that is what is extraordinary about this.

from *Freedom Has No History*

continued from page 29

WIE: *When Krishnamurti said, "Begin with the unknown," you must have a sense of what he meant by that.*

DP: I think Krishnamurti felt that proceeding from the known to the unknown is not the way to work. You must begin with the unknown, with the question, and in the unknown one finds this enormous energy, whereas when you are constantly working from the known, there isn't that energy to penetrate things. David himself told someone else one time, "Between where you are now and where you'd like to be there's a sort of barrier, or a chasm, and sometimes it's a good idea to imagine that you're already at the other side of that chasm, so that you can start on the unknown side."

New Directions for Science

WIE: *I read an article of yours in which you outlined the need for a completely new paradigm for Western science, and described your own explorations of the worldviews and cosmologies of Native American cultures. How are you able to reconcile these directions which, in the minds of many people, may seem quite far apart?*

DP: Well, I suppose that when I did sit down with some Native American elders and tried to understand their worldview—not that I *did* understand it beyond the merest occasional glimpses—some of the things they said did seem to correspond. . . . But you see, I didn't ever want to do or write anything that was like *The Tao of Physics* because I don't know if I believe all that stuff.

What you *could* say, though, is that there is a certain perception of the cosmos, or a perception of our relationship to it, which is present among the Native Americans, and it's a process vision of nature: everything is process, it's flux, it's transformation. We come into relationship with this flux, but the basic reality itself is transformation and change. On the other hand, for several hundred years, physics looked for certain kinds of fixed orders and structures until finally quantum mechanics subverted that program. And then later on, chaos theory also subverted that program.

So you could say that Western physics reflected a human desire for a certain kind of order—a classical order or a Platonic order—which has now been subverted. It's as if nature has told us that we can't go that way anymore and that the way ahead, quantum theory or whatever, corresponds in some ways to the perceptions that I've had when talking to Native Americans. You can see that these two ways of looking at things are not that far apart. The Native Americans see a universe which is a flux, or a process, or a relationship of energies. And when you ask quantum physicists, "What are these things, what are molecules?" they will tell you, "Well, they are relationships of energies." For example, David Bohm's idea of an elementary particle was of a process: a particle is constantly in the process of collapsing inward and expanding outward. So we too are now dealing, really, with fluxes and processes and relationships, which is very similar to the metaphysics of Native Americans. I was very struck by that. I suppose I was also struck by the fact that they had developed a language which enabled them to live in that sort of a world. One of the key problems with quantum mechanics, as Niels Bohr pointed out, is that the Indo-European languages, which we use, deal with concepts and interactions between static objects, and because of that they just cannot seem to deal with the quantum world. We seem to be cut off from it by virtue of our language.

WIE: *We don't have a language adequate to express those truths.*

DP: Right, because our language works in terms of nouns, so what we tend to see is a world of objects and interactions. And because we have a noun-based language we also tend to see categories and concepts, and to put things in categories. So a certain way of thinking, a certain logic, follows from the languages that we speak. But some Native American groups don't have those sorts of languages, as a result of which they don't have the idea of categories to put things in, and they don't come up with the sorts of problems that we do. There's a kind of liberation in that, you see: by looking at their world and coming back to mine I see my experience of the world as culturally conditioned rather than inevitable; I see that there could be other ways of looking at it. That's what I found so valuable about that contact. So to answer your question, I didn't see any incompatibility between my interest in science and my interest in Native Americans. I'm talking a lot with artists these days for similar reasons: because I can see that the other big change that needs to come about in physics is a change in our concept of space, and all of the artists I'm talking to are very concerned with that. It could be that as we approach the millennium we are all beginning, through our different disciplines, to look at similar sorts of questions; or that the rigidity of the Western mind has come to an end and is giving way to something more flexible. Maybe science is being tempered by things like intuition, by compassion, by other sets of values that have not been present before.

WIE: *From a certain point of view science has always been innovative, but at the same time scientists have traditionally taken great pride in the rigor and rationality of their*

methodology. These days however, several people who are considered cutting-edge members of the current generation of scientists are pursuing very fascinating but, from a certain point of view, seemingly outrageous directions. Rupert Sheldrake, for example, who also appears in this issue, is investigating "the physics of angels."

DP: Oh, really, is he? So he's come out with it, then.

WIE: *Yes, he's just published a book about it. And it occurred to me that people could conceivably think of this as a leap beyond the kind of rigor that scientific investigation requires.*

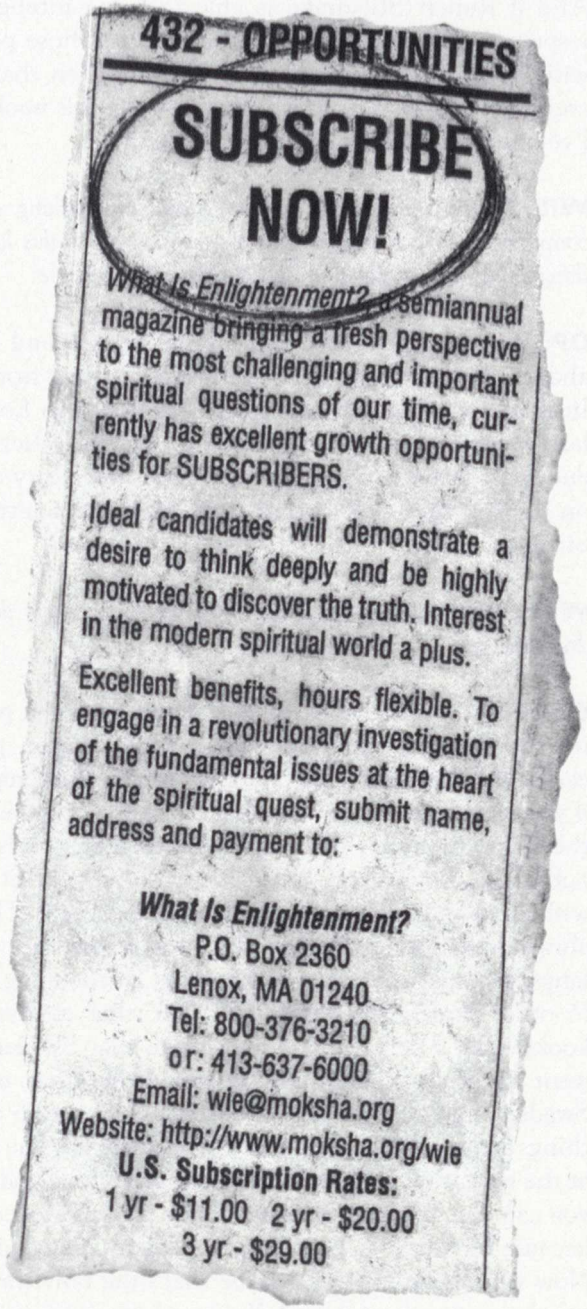
DP: I'm sure many people would.

But you see, I'm living in this village in Italy where I pay very small rent and the wine is very cheap and all the food the people grow locally. I don't really have to satisfy anybody anymore so it doesn't really matter too much to me. And when I talk to Native Americans I can see that these people have incredible discipline in their life and in the way they work—much more discipline than we have in ours I would say—and also for the artists I've talked to, there's a long, deeply honest engagement with their materials and with their work and I see tremendous rigor in that. I'm interested in rigor in *that* sense. Maybe we should go back to David Bohm's idea of looking for the truth wherever it takes you and not compromising, not trying to sweeten things. The people who do that are the people I respect.

Now you do know of course that there are all sorts of kooky, crazy people too, both within and outside the scientific community, but I'm not so much interested in that.

WIE: *So in this case for example, one could conceive of the physics of angels as a very creative, very risky direction in which Sheldrake is going out on a limb in order to explore something that he deeply believes in.*

DP: You're asking me to comment on something I don't know too much about. But maybe I could put it this way—and I hope I'm not being mealy-mouthed: If, eight hundred years ago, some of the deepest philosophical minds in Europe such as Dionysius the Carthusian and St. Thomas Aquinas debated and looked very deeply at certain sorts of issues regarding the way they perceived reality and came to conclusions about it, then I think that is worth taking seriously. Now when you try to import that into quantum mechanics, for example, it usually *does* become totally flaky and stupid and new age. So the thing is, you have to perform a very creative act of discovering the language with which to express these things in a way that is honest to the modern world and honest to the original ideas. I think that's where the real difficulty lies: it's an act of translation. Because after all, who was it?—I think it was Nicholas of Cusa—who developed an idea very similar to the implicate order, but you couldn't have imported Nicholas of Cusa into quantum mechanics. It just wouldn't have worked. It needed someone like David Bohm to rediscover the idea, put it in a new context and a different language. So I think that's partly what it is.



And if Rupert Sheldrake is able to bring intellectual respect to Aquinas and Dionysius and all those people within our modern contemporary world, then that is a creative thing to have done. I've not read his book and I've only talked to him briefly about this.

WIE: *I think I agree, but I wasn't necessarily asking you to comment on Sheldrake specifically so much as on this kind of thing as an overall direction in contemporary science.*

DP: Well, angels, okay. But flying saucers and alien abductions and things? . . . I've just come back from the Institute of Contemporary Arts conference in London last week where we had flying saucers, alien abductions, massive doses of drugs, Timothy Leary dying on the Internet—all of that stuff. Now *that's* getting a bit flaky.

WIE: *So in making these kinds of distinctions, how do you draw the line?*

DP: It's very difficult. A lot of it depends on the people involved. I think you can spot a kooky person pretty easily, and there are a lot of kooky people. But I suppose if you meet a person and you have a degree of respect for them, and then they tell you something that sounds a bit outlandish, you should spend a certain amount of time with them and go into it, talk about it, explore it. There's always a way, even if what you hear at first is a crazy language. I mean, when you hear that Swedenborg went to other planets and things like that, that obviously is kooky stuff; I personally don't believe that Swedenborg went to other planets. But if you gather that maybe Swedenborg had an intuition of some sort of truth about things and tried to express it in the only language he knew at the time, that becomes a bit more acceptable and then you can say, "Let's sit down with this fellow Swedenborg because he seems to be a very intelligent, deep thinker. Now what is he saying?" Maybe that's the only way you can do it, at a personal level. You may have to try, initially, not to be put off by the language in which the thing is expressed, whether it's flying saucers or angels or whatever, and ask yourself, "What if it's a metaphor for something, an image of something? Alright, then what is it an image about?"

Some people see flying saucers, other people see angels, but what is it really all about? Native Americans will say, "We see the guardians of the spirit." And you press them a little bit more: "What are the guardians of the spirit?" "Well, they are energies." Then you say, "Okay, if you're talking about energies, and I'm talking about energies, then we're talking the same language, which is about relationships of energies." It's about trying to find some sort of common language and respecting each other in discussion.

WIE: *Then from your point of view, those are equally valid idioms or ways of describing the same thing?*

DP: What I mean to say is that when you're dealing with a culture that has developed and existed for a long time, such as the Native Americans, or even Europe in the Middle Ages that talked about angels, then you have to have a lot of respect for it. Now that's not the same as saying that you have respect for flying saucers or magical inner children or your higher animal or anything like that, as people do in California. I'm not saying *that*. I want to stay on one side of this.

WIE: *The distinction that's made by some of the people I've been reading—Ken Wilber and Huston Smith, for example—is not that these aren't all valid ways of investigating and describing our experience, but that there can be a kind of category error that takes place. The domain of science is that of an empirically verifiable physical reality, this argument goes, while the spiritual domain, and also the rational/philosophical domain, address completely different dimensions of human experience. All of these are related of course, but even so, one shouldn't expect to be able to say something in one domain that will apply in another.*

DP: Yes, those are strong arguments, I can see those.

You know, there's a story about Pasteur. Pasteur was in his laboratory and somebody came to interview him and said, "Pasteur, sir, doctor, when do you pray?" And he said, "I am praying now," as he was looking through his microscope. In the individual life, the life of David Bohm for example, there could have been no time when he stopped being a scientist and became something else. He could not have accomplished that fragmentation of his own being. It's the same with a Native elder; there's no time when a Native elder is not in a deep spiritual relationship with nature and there's no time when he's not praying; it's happening all the time. So personally I don't see how a human being could stop being one thing and suddenly become another. And I think that for some scientists the basic impulse is a religious one, or a spiritual one—a sense of the numinous, of some deep order or some transcendental quality of the universe. You will always find that to be true of these scientists, even after you've distinguished their honesty and their willingness to face the truth from their work and the particular language in which their ideas are expressed.

But I do take the point that there's a danger in using

science to prove religion or to give credibility to religion—you know, a "God and the New Physics" type of book. I think there's a danger in that.

WIE: *You mentioned* The Tao of Physics *earlier. Do you feel that Fritjof Capra's work falls into that category?*

DP: To be honest, I've never read it. I must be one of the few people on the planet who's not got around to reading it yet, so I don't know, I couldn't say, it may, it may not. But I do think there are a lot of weak analogies, when you say for example that quantum mechanics produces a vacuum state, which is a state of infinite potential energy, and then you jump from there to saying, "Well, that's God." Now that's really stupid stuff. That's very silly.

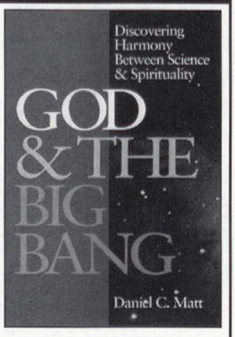
WIE: *Picking up a thread we left behind, having more to do with your own perception of things: For you, what is the most important thing in life?*

DP: Hmm. . . . An easy question! The most important thing in life. . . . You know, maybe I don't think about it. Maybe I don't think about that sort of thing. I mean, it's been nice finding a village on a hilltop, surrounded by beauty, where people live in a sort of traditional way, where you can lead a life that's balanced—a little bit of walking, good food, warmth. And, I suppose, being able to express yourself creatively, maybe that's the important thing—whatever it might be, writing or painting or doing something. And having relationships with people. . . .

I don't know. I don't know. It's not something that worries me. Maybe if it worried me I wouldn't be doing this. In the past I was more worried about things. Maybe I'm not worried at the moment . . . but nothing lasts forever! ■

Words for the Soul

GOD & THE BIG BANG
Discovering Harmony Between Science & Spirituality
by Daniel C. Matt



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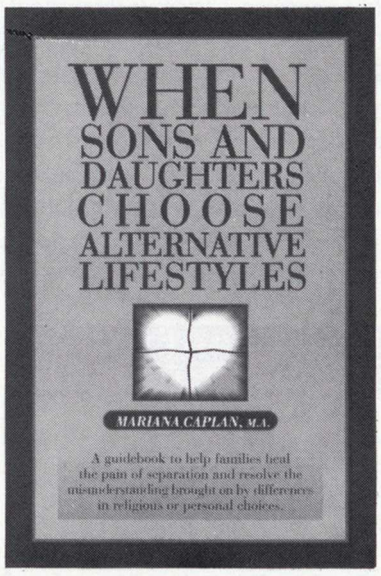

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continued from page 53

I said, "No, I don't believe in God." That kind of thing was quite common for me to say. But in that era, around thirty-seven, that particular world—where God didn't exist and where the meaning of life came just from brain-pursuits of glory in a profession—just did not satisfy me and did not bring happiness. In fact it was full of suffering. So I came to meditation. I wanted to see if there was any way of at least finding some solace, if not happiness. And eventually great joy came out of it, but that took time. And also, I must mention that I got married too, and the challenge of love was a very important one. In other words, I very soon discovered after I got married for the second time that love is very different than what I thought it was. So I discovered with my wife the meaning of love, and that was a big contribution also to my own spirituality.

WIE: *It's interesting that, while you turned to spirituality because you felt that science wasn't really satisfying your own search for truth, you have nevertheless remained a scientist throughout.*

AG: That's true. It's just that my way of doing science changed. What happened to me, the reason that I lost the joy of science, was because I had made it into a professional trip. I lost the ideal way of doing science, which is the spirit of discovery, the curiosity, the spirit of knowing truth. So I was not searching for truth anymore through science, and therefore I had to discover meditation, where I was searching for truth again, truth of reality. What is the nature of reality after all? You see the first tendency was nihilism, nothing exists; I was completely desperate. But meditation very soon told me that no, it's not that desperate. I had an experience. I had a glimpse that reality really does exist. Whatever it was I didn't know, but something exists. So that gave me the prerogative to go back to science and see if I could now do science with new energy and new direction and really investigate truth instead of investigating because of professional glory.

WIE: *How then did your newly revived interest in truth, this spiritual core to your life, inform your practice of science?*

AG: What happened was that I was not doing science anymore for the purpose of just publishing papers and doing problems which enabled you to publish papers and get grants. Instead, I was doing the really important problems. And the really important problems of today are very paradoxical and very anomalous. Well, I'm not saying that traditional scientists don't have a *few* important problems. There are a few important problems there too. But one of the problems I discovered very quickly that would lead me, I just intuited, to questions of reality was the quantum measurement problem.

You see, the quantum measurement problem is supposed to be a problem which forever derails people from any professional achievement because it's a very difficult problem. People have tried it for decades and have not been able to solve it. But I thought, "I have nothing to lose and I am going to investigate only truth, so why not see?" Quantum physics was something I knew very well. I had researched quantum physics all my life, so why not do the quantum measurement problem? So that's how I came to ask this question, "What agency converts possibility into actuality?" And it still took me from 1975 to 1985 until, through a mystical breakthrough, I came to recognize this.

WIE: *Could you describe that breakthrough?*

AG: Yes, I'd love to. It's so vivid in my mind. You see, the wisdom was in those days—and this was in every sort of book, *The Tao of Physics*, *The Dancing Wu Li Masters*, Fred Alan Wolf's *Taking the Quantum Leap*, and some other books too—everywhere the wisdom was that consciousness must be an emergent phenomenon of the brain. And despite the fact that some of these people, to their credit, *were* giving consciousness causal efficacy, no one could explain how it *happened*. That was the mystery because, after all, if it's an emergent phenomenon of the brain, then all causal efficacy must ultimately come from the material elementary particles. So this was a puzzle to me. This was a puzzle to everybody. And I just couldn't find any way to solve it. David Bohm talked about hidden variables, so I toyed with his ideas of an explicate order and an implicate order, that kind of thing—but this wasn't satisfactory because in Bohm's theory, again, there is no causal efficacy that is given to consciousness. It is all a *realist* theory. In other words, it is a theory on which everything can be explained through mathematical equations. There is no freedom of choice, in other words, in reality. So I was just struggling and struggling because I was convinced that there *is* real freedom of choice.

So then one time—and this is where the breakthrough happened—my wife and I were in Ventura,

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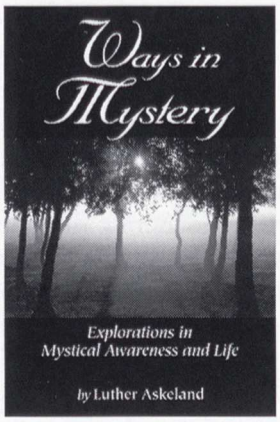

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California and a mystic friend, Joel Morwood, came down from Los Angeles, and we all went to hear Krishnamurti. And Krishnamurti, of course, is extremely impressive, a very great mystic. So we heard him and then we came back home. We had dinner and we were talking, and I was giving Joel a spiel about my latest ideas of the quantum theory of consciousness and Joel just challenged me. He said, "Can consciousness be explained?" And I tried to wriggle my way through that but he wouldn't listen. He said, "You are putting on scientific blinders. You don't realize that consciousness is the ground of all being." He didn't use that particular word, but he said something like, "There is nothing but God." And something flipped inside of me which I cannot quite explain. This is the ultimate cognition, that I had at that very moment. There was a complete about-turn in my psyche and I just realized that consciousness is the ground of all being. I remember staying up that night, looking at the sky and having a real mystical feeling about what the world is, and the complete conviction that this *is* the way the world is, this *is* the way that reality is, and one *can* do science. You see, the prevalent notion—even among people like David Bohm—was, "How can you ever do science without assuming that there is reality and material and all this? How can you do science if you let consciousness do things which are 'arbitrary'?" But I became completely convinced—there has not been a shred of doubt ever since—that one *can* do science on this basis. Not only that, one can solve the problems of today's science. And that is what is turning out. Of course all the problems did not get solved right on that night. That night was the beginning of a new way of doing science.

WIE: *That's interesting. So that night something really did shift for you in your whole approach. And everything was different after that?*

AG: Everything was different.

WIE: *Did you then find, in working out the details of what it would mean to do science in this context, that you were able to penetrate much more deeply or that your own scientific thinking was transformed in some way by this experience?*

AG: Right. Exactly. What happened was very interesting. I was stuck, as I said, I was stuck with this idea before: "How can consciousness have causal efficacy?" And now that I recognized that consciousness was the ground of being, within months all the problems of quantum measurement theory, the measurement paradoxes, just melted away. I wrote my first paper which was published in 1989, but that was just refinement of the ideas and working out details. The net upshot was that the creativity, which got a second wind on that night in 1985, took about another three years before it started fully expressing itself. But ever since I have been just blessed with ideas after ideas, and lots of problems have been solved—the problem of cognition, perception, biological evolution, mind-body healing. My latest book is called *Physics of the Soul*. This is a theory of reincarnation, all fully worked out. It has been just a wonderful adventure in creativity.

WIE: *So it sounds pretty clear that taking an interest in the spiritual, in your case, had a significant effect on your ability to do science. Looking through the opposite end of the lens, how would you say that being a scientist has affected your spiritual evolution?*

AG: Well, I stopped seeing them as separate, so this identification, this wholeness, the integration of the

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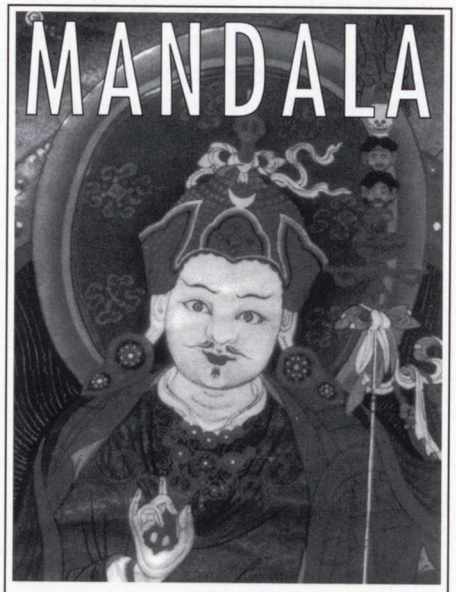

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spiritual and the scientific, was very important for me. Mystics often warn people, "Look, don't divide your life into this and that." For me it came naturally because I discovered the new way of doing science when I discovered spirit. Spirit was the natural basis of my being, so after that, whatever I do, I don't separate them very much.

WIE: *You mentioned a shift in your motivation for doing science—how what was driving you started to turn at a certain point. That's one thing that we've been thinking about a lot as we've been looking into this issue: What is it that really motivates science? And how is that different from what motivates spiritual pursuit? Particularly, there have been some people we have discussed—thinkers like E. F. Schumacher or Huston Smith, for example—who feel that ever since the scientific revolution, when Descartes's and Newton's ideas took hold, the whole approach of science has been to try to dominate or control nature or the world. Such critics question whether science could ever be a genuine vehicle for discovering the deepest truths, because they feel that science is rooted in a desire to* know *for the wrong reasons. Obviously, in your work you have been very immersed in the scientific world—you know a lot of scientists, you go to conferences, you're surrounded by all of that and also, perhaps, you struggle with that motivation in yourself. Could you speak a little more about your experience of that?*

AG: Yes, this is a very, very good question; we have to understand it very deeply.

The problem is that in this pursuit, this particular pursuit of science, including the books that we mentioned earlier, *The Tao of Physics* and *The Dancing Wu Li Masters*, even when spirituality is recognized within the materialist worldview, God is seen only in the immanent aspect of divinity. What that means is: you have said that there is only one reality. By saying that there is only one reality —material reality—even when you imbue matter with spirituality, because you are still dealing with only one level, you are ignoring the transcendent level. And therefore you are only looking at half of the pie; you are ignoring the other half. Ken Wilber makes this point very, very well. So what has to be done of course—and that's when the stigma of science disappears—is to include the other half into science. Now, before my work, I think it was very obscure how this inclusion has to be done. Although people like Teilhard de Chardin, Aurobindo or Madame Blavatsky, the founder of the Theosophy movement, recognized that such a science could have come, very few could actually see it.

So what I have done is to give actual flesh to all these visions that took place early in the century. And when you do that, when you recognize that science can be based on the primacy of consciousness, then this deficiency isn't there anymore. In other words then, the stigma that science is only separateness goes away. The materialist science *is* a separatist science. The new science, though, says that the material part of the world does exist, the separative movement is part of reality also, but it is not the *only* part of reality. There is separation, and then there is integration. So in my book *The Self-Aware Universe* I talk about the hero's journey for the entire scientific endeavor. I said that, well, four hundred years ago, with Galileo, Copernicus, Newton and others, we started the separatist sail and we went on a separate journey of separateness, but that's only the first part of the hero's journey. Then the hero discovers and the hero returns. It is the hero's return that we are now witnessing through this new paradigm. ■

continued from page 79

Hyderabad, and about Hindu philosophy. Gurus came through giving discourses and I visited various ashrams. But I actually found myself most drawn to ordinary Hinduism: the *pujas*, the people's practice of making offerings to sacred plants in the mornings, the greeting of the sun in the morning, the pilgrimages to temples and sacred places, the holy trees, holy rats, holy cows, and holy snakes, and that kind of thing. I just liked the sacralization of nature and the earth which I found there. I'd gone there interested in the higher reaches of Hindu philosophy and meditation and actually found myself drawn to what most sophisticated Hindus despised—the folk practices of Hinduism. That drew me the most, and that I found most attractive because it involved a kind of sacralization of the earth and a different attitude toward nature and matter and life.

This was quite a shock to me at first. But I was intrigued by it and it played for me a very important role in giving me a broader view of things. Then I realized that I couldn't be a Hindu because I wasn't Indian, and it would be ridiculous to go back to England dressed up in Indian clothes and pretending to be Indian. I visited a few gurus and asked their advice on my spiritual quest. And one or two of them said something I never expected them to say: "You come from a Christian background, you should find a Christian path. All paths lead to God and that's your path because that's your ancestral path." This actually came to make a lot of sense to me. Then later, I met Father Bede Griffiths, who was my main teacher in India, and I lived in his ashram for a year and a half. He was a Benedictine monk who lived in India and followed many aspects of Indian spirituality while remaining a Westerner with Western views. He was a bridge for me between these two cultures and helped me reconnect with the mystical traditions of Christianity, the core of the Christian tradition which I hadn't really heard about as a child. So that, for me, was the way that I returned to a Western way of looking at things after a total of seven years in India. It took me a long way, going through that Indian path, and coming back.

Then, when I was living in India, I became very friendly with Krishnamurti, and later I saw quite a lot of him. I found him very refreshing. But there were some problems with his approach. He was very good at asking questions, but he wasn't very good at suggesting answers, and I think that a lot of people got quite lost as a result of his teachings. But I had a lot of fun being with him and I liked him a lot personally. India played an important part in all this, and my time there, which combined doing Western-style science with living in India, was for me the right solution at the time. It meant I could do both. It provided a way of being in both worlds.

WIE: *That actually leads me to my last question. Do you feel it is possible to be wholly committed to science and spirituality at the same time?*

RS: Oh yes, definitely. I think that many of the great scientists in the past have been very spiritual in their way of life. Michael Faraday, for example, who discovered electromagnetism, was an extremely spiritual man, an extremely good man. Newton was preoccupied as much with the nature of the divine, and the divine will and purpose and presence in the universe, as he was with science. Even Descartes was very interested in theology and spirituality. If you look back through the history of science, many of the greatest scientists have in fact combined these two. There have also been scientists who have been dogmatic atheists, but most of them I wouldn't number among the greatest in the history of science. Darwin was an atheist in the end, but he wasn't a dogmatic one. He was quite a moderate and rather sorrowful atheist. The Dawkinses and the T. H. Huxleys and so on are the propagandists of atheism rather than the original creative spirits. They are the evangelists of this atheistic view—they are not the great creative spirits in science.

My own view is that science as a method of inquiry involves learning by experience. That's really what it's about. There's nothing in that that is incompatible with the spiritual life because I think the spiritual life involves learning from experience as well. What *is* incompatible with the spiritual life is a dogmatic atheism and materialism which has come to dominate particular parts of modern science and, for some scientists, has come to be identified with science itself. But this is a paradigm. Scientific models of reality change, but science goes on even so. Before the 1960s most people believed that the universe was eternal; after that they got the view of an evolving cosmos. Before Darwin most scientists believed that the world was created in 4004 B.C.; after Darwin most have had a much expanded view of time. So it's not a particular set of ideas or doctrines which constitute science. It's a method of inquiry, the idea of building on what has gone before and exploring by experiment, and also an openness to new ideas. And that, I think, is completely compatible with a spiritual view of things. I don't think you can prove some of these spiritual truths by scientific means. Science is a limited method of inquiry. It looks at the repetitive aspects of the natural world, so its sphere of interest is relatively confined. Spiritual experience would involve the limits of consciousness and the nature of consciousness. It overlaps with science in the realm of psychology to some extent. So spiritual inquiry has a broader sphere and science a narrower sphere. But I don't see any incompatibility between the two. ■

continued from page 9

My point is that I have experienced and continue to observe in others that "owning or seeing" one's conditioning is not enough. Yes, we need to identify the ego and face it; however, this is only half of the issue. We each have a personal expression that is authentic, that is necessary to who we are in this life, even when Enlightened. When our desires are pure, Spirit takes action in the world *through* our choices. These are choices that we make personally. We act through the personal aspect of our nature—when this action comes from a pure motivation, what we want *is* also the highest good.

Regarding the Divine Mother, it simply makes sense that if one is containing one's experience of *That* which is beyond definition within the context of *a clearly defined aspect* of nature, there would necessarily need to be some imbalance and limitation in the manifestation of the Absolute Principle. It is crucial for women to consider that during our time, in the context of the patriarchal world paradigm, the "Mother" is still the only culturally acceptable model for powerful women. This ensures that women will not develop their own vitality, creativity and power, which would inevitably rock the boat of the patriarchal structures. These structures are designed to keep us all from our inner experience of the true Father Principle, which is our own authority for our own life. It is becoming imperative that we realize the difference between the Patriarchal Father and the true Father Principle, as well as the difference between the patriarchy's Female Model and the true Feminine Principle.

The Absolute is beyond definition and form, and I feel that it is inappropriate to frame *IT* within any other context, including that of God or Goddess. This is *the* point of confusion for many who are still unconsciously relating to the *Unknown* within the polarities of the worlds of form, or as parental figures.

With much gratitude for the courage of those who investigate these areas so boldly; it is a service to us all.

Shastina Free-Bear
Lake Shastina, California

I WAS DISMAYED TO SEE that your issue entitled "Women, Enlightenment and the Divine Mother" [Fall/Winter 1996] was full of confusion and that you never probed any aspect of the female conditioning to the point that changes occurred in your perceptions.

You began by saying that you once believed women were more spiritually inclined than men ["Introduction: Towards the Spiritual Liberation of Women"]. Then you began to notice that women suffered from conditioning which created obstacles for them on the spiritual path. You said you discovered that women have a *shocking disinterest* in going beyond the personal. At that point, instead of striving to learn how to help women become free, you set out to prove that your observations were *right!* Not content with that alone, you even questioned whether women have the *capacity* for spiritual life! You termed their state *"women's condition,"* as though it were something permanent! You complimented yourselves by writing that your observations about women required you to *investigate deeply!* If enlightenment is "freedom from fixed ideas," as Andrew Cohen writes [in "Mother of the Universe"], why didn't you "deeply investigate" how to go beyond conditioning? You simply observed a bit of the ways in which society programs women, then asked your interviewees for confirmation of what you saw. You never gave Elizabeth Debold ["Dancing on the Edge"] and Vimala Thakar ["The Challenge of Emptiness"] the opportunity to answer questions which would have had real validity, such as, "If women face the limitations of this particular conditioning, what will help free them from it?" You acted as though the question didn't exist because you were too busy trying to prove that women are indeed conditioned. Is this news? You had the opportunity to make an outstanding contribution to understanding the effect society has had on women, but you sure messed it up.

Another confusion which you never clarified was equating female conditioning with the Divine Feminine Principle. Do you think women's conditioned characteristics, women's spirituality and the Sacred Feminine are all the same thing? You mixed shamanism, spiritual understanding and devotion into some kind of alphabet soup. You never explained the differences between them, even though Z. Budapest ["Daughter of the Goddess"] clearly stated that she doesn't believe in God and that, for her, nothing is higher than Nature. If you were so struck by the rise in women's spirituality, as you say in your introduction, why didn't you explore the question of what Goddess-centered spirituality really is and how it relates to and differs from enlightenment? Isn't that what your magazine is supposed to be about? This could have been interesting and valuable, but there wasn't one word about it in the issue.

Another serious misconception is the strong intimation that only women fear dissolution. It's hard to imagine that you really believe this! Any honest person, female or male, who has had even a smattering of spiritual teaching or practice, will tell you that *all* egos are terror-stricken of dissolution and death. You also failed to show that both women *and* men receive very specific and strongly gender-based conditioning that each must understand in order to break free of these fixed ideas. It ain't just women, folks.

Most disturbing of all were the articles by Daniel Roumanoff ["A Tragic Passion"] and Andrew Cohen ["Mother of the Universe"], which were simply renditions of gossip and blame. At least the first—even though it was shattering

in its blame of another—was written from personal experience. But what was the purpose of passing it on? We can't really know what the relationship was between Anandamayi Ma and Roumanoff. Maybe she perceived him far differently than he perceived himself. Maybe her awareness of his karma, past lives, etc., was far deeper than his own awareness of himself and his motivations. How can we know? She is not here to tell us and we are only presented with his complaints. How are his complaints supposed to benefit me or your other readers?

Unfortunately, the most distressing article of the entire magazine was the one by Andrew Cohen ["Mother of the Universe"]. I'm sorry to say that it was only a gossip column. He presented two stories about people who didn't like what their [female] teachers did. He never gave either of the accused a chance to respond. He simply passed on to the public a bunch of disgruntled comments without questioning them at all or even saying that, indeed, egos *do* grumble on a very regular basis when things happen that they don't like. Was he intimating that this *proves* something? What? That the two women aren't enlightened? That women *can't* be enlightened? There's really no clarity at all to the article. The explanatory line under the title reads, "An inquiry into the relationship between love and discrimination." There *was* the implication that *bhakti* is a lesser path and that women are suited to *bhakti* but not to discrimination. Was this what you meant to imply?

You wrote that you "want to see women who are strong, enlightened, independent leaders." You wrote that this will only happen by facing limiting conditioning and not by mythologizing women. Do you feel you have helped with either of these? I say you have stuck women with more conditioning and given old myths a push forward. You began with the fixed idea that the Feminine was superior and ended with the fixed idea that it's inferior. It would not have surprised me to read that only men are spiritual. Where have you gone with your "deep investigation?" What does any of this have to do with enlightenment?

Lynne Perry
San Rafael, California

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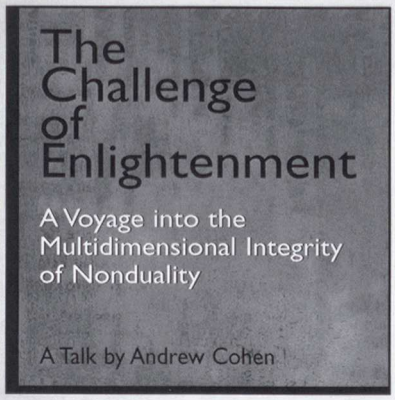

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By Andrew Cohen

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LIFE IS AN OBSTACLE COURSE. For years I considered the greatest obstacle in it to be man—the most dangerous animal on earth. Today I am grateful to men. The *kundalini* process is not for weaklings and whiners. Without that opposition I would not have acquired the strength and determination to leap as high as I have.

The pendulum swing towards the cathode, or female energy, can only go as far as the male energy sent it in the opposite direction. Six thousand years of abuse of power does not make for a gentle swing. However, *if* enough of the male energy has neutralized, the swing towards the cathode will be shorter. In other words, the Goddess is coming into power once more. Men have nothing to fear from her. Just a lot to learn.

What is Enlightenment? Enlightenment is giving birth to oneself. For women, giving birth is an ordinary, natural process. For men it *is* a big deal, an accomplishment, an *extraordinary* achievement.

Blessings to all who conceive and deliver.

Anne S. Paul
Laguna Beach, California

I AM A WOMAN AND I AM ENLIGHTENED. I just got the Fall/Winter 1996 issue of *What Is Enlightenment?* and see people asking for a woman's perspective on enlightenment [Letters to the Editor, "A Man's Magazine"]. Because I am fortunate enough to be lacking in the Y chromosome, I can freely bash the illusions that women love to perpetuate in themselves without having to also battle their prejudice against men. Also, I'm not some fancy *avatar* from

India. I'm just an everyday baby-boomer chick from the USA. Though I can't say anything better than Andrew Cohen, I can tell your women readers that they'd better get a grip because they don't have any special "cord" leading them to enlightenment. Women have to take the same leap into nothingness that men do. It's not my fault (and it's certainly not the men's fault) that most women are unwilling to do this. Most men seem unwilling to do it also.

Connie Delaney
via e-mail

THANK YOU FOR printing my letters, and thank you for encouraging honest feedback to the Women's issue of last fall ["Women, Enlightenment and the Divine Mother," Fall/Winter 1996]. I read it with interest. I feel it was an honest effort to include women's voices in your publication. I would like to add my own, again, this time by addressing the topic of gender-biased interpretation of spiritual experience as it is expressed through choice of words and approaches to "blocks." If words such as "attainment," "absolute" and "transcendence" appeal to men so that they are able to say, "Yes, that is just what I want!" then great. If words such as "divine grace," "cosmic flow" and "immanence" are more attractive to women, then perhaps those words should be emphasized when encouraging women along the spiritual path. Although the same experience is being described, these two lists of words may create very different images in the mind of the reader or listener. One set of images may be more useful to one gender than the other, in that it may mirror our natural (male or female) proclivities.

Although the ultimate state of union with the Divine is certainly the same for men and women, perhaps most of our currently-in-use road maps are easier to follow by persons of the masculine persuasion. Perhaps the All-Giving, All-Loving (but mostly silent) Divine Mother as a model of the feminine spiritual teacher is not so appealing to modern women who have been brought up to feel they are equal in erudition to their brothers. Certainly spirituality should not be an exception, but then how to explain "special obstacles" and "conditioned tendencies" which crop up when women turn to modern male teachers for guidance? Shanti Adams ["The Challenge of Emptiness"] describes women students' tendencies as emotionalism, self-justification and a clinging to the personal.

I am suggesting that women's tendency to experience their lives more personally and emotionally than men can be seen and used as a vehicle in itself which can speed the seeker toward the goal of self-realization. Men have been given the gift of objectivity, women of subjectivity. Subjectivity is certainly *not* a handicap, spiritually or otherwise, but can be worked with as follows: when a habit is revealed in the ashram or in one's private life, rather than encouraging the woman to transcend that habit in the name of spiritual practice, it would be helpful to suggest that she spend some time alone, delving deeply inside those feelings of defensiveness or anger or hurt in order to discover in herself the very personal and subjective source of her holding-on-to-pain. She may need an hour, or she may need a month. She may need a circle of women to support her progress, to honor her personal exploration. When she has truly brought mind and body together by plumbing her own depths, she can then arise radiant, stronger and wiser for having healed and released the personal *reason* for the habit (always a cover for pain). She has been healed and transformed by a true meeting with her own divine interiority, and from that meeting comes the gift of love and understanding toward herself and others. Then (perhaps only then) can a true letting-go occur, because she no longer experiences the woundedness which needed defending in that particular circumstance.

For women the way of healing is also the way of spiritual transformation. The personal becomes the way to the transpersonal, which can be experienced once the personal pain is gone. It is much easier for women to release personal pain by focusing on it and feeling all of its nuances, by becoming one with it, than by attempting to transcend it. For women the concept of transcending the personal is not only threatening but is also quite foreign to the point of being incomprehensible to some. But it is not a *handicap* unless the woman is trying to follow a masculine-defined path which values transpersonal over personal, mind over emotion and so on. This is true in the secular as well as the spiritual world.

It is very important not to get hung up on language, and yet try to make ourselves as clear as possible. It is the task of any spiritual teacher to make the path of his students, all of his students, as clear as possible to the best of his ability. It is therefore also important to recognize significant differences in conditioning, understanding and experiencing between men and women. We can grow beyond the point of describing each other as gender deficient or handicapped by understanding that each sex is uniquely valuable to the wholeness of our human/divine experience, and that only by embracing both with love and compassion can we come to a fuller, truer understanding of what must always and forever remain the Great Mystery.

Caitlin Adair
Brattleboro, Vermont

THE MASCULINE MYSTIQUE

YOUR FALL/WINTER 1996 issue's interview with Zsuzsanna Budapest ["Daughter of the Goddess"] was informative indeed, even if only to learn of one pretense of hers; however, in reality Zsuzsanna Budapest is *incapable* of understanding anything about male spirituality—she is a woman.

Adam Stolfi
Dallas, Texas

GOOD WORDS

YOU HAVE REALLY OUTDONE yourselves with the latest issue of *What Is Enlightenment?* ["Women, Enlightenment and the Divine Mother," Fall/Winter 1996]. I've never seen anything like it. Hope you printed plenty; you're going to get a lot of requests.

Richard Crowley
Tungurahua, Ecuador

I JUST WANTED TO CONGRATULATE YOU on your latest issue. Both Vimala Thakar and the "Dancing on the Edge" article were meaningful and unsettling for me. Always the choice is there—to stay cozy in the mind, or to free-fall into life. I forget this, and then I remember, forget, then remember. I can only hope that the time between the two becomes shorter and shorter.

Tyee Bridge
Kelowna, B.C., Canada

I ORDERED SIX BACK ISSUES of *What Is Enlightenment?* and I must say I did it with much skepticism. Upon receiving the issues, however, I was quite taken by the contents. I've only recently received them and have not read them entirely, but the truth of what they point to is clear. The conditioning must be left behind, and yet I so cling to it. I have had moments of the Absolute and understand the joy and completeness that it entails—truly the end of becoming! At that moment it seems like the easiest thing in the world, and I find myself laughing at what I thought was so important.

Alice Morris
Mandan, North Dakota

I'M SO GLAD I PICKED UP your magazine. I had passed it by several times thinking it was just another one of "those" publications, but I was wrong.

In 1992 I experienced an intense *kundalini* awakening. To say it was the most painful experience of my life would be diminishing it. I never thought a human being could stand that much pain and live. I rushed to do research and had to plow through volumes of myths, beliefs and concepts to find any truth. There wasn't much to find. Was "that"—that energy—enlightenment? Probably not.

Hopefully, your magazine can take out some of the myth and make this process seem more accessible.

Robert Tannehill
via e-mail

NATIVE VOICES

I CAME TO THE REALIZATION, thinking of all the spiritual masters and teachers you have interviewed, that the teachings and practices have come primarily from the East and from the West. Little has been brought forward of the spirituality

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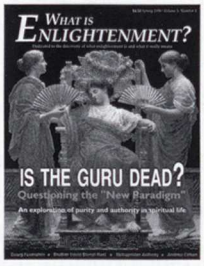
of the peoples of the Americas (where most of your readers are living). Who has spoken for the Native American peoples and *their* spirit?

I have heard and seen the teachings and practices of two of these people, Wind Eagle and Rainbow Hawk, carriers of the Earth Wisdom Teachings. You will find them at Wind Tree, home of the Ehama Institute in the mountains above Santa Cruz, in Los Gatos, California.

Glenn Matson
via e-mail



IS THE GURU DEAD?

I REALLY ENJOYED your recent issue of *What Is Enlightenment?* and your comments about modern-day gurus [Spring/Summer 1996]. I have followed a popular guru for years and have learned much from the experience—both good and bad.

Although all gurus have human flaws, it is their organizations that really do the damage in my opinion. Today, gurus encourage the worst sort of people—and worse still—select them for senior places in their organizations. I've seen it many, many times over the years and find it an appalling practice. Why does this happen repeatedly, throughout the ages, not in one particular religion/sect/movement but in virtually all of them? All masters are genuine about their message, which is usually based on their own experiences, and what they themselves believe to be absolutely true and infallible. So where does this sabotage inevitably take place? Is it possible that while the teachings are as genuine as the masters—and can be compared to the brightest "moon," pure, luminous and indestructible—the followers who try to proclaim them—what I call the "fingers" pointing to the moon—have faltered and thus succeeded in influencing the very message they tried to propagate? Organized religions are "man-made," and in the process the master, and more often the teachings, are obliterated and forgotten!

Yvonne Northrop
Kent, U.K.

I FIND YOUR MAGAZINE a most stimulating addition to my reading and work. I'd like to make one comment upon the plethora of writings regarding the seemingly surprising revelations of shortcomings in highly spiritually evolved people and even in highly advanced masters. To more fully understand these behaviors we must work toward an understanding of the role of the ego—of personality and character—not just in how it endlessly throws up roadblocks to our pursuit of Wisdom and Enlightenment, but to the extent of recognizing that even the Buddha was a human being with a personality and human frailties—that our masters and teachers may be highly developed in the spiritual arena and yet still suffer base human foibles which can cause harm to both the guru and his or her disciples. We must strive to integrate these paths of knowledge and not suppose that we can just transcend our human foibles by advancing in the spiritual path. In fact, hypertrophy in the spiritual domain, while remaining weak in basic human psychological health, is a prescription for disaster.

I thank you for your superb work.

Michael Fiori
Providence, Rhode Island

I WAS DELIGHTED to read the Spring/Summer 1996 issue of *What Is Enlightenment?* ["Is the Guru Dead?"]. It must have been pure intention that I picked up the magazine and then spent several hours reading articles about authority and gurus written by souls who I genuinely respect. The beauty of these articles is that they simply help one "remember" that the heart is the ultimate authority. Souls that help other souls open their hearts to their own wisdom are simply the doorkeepers; they are a little farther down the path; sometimes they turn around, stop, and offer their hands and their hearts to help us walk a little further.

It seems to me that we are, on this plane, always in a constant state of forgetting and then remembering our true nature. The lotus flower from moment to moment seems to bloom and blossom and then die—but in death we remember the beauty of the gift, of its scent and color. In remembering our true nature, that which always causes us the most happiness and joy of our human condition is the love we showered when our hearts were open. The heart is our guru and in it we may place our ultimate trust of who we are and what is our destiny. Your magazine reminds us that we are eternally *ONE* and that dualism begins when we forget that our would-be gurus and authorities really live *in* our heart and not separate from it.

There is no soul who can ever help us to "know" truth other than the one that whispers to us between breaths and in the quiet meditation of an asking heart.

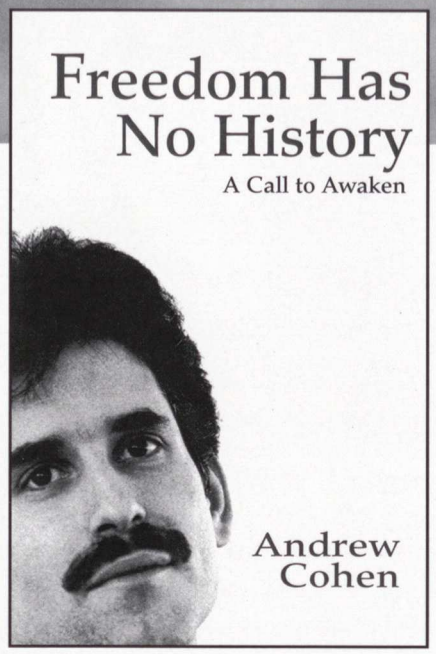
Thomas Arthur Borin
Tucson, Arizona

I ENJOY YOUR MAGAZINE very much. The openness and fairness, as well as your willingness to express legitimate criticism, I find very rewarding. Your article on Da Free John ["The Dangerous and Disillusioning Example of Da Free John," Spring/Summer 1996], was great—my sentiments exactly.

Maurice Entwistle
Kansas City, Missouri

MY FIRST COPY OF *What Is Enlightenment?*, "Is the Guru Dead?" [Spring/Summer 1996], was disturbing and enlightening. I now wish to subscribe to this amazing magazine.

Clare Walsh
Surry Hills, Australia



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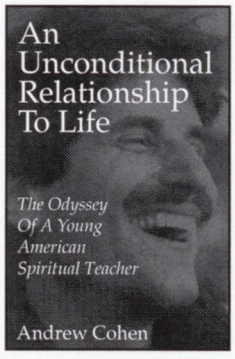

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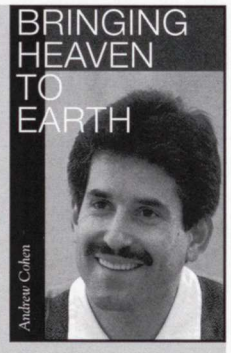

"Heaven has to do with realizing a happiness that is quite extraordinary and quite unusual, and being able to share that with other people. It is not just some kind of personal and private happiness, some kind of personal bliss that exists as a secret between oneself and one's idea of who or what God is. When you are able to share this secret with others, that's when you really discover what it means to be in heaven rather than hell. When there is nowhere to go, when there's nothing to wait for and there's nothing to hope for and pray for, when there is no longer any beyond to reach because it has already been reached, then the world is transformed. That's when one really discovers what it means to be in heaven and that's when heaven is brought to earth." *ANDREW COHEN*

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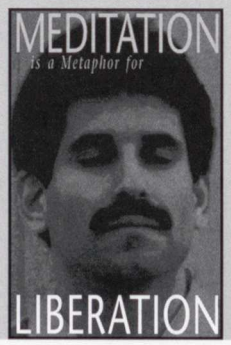

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