

## Keynote Address

# BEYOND MIRACLES: THE DISCOVERY OF THE UNIFIED FIELD AND ITS PRACTICAL APPLICATIONS TO PREVENT CRIME, TERRORISM, AND INTERNATIONAL CONFLICT<sup>1</sup>

by John Hagelin, Ph.D.

### ABSTRACT

The latest, most profound discoveries of quantum physics provide deep insight into ultimate reality, and how we create our own day-to-day reality. We must now harness this cutting-edge knowledge to create a peaceful, harmonious, more enlightened world. For this purpose, intellectual discussion is not enough. Only direct, repeatable *experience* of ultimate reality can create the deep, lasting transformations in the individual and society so urgently needed today.

Recent breakthroughs in quantum physics reveal the ultimate reality: the “unified field”—the field of universal intelligence at the basis of mind and matter. The unified field is the fountainhead of all the laws of nature—the source of all the order displayed throughout the vast cosmos.

Human awareness can directly experience and access this field of universal intelligence using advanced meditation techniques derived from the ancient Vedic wisdom. This fundamental experience of “pure consciousness” represents a fourth major state of consciousness, distinct from waking, dreaming and deep sleep. In this higher state of consciousness, human awareness becomes aligned with cosmic intelligence; thoughts and actions become powerfully effective—life supporting and globally enriching. Such “enlightened” individuals are peacemakers by nature, radiating peace and harmony throughout their environment.

New research reveals that enlightenment, the full development of human potential, is our birthright—a spontaneous byproduct of integrated brain functioning. New research also reveals the existence of long-range “field effects” of consciousness generated through collective meditation. More than 50 studies have shown that such field effects of consciousness have a profound impact on society as a whole, defusing acute societal stress, violence and conflict, and providing a practical foundation for permanent world peace.

We are thus on the threshold of a global transformation to a post-dual, unified field-based civilization of affluence and peace based on the knowledge, and direct experience, of the core unity of life in higher states of consciousness.

**KEYWORDS:** Consciousness, physics, unified field, meditation, peace

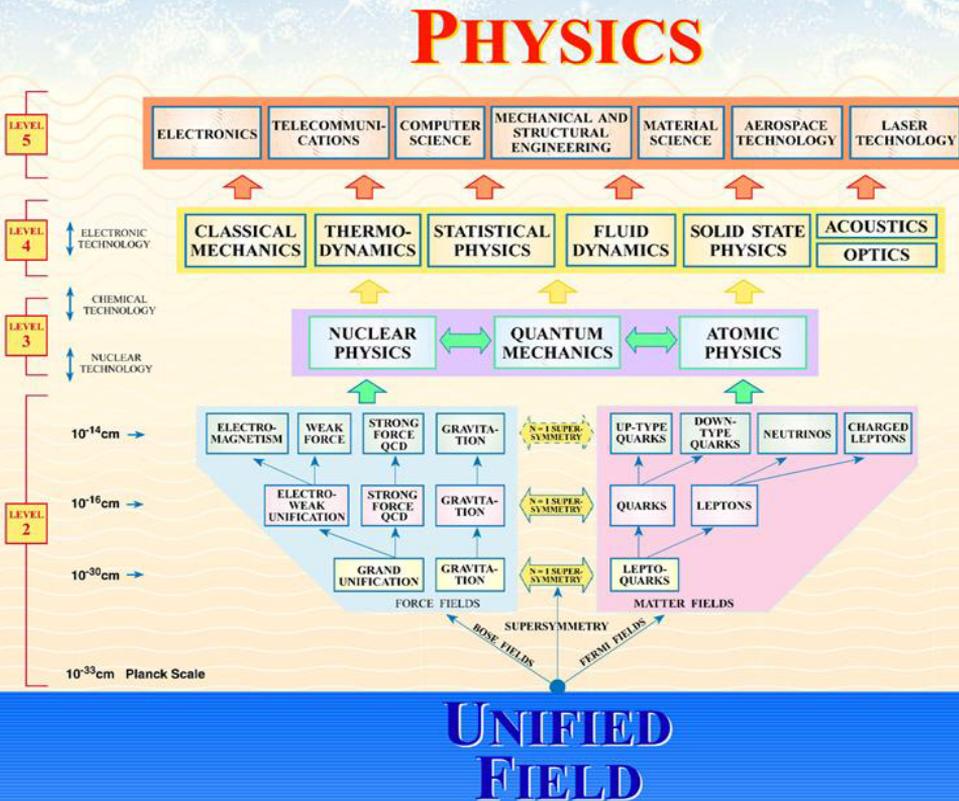
Today I would like to address several issues: What is consciousness? And what are higher states of consciousness? What are the limits of human potential? What is enlightenment? What are field effects of consciousness from a scientific perspective and their potential application to world peace? In this context, we're also going to talk a little bit about space-time wormholes and superstring theory.

what their purpose is. And if we have a lot of extra time, which I doubt we will, we can also talk about zero-point motion, a well-understood scientific phenomenon that today has new significance, more than ever before, because this zero-point motion of the unified field is actually fueling the exponentially accelerating expansion of the universe.

And during the question-and-answer period, if not before, I will be happy also to go into the phenomenon known as subtle bodies, or thought bodies—what they're made of and

These are the points I'll cover in the context of this talk. And to understand consciousness in a scientific way, we have to refresh ourselves a bit about the modern scientific understanding of the world—particularly

Figure 1. The Discovery of the Unified Field at the Foundation of Modern Physics



regarding the discovery of the unified field.

This first chart (Figure 1) attempts to summarize, in a single glance, three hundred years of modern scientific research. And even if you aren't able to read every single detail on the chart, what I'd like you to see is the overall structure of the universe represented here—the hierarchical structure of natural law.

**W**hat you see at the foundation of this chart is the discovery of the unified field, which is the unified source of the diversified universe, the source of all the laws of nature governing life at every level of the universe. And by “every level” I mean that the structure of the universe is superficially diverse, as shown at the top of this chart—at the macroscopic, observable, classical level of physics—and fundamentally unified at the core foundation of physics of the universe.

Modern science for the last fifty years has been all about exploring deeper levels of nature's functioning—from the macroscopic to the microscopic, from the diversified to the progressively more unified. It began with the exploration of the molecular level and the development of chemistry, and then the atomic nucleus and nuclear physics, and then the discovery of the subnuclear levels of nature's functioning—the quark and lepton—leading to the Nobel Prize-winning electromagnetic unified theory. This theory revealed that the superficially diverse electromagnetic and radioactive forces are fundamentally one, when examined at a level of nature's functioning about 100

times smaller than the nuclear dimension. And similarly, if you go down this chart near the bottom, you can see that perhaps three of the four fundamental forces of nature—the strong, weak, and electromagnetic forces—are ultimately united as one unified force field. That was my own early contribution to this unifying effort. And then, over the last ten or twelve years, we have seen the superunification of all the fundamental forces of nature and the particles on which they act—the so-called bosons or force fields, and the fermions or matter fields. These fields today are ultimately understood as unified components of one indivisible wholeness of the unified field, revealing the unified source of the diversified universe at the subnuclear scale—actually a million, million, million times smaller than the atomic nucleus—thereby fulfilling Einstein's lifelong quest to discover the unified source of the diversified universe. And this discovery is the crowning achievement of fifty years of advanced research in quantum gravity theory.

I want to emphasize with the next chart (Figure 2) that this discovery is not a philosophical development; it's really a rigorous mathematical development. The rigorous mathematical equation governing this unified field has been revealed in the context of superstring theory and so-called **M theory**. And that one compact superformula is shown at the top of this chart, which is really a very concise compact mathematical equation from which unfolds the increasing diversified structure of the laws of nature—the grand unified, and the

$$\mathcal{L}^{(1)} = -\frac{1}{2\pi} \left( 2\partial_+ X_L^\mu \partial_+ X_L^\mu - \Psi_L^\mu \partial_- \Psi_L^\mu - x_L^i \partial_- x_L^i - y_L^i \partial_- y_L^i - w_L^i \partial_- w_L^i \right. \\ \left. + 2\partial_- X_R^\mu \partial_- X_R^\mu - \bar{\psi}_R^j \partial_+ \bar{\psi}_R^j \right)$$

- Ignore String Field Theory
- Ignore Massive String Modes
- Replace with Point Particle Field Operators
- Maintain only non-renormalizable couplings (generated by the exchange of massive string modes) needed for N=1 Supergravity



$$\mathcal{L}^{(2)} = \int d^4\theta E \left\{ \Phi(S, S e^{2V}) + \text{Re} \left[ \frac{1}{R} g(S) \right] + \text{Re} \left[ \frac{1}{R} f_{\alpha\beta}(S) W_\alpha^\alpha \epsilon^{ab} W_b^{\beta\beta} \right] \right\} \\ = e \left\{ -\frac{1}{2} R - \frac{1}{4} \bar{\nu}_\mu \gamma_5 \gamma_\nu D_\rho \nu_\rho \epsilon^{\mu\nu\rho\sigma} e^{-1} - \frac{1}{4} \text{Re} f_{\alpha\beta} F_{\mu\nu}^\alpha F_{\mu\nu}^\beta \right. \\ \left. - \frac{1}{4} \text{Re} f_{\alpha\beta} \bar{\lambda}^\alpha \not{D} \lambda^\beta + G_j^m \bar{\chi}_{Li} \not{D} \chi_R^j + G_j^m D_\mu z_i D^\mu z^{*j} \right. \\ \left. + e^{-G} (3 + G_k' G_l'^{-1k} G^l) - \frac{1}{2} \bar{g}^2 \text{Re} f_{\alpha\beta}^{-1} (G^m T_i^{\alpha j} z_j) (G^k T_k^{\beta l} z_l) \right. \\ \left. + \frac{1}{4} i \text{Im} f_{\alpha\beta} F_{\mu\nu}^\alpha \bar{F}_{\mu\nu}^\beta - \frac{1}{8} i \text{Im} f_{\alpha\beta} e^{-1} D_\mu (e \bar{\lambda}^\alpha \gamma_5 \gamma^\mu \lambda^\beta) \dots \right.$$

Figure 2. The Lagrangian (Formula) of the Unified Field, or “Superstring”

electroweak unified, and nuclear, and atomic, and molecular, and macroscopic, and astrophysical and cosmological scales. The whole thing unfolds progressively and sequentially through the process we saw just a moment ago in the physics unified field chart—a sequential emergence of the increasingly diversified laws of nature from their unified source in the unified field.

And if we look at the equation at the top of this chart, you’ll see that it is really not bad, when you consider that all of scientific knowledge—certainly the whole of physics, the whole of chemistry, the whole of nuclear, electromagnetism, astronomy, cosmology—can be unfolded from this one superformula. If all physics libraries burned to the ground tomorrow, the whole thing could be re-derived from this one superformula. So there’s a tremendous amount of

power in this concentrated knowledge of unity interacting with itself. Universal intelligence is the basics of all matter in the universe.

**N**ow this next chart (Figure 3), elaborating on the earlier unified field chart, reveals something that is extremely important but is largely overlooked by the community of materials scientists, physicists, and engineers. It shows that the deeper you go into the structure of nature, the less material, the less inert, nature becomes. The deeper you go into the molecular, nuclear, atomic, and subnuclear scales, the more vitality, the more light, the more intelligence, the more consciousness is available—until you get to the level of this unified field, which is the unified source of the diversified universe, and which is a wholly nonmaterial field of pure, self-aware consciousness.

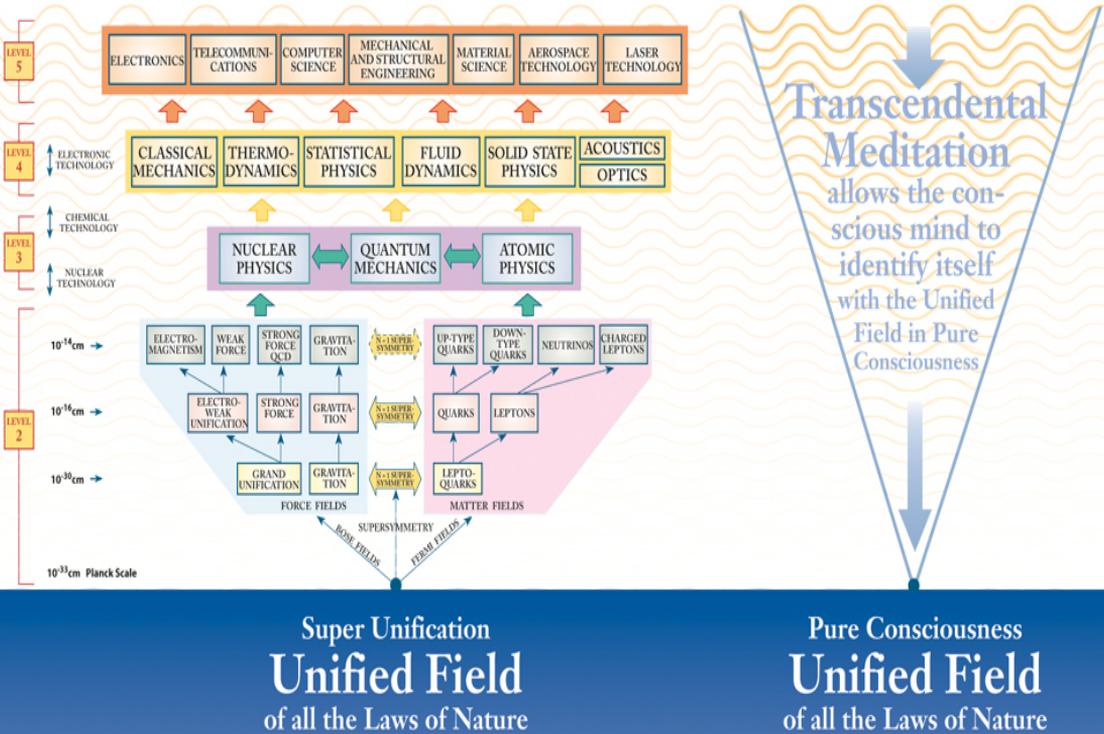


Figure 3. The Unified Field Lies at the Basis of Consciousness and Matter

It's very important. I'm going to try and justify this statement very briefly for you. It's a fact that this field is the ultimate origin of consciousness. The basic reality of consciousness is extremely important in the understanding of what consciousness is and what all the different phenomena of consciousness are.

So why don't we call the unified field a field of consciousness? We know it's a nonmaterial field. We learned this fact at the beginning of quantum mechanics, learned it again in quantum field theory, and learned it from experiments that confirmed

what's called the "non-local nature of reality"—that there is no material reality, no localized material existence, at the subnuclear level. So just from the qualities of the unified field, we also can easily see it's a field of intelligence. Why intelligence? Because it's the source of all the laws of nature. And what are the laws of nature? The principles of order and intelligence that govern the universe.

So this unified field is a field of intelligence, because it's the fountainhead of all the laws of nature, which are the principles of intelligence governing the universe.

And because it's the fountainhead of all these intelligent principles maintaining order throughout the universe, it must be the concentrated field of intelligence in nature. But it's not inert intelligence, it's not static intelligence, it's not lifeless intelligence. It's dynamic intelligence.

The quantum principle or "uncertainty principle," which I'm sure you've heard of, guarantees increasing dynamism at fundamental scales. What does that mean? It means that nuclear power is more powerful than chemical energy only because the nucleus is a million times smaller, and hence a million times more fundamental and a million times more powerful, than the chemical level, the molecular level. So when you move from molecular to nuclear to subnuclear levels, the characteristic dynamism of nature increase. And we'll see later that the dynamism at this level of the unified field is so intense that even space-time itself begins to boil. This boiling of space-time geometry is just a symptom of the incredible energy density of the unified field. So it's not static intelligence: it's dynamic intelligence. And it's self aware. A very important property of consciousness that I'm going to spend a moment explaining is how the unified field is self-aware—and how the electromagnetic field, for example, isn't. Light doesn't interact with light. Light isn't aware of itself. Two flashlight beams—you can do this experiment safely at home—two flashlight beams will pass right through each other with no interaction, no scattering, no awareness of each other's presence. Light is not aware of light. But the unified field, as you can see

at the basis of our unified field chart, is purely self-interacting. It interacts with itself alone. Why? Because there is nothing else down there for the unified field to interact with. And it's a good thing that the unified field interacts with itself, is aware of itself, responds dynamically to its own presence—because this dynamic self-interaction of the unified field is responsible for the emergence of the universe, which is a good thing.

So, what are the properties of the unified field? We could be much more rigorous about it, but I think this summary is good enough: it's an infinitely dynamic, nonmaterial field of self-aware, self-interacting intelligence. Hint: dynamic self-aware intelligence is consciousness. So this is the origin of consciousness. Any conscious phenomenon in the universe ultimately is conscious because of this conscious foundation to nature. And this idea is very foreign to a materials scientist, because after all, physicists spent 300 years studying billiard balls. Prior to the microscope, and the electron microscope, and the particle accelerators, all we could see was the classical world of matter around us. Well, after 300 years of billiard-ball mechanics and celestial mechanics, it's easy to see why you would consider the universe as dead—as inert matter. And since this idea is completely ingrained in the education of scientists—that the universe is composed of dead matter, and that life, if it exists at all, and consciousness, if it exists at all, is something that is purely interior to the brain of the physicist or mathematician or the human being—then it's surprising to tell

such a person, “No, the universe is awake; in fact, it’s pure wakefulness—pure consciousness at its source.” And the deeper you go—if you scratch beneath the surface of existence, and you just keep scratching to the molecular, atomic, nuclear, and subnuclear levels—the more the qualities of consciousness come alive. And eventually, at these deeper levels of elementary particle physics and beyond, it’s just a pure play and display of infinitely dynamic intelligence. And the unified field is absolutely pure intelligence, pure consciousness.

So in the old days, consciousness was considered to be a fluke of the universe—we were somehow just a fluke in an overwhelmingly dead universe. And now the situation has really changed: matter is the fluke in an overwhelmingly conscious universe. Matter, the world of classical physics, is just the tip, the observable tip, of an immense unseen quantum mechanical iceberg of the molecular, atomic, nuclear, and subnuclear levels of creation. So consciousness is fundamental in nature. If you don’t see it, it’s because you’re not scratching deeply enough beneath the surface inertia of life.

Now meditation throughout the ages—if properly understood and properly practiced—is a technique, as shown in this chart, to explore deeper levels of mind, deeper levels of human existence, finer levels of human intelligence. And those levels correspond to deeper levels of intelligence in nature. In other words, we are part of nature. Human beings have a structure at the macroscopic, microscopic, cellular,

atomic, nuclear, and subnuclear levels. And human awareness is so amazingly flexible that, with a little bit of training, it can probe, can explore, and can experience deeper levels of human nature, finer levels of thought, finer levels of consciousness, culminating in the direct experience of the unified field at the basis of the mind—the unified field of pure, self-aware consciousness, unbounded universal consciousness, at the basis of mind and matter.

**W**hat’s amazing about this timeless experience is that it has now become the intensive focus of modern experimental research. For example, this experience is now understood or believed to be a fourth state of consciousness, different from waking, dreaming, or sleeping. Let me point out first that this experience of the fourth state of consciousness is obviously a very special feature of the human brain—that it can experience the unified field. As far as I can tell, gerbils, dogs, and cats don’t have it—not quite. This ability of the human brain to fathom such fundamental levels of existence has to do with the detailed architecture of the human brain and nervous system.

I won’t go into this understanding in great detail here, but the structure of the human brain mirrors the structure of the unified field. The structure of the unified field in modern scientific terms is a set of reverberations—the unity of diversified fluctuations. Let me explain that statement. The elementary particles and forces that fill the universe today—quarks, electrons, photons, gravitons—these are just the vibrational

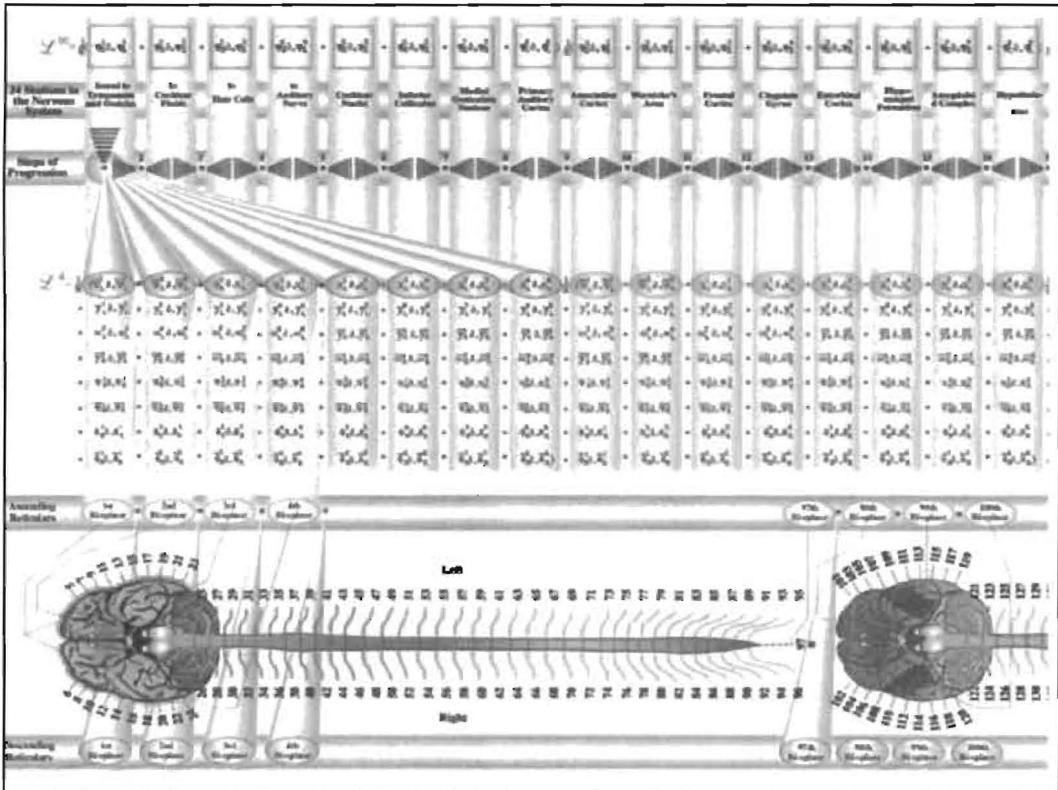
states of the unified field. Think of it if you wish as little rubber bands—superstrings—and superstrings, like rubber bands, can vibrate in different ways. Some can vibrate to the left, maybe some to the right; some may be vibrating like this, and others may be vibrating like that. You can mathematically enumerate the vibrational states of the superstring—and lo and behold, those states correspond to the different elementary particles: the photon, the electron, the quark.

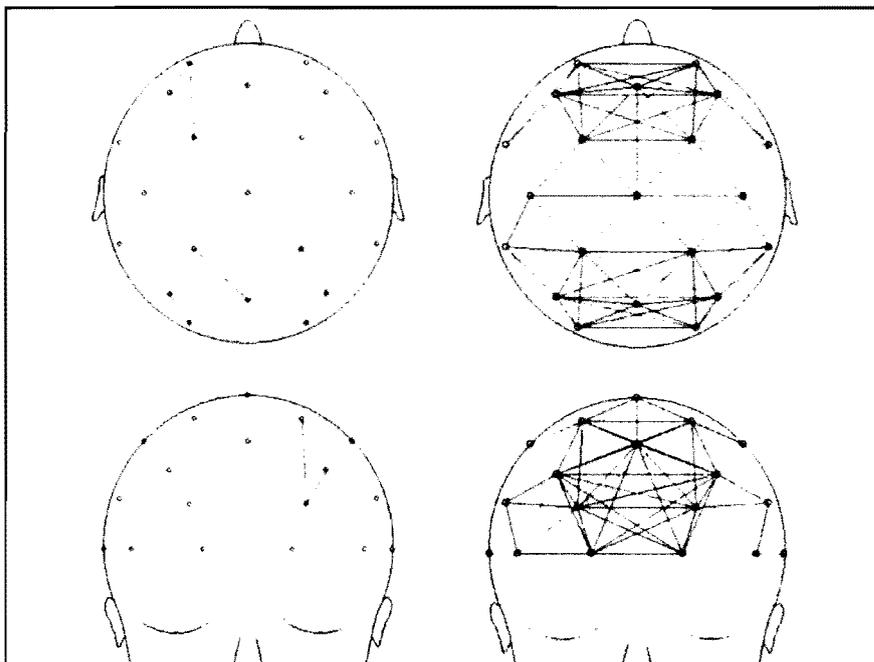
just the different vibrational frequencies of the unified field. And there are 192 of these fundamental frequencies of the unified field: the so-called left-moving and right-moving vibrational degrees of freedom of the heterotic string—the vibrational states of the unified field. The elementary particles and the forces of nature are simply those vibrational modes in the field—nothing more. They are nonmaterial—just sound, just vibration.

So all the particles in the universe, which are the components of the unified field, are

Well, the human brain is designed to reverberate in exactly the same way. (Figure 4) The brain and central nervous system

Figure 4. The Structure of the Brain and Nervous System Mirrors the Structure of the Unified Field





*Figure 5. Global Brainwave (EEG) Coherence During Experience of the Unified Field in the Meditative State*

consist of 192 nerve endings—192 ascending and descending reticular formations—the gateways to consciousness.

And this 192-fold structure of the brain and central nervous system is designed, in a sense, to resonate in the 192-fold structure or reverberant frequencies of the unified field. So the human brain is not an accident. It's as if we have been engineered by the creator, if you wish, to experience this universal consciousness, this unified source of the diversified universe.

Enough on that. But this experience, this state of consciousness, is now considered to be a fourth major state of consciousness, distinct from waking, dreaming, or deep sleep. It has its own physiological characteristics and subjective characteristics.

Subjectively, it's a pure, unbounded, abstract, silent ocean of consciousness—awareness wide awake within its own nature, not experiencing anything: no object, no thought, no mood, no emotion, just abstract, absolute, universal contentment.

When the brain is having this experience of unbounded awareness, the electrical functioning of the brain, the firing of the neurons, is distinctly changed. (Figure 5) In this next chart, what you see in the representations of brains on the left and right are, firstly, dots that simply indicate the location of electrodes on the scalp. These electrodes have been positioned to measure the electrical activity of the brain, the firing of the neurons. On the left is the electrical brainwave activity of a person

in normal waking consciousness—agitated, waking, stressed consciousness—and the connections among these dots, across the brain, are minimal. On the right is the electrical brainwave activity of an individual experiencing this pure consciousness state—the unified field—and what you see are bars connecting all these dots. Those bars indicate correlation between the electrical activities in different regions in the brain, meaning that the brain is functioning coherently, synchronously—integrated functioning of the brain. The right hemisphere of the brain, the left hemisphere of the brain, the frontal and occipital lobes of the brain and the temporal and parietal lobes of the brain: the whole brain is functioning in concert, in a highly integrated way. The very isolated and fragmented mental activity of localized thought and localized perception, as indicated on the left, involves only a small sliver of the brain. But during the experience of unbounded awareness, as shown on the right, the whole brain is functioning *as a whole*. And integrated brain functioning means expansion of awareness, expansion of comprehension, to be global, to be universal, to be cosmic.

So human awareness can directly experience the unified field. And let me just pause here to say that this finding has more than philosophical interest. It's an extraordinary breakthrough in the field of human potential—the discovery that this meditative state, which has been with us throughout the ages, is of tremendous significance to the development of the brain. Why? (Figure 6) Because this so-

called “global EEG coherence,” this integrative functioning of the brain, correlates scientifically with increased intelligence, rising IQ, increased creativity, improved memory, concept learning, improved academic performance, enhanced moral reasoning, increased psychological stability and emotional maturity, increased alertness, faster reaction time. Everything good about the brain depends on its orderly functioning. And today, orderly brain functioning can be developed systematically in anyone of any age.

IQ, for example, as this next chart shows (Figure 7), can go up longitudinally in adults, as has now been shown in many published studies in refereed scientific journals. And this finding is amazing, really, because the whole story of human potential has been an extremely bleak one.

**T**he common understanding today is that intelligence peaks in late adolescence and then begins to decline, certainly by the age of thirty. There's a precipitous decline in raw intelligence, with a simultaneous shrinking of the gray matter of the brain. And we tell our children that we make up for this loss in raw intelligence as adults with our experience, our maturity, and our better judgment, so that our children will listen to us. But this whole concept of the deteriorating brain is obsolete, and it's frankly barbaric. And it is *fortunately* obsolete, because now we know that the brain is so plastic, so malleable, that it is capable of forging new connections and learning new things throughout life. But the story with the

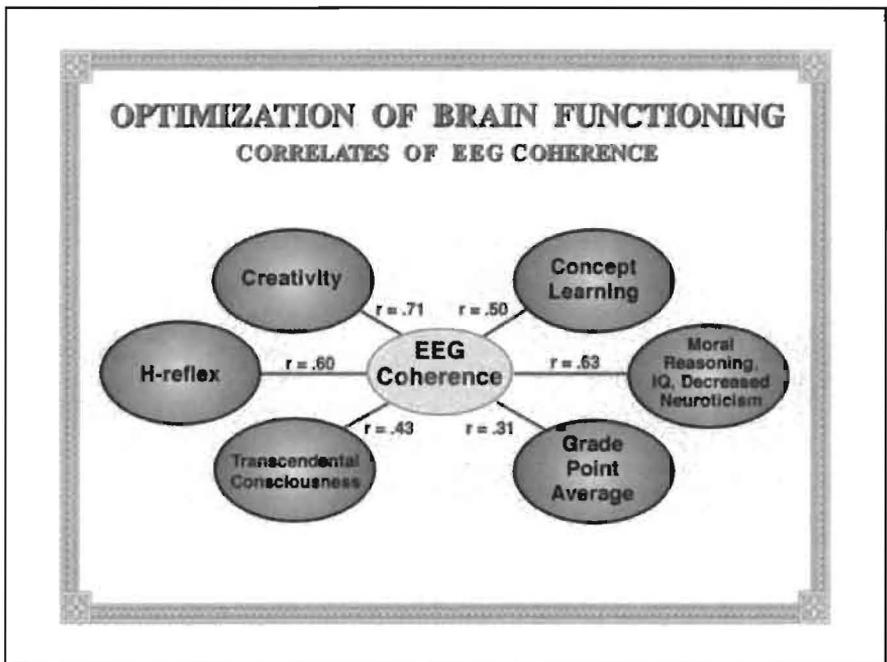


Figure 6. Global EEG Coherence Correlates with Optimal Brain Functioning

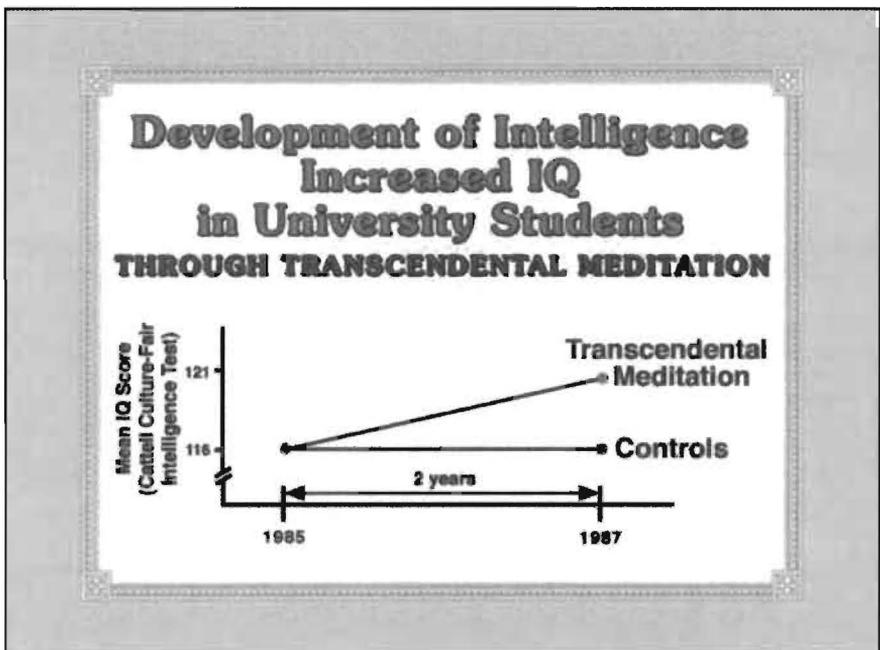


Figure 7. Longitudinal Increase in Intelligence with Regular Meditation

brain is: use it or lose it. And when you're not engaging the total brain, then basically, in a sense, it atrophies. It just doesn't develop in all the ways it could.

This next chart shows a striking finding—the lack of integrative brain functioning. This is very common among most people in society today. (Figure 8) These are SPECT images that show blood flow in the brain. On the left is a normal brain, and on the right is the brain of a violent offender. Notice that in the image on the right, there appear to be holes in the brain. These aren't actual holes in the gray matter, but they are functional holes—areas of the brain that just aren't firing, that are not actively partic-

ipating in our moment-by-moment experience. This style of functioning leads to an extremely fragmented experience of life, not holistic, and it leads to narrowly cramped comprehension and narrowly self-centered, narrowly shortsighted behavior—primitive and aggressive and compulsive, violent behavior. And frankly, this outcome is all a result of the underutilization of the brain. Most of the brain is simply never exercised. When you're studying physics, or mathematics, or literature, or the arts or music, these each engage different areas of the brain, but only small slivers of the brain. Most of the brain remains unused in conventional education. As a result, as we age, the functioning of the brain—the

*Figure 8. SPECT Brain Image Showing Functional Holes in the Prefrontal Cortex*



blood flow in the brain, the metabolism of the brain—looks like the image on the right of this chart.

**W**ell, fortunately, balanced brain functioning can easily be restored today, even in criminal offenders. Even in maximum security prisons, just exposing the individual mind to the experience of its own unbounded nature, the universal nature of consciousness, engages the total brain and develops the brain holistically, leading to integrated brain functioning. This is extraordinary, because functional holes in the brain typically cluster in the critical prefrontal cortex, as shown at the top of the image on the right. This area, the prefrontal cortex, corresponds to the so-called higher brain, the CEO of the brain. The higher brain is responsible for all of our higher human functions: planning, judgment, moral reasoning, leadership. When the higher brain is underdeveloped, we are left with our more primitive, impulsive, aggressive, violent behaviors.

So the prefrontal cortex is a critical rational filter against primitive, impulsive, violent behavior. When the higher brain is underdeveloped, as it is today throughout society, we find ourselves living in a preadolescent society. If you have any doubts that we are living in an preadolescent society, where violence and impulsive, shortsighted behavior are the norm, take a look around you—particularly in the areas of society that are most stressed. Because under stress, the prefrontal cortex shuts down—and under chronic stress, it shuts down chronically, and fails to develop normally.

So it's amazing that we have today the possibility now, through meditation, of a simple solution—absolutely simple, blissful, universally applicable, and easily practiced. There are meditation techniques like Transcendental Meditation that are so easy and so effective that within a couple of months, even among maximum security felons, restoration of normal brain functioning quickly results. And when these inmates are released from jail, research shows that they do not return to jail. So we're talking about a very important developmental tool here, which has been completely overlooked in education today—until now.

**I**'ll talk more about this point later, but right now I want to go into field effects of consciousness—an idea that would probably be surprising for most people but probably not for this group—and how we can use the field effects of consciousness to even create world peace. How? By defusing social stress, religious, ethnic, political tensions, and ethnic violence, while promoting global unity. First let me talk about this in a very commonsense way. And then I'm going to take it to the next level.

Violent crime, terrorism, and even open warfare are manifestations of acute social stress. Everyone in the field of conflict resolution acknowledges that the first stage in the emergence of war is mounting tensions among rival factions in critical hotspots throughout the world, like the Middle East. When these ethnic and political tensions reach the boiling point, they inevitably erupt as social violence. An



*Figure 9. Photo of 4,000 Advanced Meditators Converging in Washington, D.C., to Reduce Violent Crime*

act of violence always results in a retaliatory act, and then you're in a situation of escalating violence, leading to terrorism and war.

If you could neutralize those mounting tensions, both individually and societally, you could prevent the emergence of such behavior fueled by stress: crime, violence, anti-social behavior, even terrorism and war. And today, meditation is the best-known approach for reducing stress. Thousands of doctors prescribe meditation routinely now as the most effective, non-pharmacological approach to reducing stress and preventing the deleterious effects of stress on heart health and human behavior. So if

individual meditation can reduce individual stress, the societal application of meditation can certainly reduce societal stress. There's no miracle really—no magic in that.

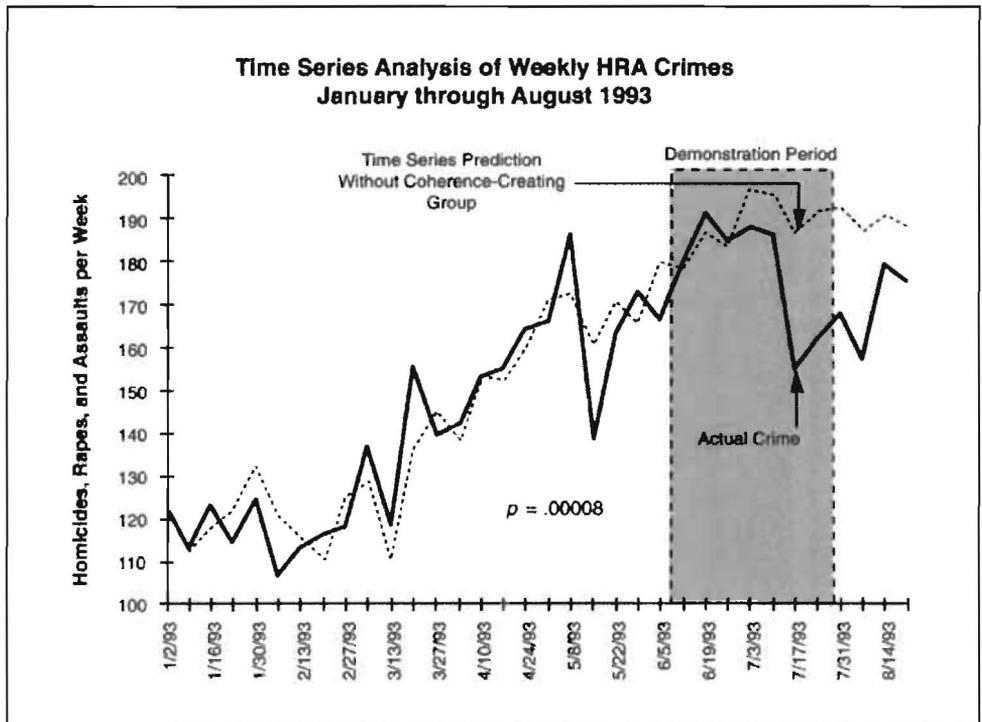
But what is magical, if anything, is the extraordinary power of this approach. This photo shows a relative handful of individuals who gathered together in Washington, D.C., in the summer of 1993, as we heard about briefly from Beverly [Rubik] a few moments ago. (Figure 9) This group and many, many others like them in different parts of the world have all been the subjects of very rigorous scientific research. And the research has shown that group practice of meditation by such a group of individuals—

several hundred or several thousand, depending upon the population size of a city—is enough to markedly improve social trends, to effectively dissolve acute societal stress and tension, to markedly reduce crime and social violence, to reduce domestic violence and psychiatric crisis, and so on and so forth. All these symptoms of acute social stress can be reduced by a relative handful of individuals.

Let's take a closer look at this research, because it is in a sense miraculous—but now I would say it is the scientific application of consciousness, properly understood and properly harnessed. (Figure 10) This next chart shows some of the

results of this Washington, D.C., National Demonstration Project in the summer of 1993, where a few thousand individuals gathered from around the world to lend their nervous systems to a very important experiment: the collective practice of Transcendental Meditation and certain advanced techniques of meditation as a group. And what happened over the course of this 60-day experiment, as shown here—particularly during the second half of this period, when the number of participants increased from several hundred to several thousand meditators—was a highly significant drop in crime. The reduction was about 25%, statistically significant at better than 1 part in 10,000.

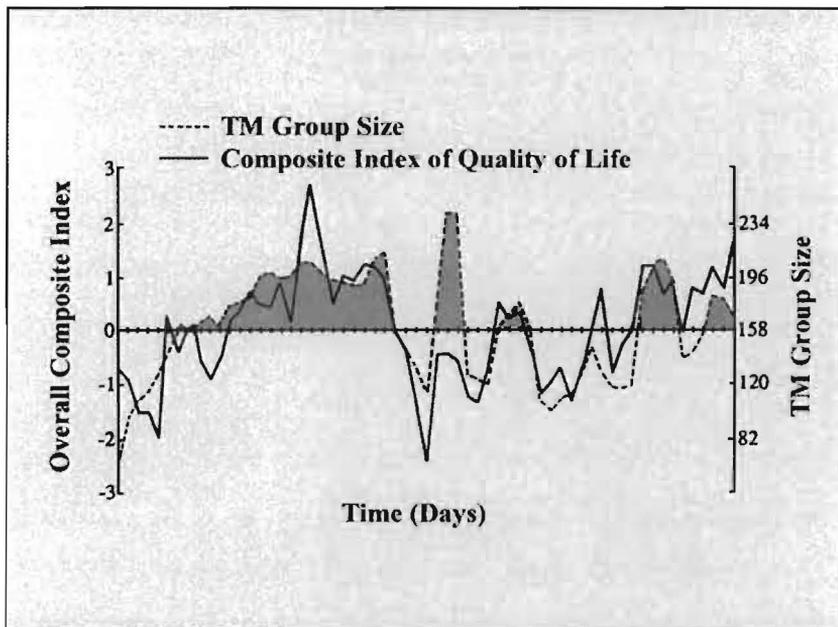
Figure 10. Marked Reductions in Violent Crime in Washington, D.C., during the Meditation Assembly ( $p < .0001$ )



I remember that during this study the chief of police went on television in Washington, D.C., and said that he was going to participate in this study for sure, and that he was going to help monitor the statistics and provide us with data, but that he was very skeptical. He said, "Look, it's going to take two feet of snow here in August to reduce violent crime in Washington, D.C., by 25%, especially in just a few weeks." At that time, Washington was known as the murder capital of the world. But in the end, the police department was one of the authors of our public study, along with 27 other criminologists and sociologists who worked on it. And the effect was very highly statistically significant. And our study wasn't the first on this approach—it was the 53<sup>rd</sup> among similar experiments done in the past.

I'm now going to very quickly show one or two more studies, because they reveal the very important application to war and world peace of this approach. This next chart summarizes a very important study, the first of its kind, on the effectiveness of group meditation in reducing violent conflict, even war in war-torn areas—in this case, in the Middle East (Figure 11). During the peak of the Lebanon War, for about 60 days, a group of individuals in Israel practiced these meditation techniques twice a day for an extended period of time. The number of people available on a given day would rise and fall, particularly over the weekend. And this chart shows, as a dotted line, the raw data on the number of people who participated in these group meditations each day during this 60-day period. Plotted on top of the dotted line is a quality of life

Figure 11. *Highly Significant Correlation Between Number of Meditators and Progress Towards Peace in the Middle East (from Journal of Conflict Resolution)*



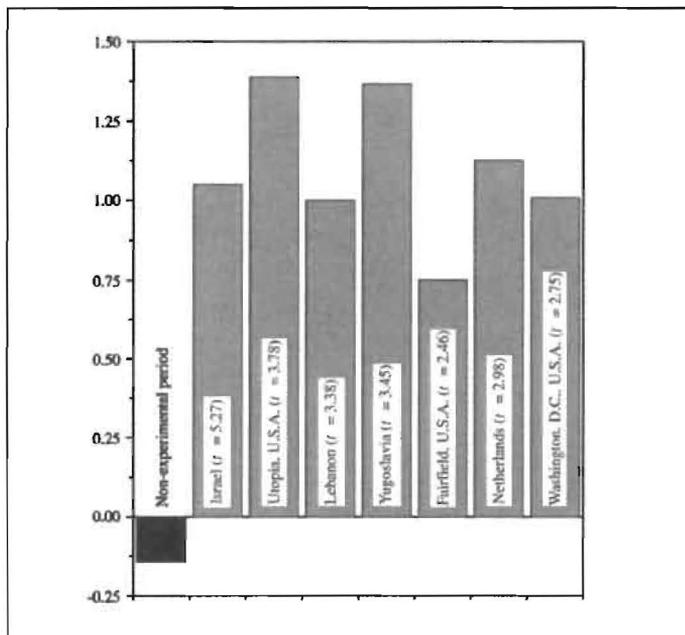
index, showing particularly progress towards peace among the rival factions, as measured by reduced war deaths, war injury, and intensity of conflict, as well as negotiated settlements among the rival factions. This so-called war/peace index, or quality of life index, tracks very closely the number of mediators, even before the benefit of statistical analysis. And after statistical analysis, this correlation turns out to be highly statistically significant—less than 1 part in 10,000 that this correlation could have been due to chance.

This study was published in the prestigious Yale University *Journal of Conflict Resolution*. When it appeared, it created a bit of a firestorm, I must say, and the editors of the journal published a letter along with the article, a plea really, to the scientific

community as a whole and to other groups of scientists to go out and repeat this study. The implications of these findings—that a relatively small group of 700 meditators could turn off violence in the Middle East, like a light switch, day by day—had such far-reaching implications, and frankly was simply so astonishing given the current scientific paradigm of consciousness, that the editors urged that the study be repeated.

And repeated it was. (Figure 12) Over the next two and a quarter years, as shown in this next chart, there were seven scientific replications of this study by different groups, involving different-sized assemblies of meditators located at different distances from the conflict. But in each case, the group was large enough to produce a predicted influence on the war. All seven

Figure 12. Seven Experimental Replications of Group Meditation Leading to Reduced War Violence in the Middle East



of these experiments, summarized in this chart, had a highly statistically significant effect on progress towards peace, the prevention of war deaths, and so forth—about an 80% reduction in war intensity during these seven assemblies, as compared to the control days or non-experimental period—the increasing conflict shown on the far left of this chart. Every one of these studies was highly statistically significant scientifically, but when you put them together and you combine the statistics, the likelihood that this reduction of social conflict was simply a statistical fluke, a happenstance phenomenon, is less than 1 part in  $10^{19}$ —one part in 10 million million million. This finding makes this phenomenon of reduced war and reduced social conflict on the basis of group meditation the most thoroughly studied and most rigorously established of any phenomenon in the history of social science.

**S**o it is a scientific fact today that group meditation—properly done, in an appropriately sized group, using very specific techniques that give easy and direct experience of the unified field—will repeated and dramatically reduce war. What an incredible tool—what a powerful message of hope for humankind.

I would like to spend the rest of my time today looking in greater detail at the mechanisms of peace that are generated by the collective practice of meditation. This is where it really gets interesting from a physical perspective. How can it be that a group of this size can influence the behavior of 1.5, 2, 3 million people in the vicinity of

Washington, D.C.? What is the power of group meditation? How does it work? What is the power of collective consciousness?

Well, firstly, there is a very simple principle that I think we all can understand, and that is the **principle of constructive interference.**

Let me take the simple example of three loudspeakers—although you could use any number. (Figure 13) In this next slide, on the left, we see three loudspeakers in close physical proximity. Those three loudspeakers are radiating the same sound playing the same music. That means those three waves will add together into one big coherent wave, three times as high as a single wave. But the power in a wave grows not as the height, but as the square of the height. So three loudspeakers will actually produce nine times the sound of a single loudspeaker—three squared is nine—if the loudspeakers are in close physical proximity and radiating coherently. And this principle is not only true for loudspeakers: it's a universal factor, a universal principle of wave behavior. So if you have a thousand meditators in a group—in the Golden Domes of Maharishi University, for example, in close physical proximity—they will produce the influence of peace, positivity, and coherence equivalent to a million individual meditators. A thousand squared is a million meditators, practicing individually. This is an extraordinary result, but an inevitable result. No matter what theory you use to describe this, you come up with the same answer, the same result.

**H**ow is it that you could affect me, or I could affect you, in this way? How

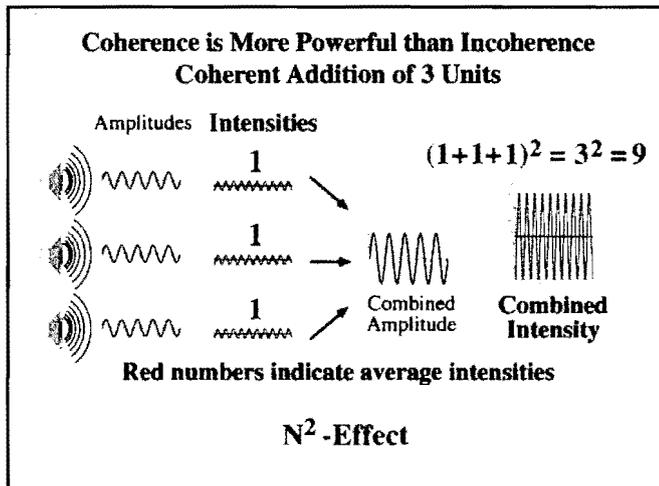


Figure 13. Constructive Interference Explanation of the N-Squared Power of Group Meditation

could a group of meditators affect others at a distance? What are the long-range mechanisms of social interaction? How does this spreading of EEG coherence take place?

Well there are actually many ways we affect one other. Inevitably, we affect each other. We are living in a very closely knit society. Everyone is connected today via the media, the Internet, the cell phone. “No man is an island” is an old expression that has never been more true than it is today. Inevitably, we each have a spillover effect. We influence our family, our loved ones, our work colleagues, and, if enough people are involved, the atmosphere of a college, the whole atmosphere of a city, the atmosphere of a country. *How* we affect one another is in the details. (Figure 14)

This next chart shows various familiar and unfamiliar mechanisms through which we affect one another. Of course, there’s

physical contact. It’s a short-range interaction, but very effective. And then there’s verbal communication, which is sort of a medium-range influence. It extends maybe 20, 50, 100 feet. There are also visual cues: for example, an obscene gesture at a traffic jam. It carries an influence—a subtle influence, but you certainly feel it. People respond to it: they carry that anger with them to work or wherever. These are all classical means of communication, based on classical physics. There’s also the telephone, the Internet, the radio, all based on classical physics.

But at deeper levels of human existence, the quantum mechanical levels, there are even more powerful methods of long-range communication. I’m hoping and assuming other speakers will talk about these, so I won’t dwell on them here. Quantum mechanics also allows unseen communication at a distance, within certain constraints, which we could talk about if we

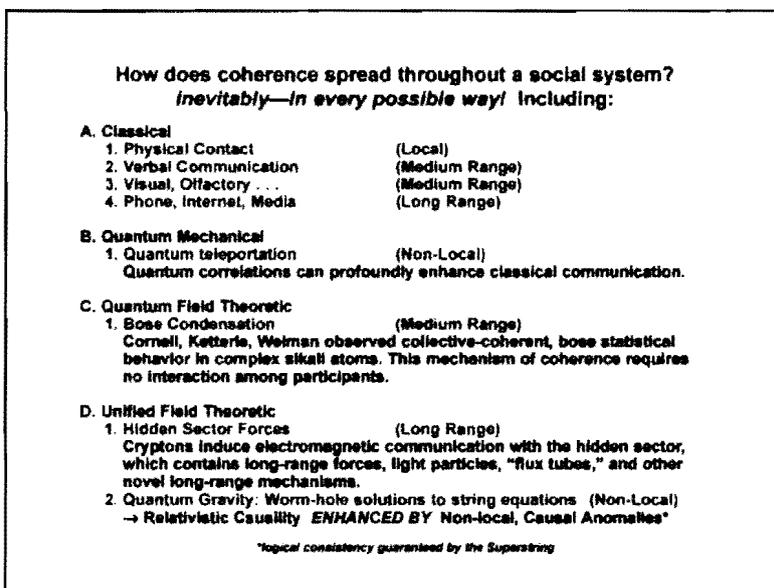


Figure 14. *Physical Mechanisms of the "Maharishi Effect": Reduced Social Violence and Improved Positive Trends through Group Meditation*

had more time. But I'm going right to the basis of the story, because the techniques of consciousness that are employed in the studies I've shown you are Transcendental Meditation and its advanced techniques—techniques that take the awareness directly to the universal level, this foundational level of consciousness, universal consciousness—and at that level enliven unity, enliven positivity, enliven peace, enliven harmony. And because this universal field, this unified field, is everywhere—because it's at the basis of you, and of me, and of everyone and everything in the universe—an influence here is really an influence everywhere. So inevitably there's a global effect created by enlivening consciousness.

Let's examine this idea a little more carefully. What does it mean to say "an influence here is an influence everywhere"?

We can see from the chart—it's logically clear from this chart—that my consciousness, while it has its individual aspect to it, also has its unbounded universal aspect to it. And that is the same for me as for you. When we really talk about the "I"—the subject, the experienter in pure form, that which never changes, that which has been there since birth and beyond—that level of pure consciousness is universal. At that level, you and I are one. And it is at that level where these techniques of meditation work.

As a physicist, I'd like to ask the question: What does it mean that an influence here is an influence everywhere? What is the nature of this unified field that is omnipresent? Why is the unified field omnipresent?

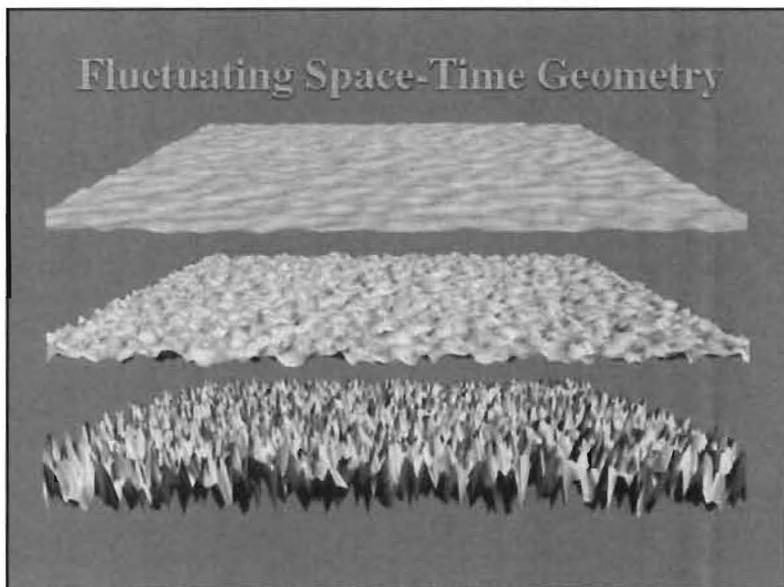
That is what this next chart attempts to show. (Figure 15) The unified field is at this fundamental level of the universe. It is really beyond space and time. At the level—ten million times deeper than the nuclear level—it is so intensely dynamic that space-time begins to boil. And this next chart shows the boiling of space-time geometry—the rising of space-time foam. This chart shows three different views of space-time. The surface of the chart shows relatively flat space, which is how things tend to look at the macroscopic level, and then in the middle of the chart the structure of space at the subnuclear level, and then the structure of space-time at the superunified scale—the level of the unified field, where space-time begins to boil. And when space-time begins to boil into a cauldron of space-time geometry, with an effervescence of micro black holes and an explosion of black holes,

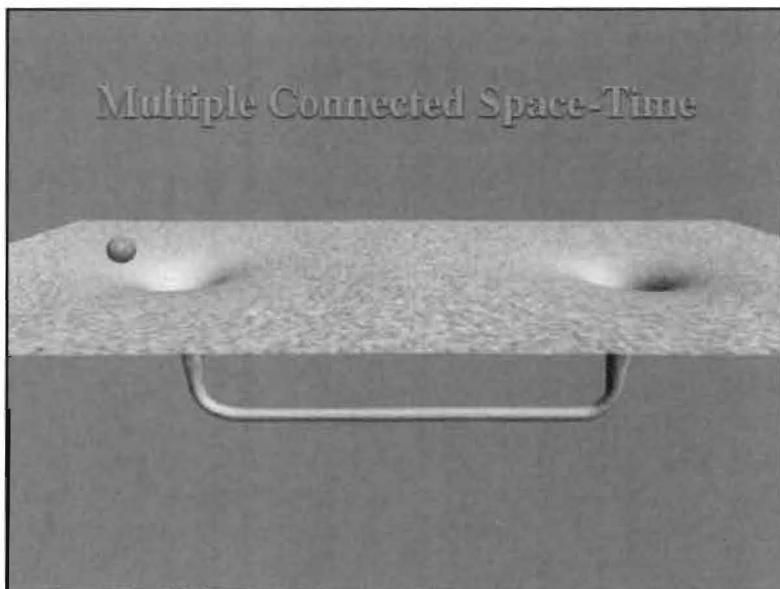
then on a microscopic level, you can no longer talk about distance, you can no longer talk about time. These concepts simply have no meaning at that level.

And in particular at that level, according to superstring theory, little tubules or wormholes continuously form. (Figure 16) Many of them disappear, but others can drift apart. A wormhole is really a shortcut through space. Wormholes were predicted by Einstein in his General Relativity Theory, but no one ever really understood how to create them, or if they really existed in nature. Now we understand that they exist in abundance, and they are just the microscopic level. Space-time is filled with them.

But this was also true at the time of the Big Bang, when the whole of the universe was concentrated in a quark. At that point

*Figure 15. The Boiling of Spacetime Geometry at the Planck Scale (a.k.a. "Spacetime Foam")*





*Figure 16. The Formation of Spacetime Wormholes in Superstring Theory, Leading to Non-Local Phenomena*

level, wormholes were everywhere. As the universe expanded exponentially, some of these little tubes, these shortcuts shown in this chart, get pulled apart by the expansion of space. And now our universe, even though relatively flat, is believed to be crisscrossed by these shortcuts, these so-called wormholes in space. If you've ever seen the science fiction movie *Contact* by Carl Sagan, or read the book, the main characters took advantage of one of these space holes to travel from one region of the universe to the other. Well, that was a big wormhole. I wouldn't normally recommend jumping into one—because the diameter of most wormholes is the point-length, and it would be a terrible process of homogenization of all of one's molecules if one tried to squeeze oneself into a wormhole. I'm not recommending that, but I'm saying that information pours into these wormholes,

and pops out anywhere—and not just anywhere, but any time. This is absolutely amazing, but true. The super-string rigorously shows that you can send information instantaneously across the universe and that you can actually send signals forward and backward in time.

**N**ow this idea can start to sound a little bit like a “B” movie, a science fiction movie, where people travel to the past, and typically they screw everything up. And you really can get into a total logical mess as soon as you entertain the possibility of time travel, particularly to the past. But the superstring is so smart that it takes care of all those details and prevents any possible logical paradox from arising. And this is now believed to be a mechanism for the propagation of information at distances, and even forward and backward in time.

This is the nature of the unified field. It is on the one hand flat, but it also has these shortcuts. And it provides a rather different view of the universe than we had only three years ago. We used to think the universe was purely causal—that when something happened it would happen for a reason, but the reason was always in the past: the cause in the past, the effect in the future. Now it turns out that cause can be now and even in the future, and the effect can be in the past.

By the way, many people who are growing in higher states of consciousness, and who are familiar with the deep level of consciousness, and who are more and more proficient at functioning, thinking, and desiring from that level, experience this phenomenon all the time. It's called support of nature. You can say, "Gosh, I really want a parking spot across from the movie theater, and I want it now." And you pull up, and lo and behold, there's one empty spot on a street that is otherwise packed with cars. That's fulfillment of desire. But the person who vacated that spot for you had to have vacated it at least a few minutes before you got there, before you even had the thought. Can your thought today influence events in the past in order to fulfill your thought now? The answer is yes; according to physics, you can.

There might be other examples I can give, but I'm just pointing to this one as a perhaps novel mechanism for most of us through which the unified field can propagate information across vast distances, and certainly between members of society.

So a relatively small group of individuals—located, for example, somewhere near a city, or even far removed—can hold a powerful influence on the lives of the people in the city. And you can measure this. You can measure the brain functioning of non-meditative subjects, non-meditators in the geographical vicinity of a meditating group. And the non-meditating brain becomes more orderly, more synchronous, more coherent, more intelligent, and more creative. We influence people to that degree. And other measures confirm the same thing. I'm just describing this to show that there are very, very profound unified field-theoretic mechanisms that explain how an individual can have such an influence at such a distance, particularly how a group of individuals can create such an influence.

**B**efore I take questions and maybe even talk about subtle energies and bodies and so on, let me mention a few action steps. What I would really recommend to any human being, anywhere in the world, is to become part of the solution. If you're not already doing so, transcend. Whatever you're practicing—if anything, hopefully something—experience deeper levels of thought and transcend the field of thought to unbounded, absolute, transcendental Being, bliss consciousness. If whatever you're doing doesn't take you there quickly, learn something that does. On the basis of a huge amount of scientific research, learn TM (Transcendental Meditation) if you can. This technique is the oldest method in the world, certainly the most widely practiced, most extensively researched, and most broadly prescribed by doctors.

Number two: if you possibly can, if you're of that age, experience education for enlightenment. I went from Stanford University faculty to Maharishi University in Iowa, not because I loved Iowa so much over California—I don't—but because of the extraordinary institution that Maharishi University is. There, in addition to reading and writing and arithmetic and business and computer science, what is unique is that all the students and faculty practice meditation and directly unfold enlightenment—full potential of mind, body, and behavior.

What is enlightenment, in a nutshell? What are higher states of consciousness? Total brain functioning—full development of mind, body, and behavior, or the total brain—where 100% of the brain is constantly engaged to fulfill anything, no matter how ambitious, with increasing ease. It's also called Self-realization—realizing the cosmic Self, big "S," our cosmic nature, whose nature is, fortunately, bliss. What a tremendous thing to have 24 hours of absolute bliss. It doesn't matter if you're sound asleep, doesn't matter if you're dreaming, doesn't matter if you're under anesthesia even, or if you're wide awake. That unbounded awareness of your universal cosmic nature is never lost. With regular practice, you have 24 hours a day of bliss—bliss beyond the body.

Self-realization is also called freedom from bondage. This just means that without Self-realization, all you have is your experience in your waking consciousness at any given time. You don't experience your unbounded Self; consciousness is not experienced; the

object of consciousness alone is experienced. And if it's a good object—mashed potatoes and gravy—that's all good. You enjoy the experience, even at the expense of infinite, eternal, immortal bliss. It's a sacrifice, but not just a sacrifice. But if you're experiencing marinated okra, that's a disaster—because at that moment, that's all there is in life. The okra has replaced one's unbounded, immortal, eternal, blissful nature.

**Realize the Self: that's the most important message. Gain enlightenment. Anything less is a waste of time. The** brain was designed for this experience. If you're not having it, get it! And the side effect of this is spontaneous, righteous action—spontaneous, life-supporting, health-promoting action. Global citizenship: knowing how to act, not only in your own best interests, but spontaneously in the interest of society as a whole. And finally, as a practical result, is the growing ability to achieve anything through a mere impulse of thought. That's how powerful brain functioning becomes. When the whole brain is engaged, when every neuron is firing synchronously, the power of thought, the alpha power, becomes enormous, and the ability to fulfill desire becomes great.

So I moved from Stanford to Maharishi University to pursue this incredible principle, this practical principle, of education for enlightenment. I believe education should be all about enlightenment. Yes, you can learn computer skills while you are gaining eternal unbounded bliss. Education should develop the brain holistically, so that the

scientific truth of the unity of life becomes a living reality in daily life.

I believe this incorporation of holistic experience—this meditative state, unbounded awareness—into education is more important than building new prisons. It's more important than, say, Internet education. As good as these approaches may be, they don't replace enlightenment. Again, the implications for society are huge: global citizenship—the opposite of criminal behavior, of narrowly short-sighted, extreme, fanatical, nationalist behavior. Extreme nationalism is only the result of a stressed, narrowly confined human consciousness. Expand consciousness to be global, universal, and spontaneous global citizenship results.

**A**nd finally, as we are seeing, world peace is a side effect of such education. Any school that is big enough—that has maybe a couple thousand students, all collectively practicing this advanced meditation together in one place—will have an incredibly powerful peaceful effect on the whole society, reducing crime and violence and even preventing war on a global basis. At Maharishi University today, we have just under 2,000 students, but enough to create a national effect. We're rapidly building those numbers as quickly as possible to 2,000, to 2,500, by which time the whole tone of the U.S. will be changed. It will be impossible to elect a George Bush again. People just won't vote for negativity, violence, and war when they can vote for global peace—and achieve peace on a practical basis. I won't go into that any

more, except to say that proper education has the side effect of world peace. That's the sort of education I'm recommending.

This concludes my formal presentation. I will be delighted to hear from you after the conference. Contact me directly at the e-mail address: [director@GUSP.org](mailto:director@GUSP.org).

Why don't we stop and see if there are any questions.

• • •

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#### REFERENCES & NOTES

1. This paper is based on John Hagelin's Keynote Address presented at the Seventeenth Annual ISSSEEM Conference, *The Science of the Miraculous* (June 21-27, 2007).

## QUESTIONS & ANSWERS

**Question 1:** How many meditators will it take to elect you?

*JH:* That's a very kind question. It refers to the formation of the Natural Law Party some 8–10 years ago. Supporting a third political party is, of course, a challenge in today's electoral climate. Under the laws of our country, it's almost illegal to create a party, if you're not a Republican or Democrat. But with reference to the campaigns of the past, it was actually very useful to engage in the political process. I found it an incredible learning experience. But at the same time, if

*you don't inject new ideas into the political dialogue, and if you let the Republicans and Democrats—who are frankly both funded by the very same special interest groups, with some important distinctions—essentially speak from the same script, then democracy does not evolve.*

*Most of the important ideas that have been injected into our society—like the right of women to vote, the abolition of slavery, child labor laws, and more—came from third parties that were speaking something new, but something so self-evidently right. These ideas were so timely that they were infectious. Once they were released into society and the political process, they could not be recalled. They eventually made their way into the political mainstream, and really dramatically changed the country.*

*But I'm not planning to run for president. I put in quite a few years at it. I'd like to do something that is related, and I've talked about this. And that's to raise the collective consciousness of society to be more alert, more awake, and more intelligent. And on that basis, people will deserve and demand a better government. I think that by raising the intelligence and awareness of the people, they're going to choose better candidates. But those candidates certainly do not have to include me. There are really plenty of very good people who are willing and ready to do good for the world.*

*So I'm not as politically active at the moment, except on this level of para-politics. That is creating a more fertile field in the collective consciousness of the Earth for the choice of a better government. How many meditators*

*will it take to do this? Fortunately, not 50 million—which is how many it would take to elect a presidential candidate. It's only going to take a couple thousand people in the United States—maybe 8,000 for the whole world—to see a real upsurge in the policies and politics of the whole world. It's a very good question, and I appreciate it.*

**Question 2:** *Would you kindly comment on how these principles can be used for healing?*

**JH:** *That's a very good point. Firstly, in terms of healing one's self, let me mention that the power of thought that creates a healing influence is far, far greater at deeper levels of thought. As I said before, thought has many levels: superficial and profound, corresponding to macroscopic, molecular, atomic, nuclear, and subnuclear levels of thought. Literally, these nuclear and subnuclear levels of thought on the level of the unified field are enormously powerful as compared with surface thoughts. So the healing influence of thought at deeper levels is spontaneous and powerful. Thank God for that.*

*Now, meditations differ in terms of technique—but this also applies to prayer. I've been to some churches, one in Los Angeles, where people are so excited that they shout out the name of God in prayer, jumping up and down in the aisles. Well, that creates a certain emotional upliftment. Or you can sit down, quietly, and quietly feel God's presence. That, in fact, has a more powerful and pervasive healing influence on the body at the deeper and quieter level of thought. Or you can unite with God on the level of Being. Individual*

awareness can expand to identify with, to become, universal awareness. At that level, thoughts are enormously powerful. So if you find yourself stuck with problems, or if you find yourself stricken with some kind of illness, you can really get over these very, very quickly, just by taking them to an awareness where the healing energy is so powerful. You don't have to do more than that if you don't want to. Meditation techniques take the awareness within and bless the whole body, bless the whole physiology, with this pervasive influence of bliss, positivity and healing energy.

On a societal level, you want to heal the whole society. That's the ultimate level of healing. Then bless the whole society with tidal waves of bliss, tidal waves of unity, which is the all-nourishing, all-evolutionary intelligence of natural law—the same energy that gave birth to millions of species on Earth. That intelligence is basically the same as our intelligence. Come to know it. Learn to move it. Stimulate it into several, I would say, ripples of unity, ripples of harmony, ripples of healing effect. But with groups of individuals: tidal waves of healing positive effect to heal a whole society—to heal long-standing political, ethnic, religious tensions, and the desire for revenge, for vengeance. All of that can be healed away like a healing balm.

**N**ow in the context of healing, I do want to mention one thing that I skipped over in the talk for the sake of brevity. This has to do with what we sometimes call subtle energies, or subtle bodies. Let me mention this quickly here. You may not understand it all, but I think you'll get the gist.

There is, in addition to the physical body, a subtle level of the physical body. Sometimes it's called a thought body or an astral body. It's as though we have a vehicle of thought in addition to the physical brain, which isn't absolutely distinct from the brain. It is really a subtle level, a quantum mechanical level of our physical brain, and that's a subject of great interest for me. What is it made of, this body of thought? Is it permanently glued to the physical body, or can it become detached—say, travel around on its own?

Well, here's what it's made of. (Figure 17) Superstring theory finally makes it clear—puts it into a context. There has been a great deal of speculation over the years as to what this thought body is, or if it even exists. In addition to normal matter and normal forces—electromagnetism, the nuclear force, radioactivity, electrons, quarks, and gluons—there turns out to be a whole other set, the so-called hidden sector particles, as this next chart shows. And they exist in this very same room and occupy this same space, but they don't interact with us very much. In fact, until recently, it was believed that only their gravitational influence had any influence at all. But the gravitational effect on me of a particle, even a hidden sector particle, is utterly negligible. Who cares, therefore, whether there is hidden sector matter? That's why physicists don't talk about it much. It may be there, but who cares?

But that's a mistake. More careful mathematical analysis shows that, in addition to the gravitational interaction between observable sector matter, us, and hidden sector matter, there's also an electromagnetic connection. It

# COMMUNICATION WITH THE HIDDEN SECTOR IN SUPERSTRING THEORIES

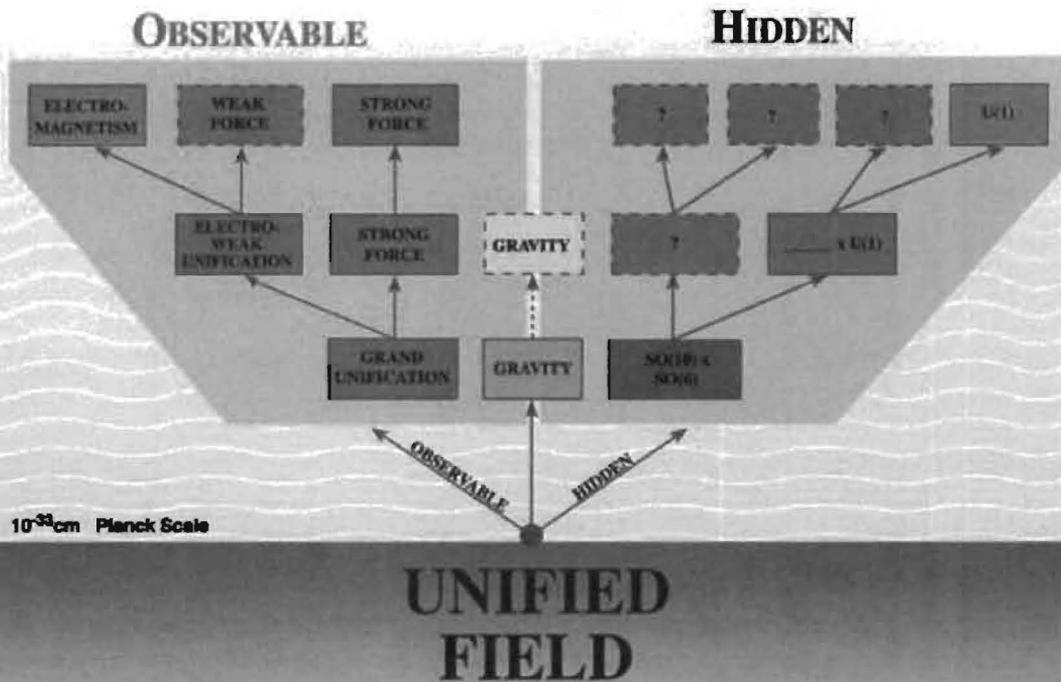


Figure 17. Hidden Sector Matter Predicted by the Superstring:  
The Stuff of Thoughts and Subtle Bodies

is a weak connection. Let's put it this way: the hidden sector particles are electrically charged, but fractionally so—maybe with 1/1000 of the electric charge of an electron. So they interact with matter—much more strongly than gravity, but much more weakly than normal electromagnetism.

Now these hidden sector particles interact strongly with themselves. There could be hidden sector trees, hidden sector planets, hidden sector people even. They're invisible, because it's a whole world unto itself, and it interacts only weakly with us. But who knows

who or what is walking through this room that we can't see? But now it turns out that we can dimly see this world—only dimly, and with special equipment that has not even been built, to my knowledge, but that could be designed and would perhaps be able to see this dimly lit world. And there are properties of this dimly lit world—not dimly lit to itself, but dimly to us—that could make it a very natural candidate for a thought body.

**W**hat is a thought made of? Is there a body of thought, a vehicle of thought? The nervous system itself is a vehicle of

thought. Without the synapses of the brain, it would be very difficult to think, but not impossible. The brain is very capable of certain types of thought. It is very good at carrying out computations; it's very good at synaptic communications. It's good at classical level of thought, like a computer—a little digital computer. It's actually called a neural network. But it's not very good for quantum mechanical levels of thinking, subtler levels of thought, meditative levels of thought, healing levels of thought.

Much more suitable to healing levels of thought—meditative levels of thought—is what we call the thought body, made of subtler matter. This thought body, made of subtler matter, lives in this ghostly world—not ghostly to itself, but only dimly seen by us. But such a body of thought could attach to us. Indeed, we can actually grow such a body, hatch such a body.

We're eating food all the time. Certain foods, certain herbs, may have higher concentration of hidden sector matter. What do I mean by that? Hidden sector matter clumps—weakly, but electrostatically—to ordinary matter. The bond is very weak, but hidden sector matter, if we take it into the system, could accumulate in the system, particularly in certain areas of the physiology. And when this hidden sector matter clumps in certain areas of the physiology, that part of the physiology is now therefore composed of hidden sector matter, and that part of physiology can look straight into the hidden sector world, can see straight into the hidden sector world, and by electrostatic bonding to our physical physiology, create a communication, a link between this

subtler level of thought and the mechanical level of thought of the human brain.

Would this subtle body be detached from the human body? Yes, it could be. Could it move around by itself? Yes, by principle it could. Could it survive the physical body after death? Yes, it could. And I'm thinking about this quite a lot, because it provides a very viable mechanism for transcending.

So I don't want to go any more into this topic unless questions dictate, but I'll simply say that in addition to classical electromagnetism, which is typical in understanding healing, there is a subtler electromagnetic field. It's called a hidden sector photon, a hidden sector electromagnetic field, and it may be a more appropriate field for healing—and for long-range field effects of consciousness.

Are there any other questions?

**Question 3:** Does proximity [to war zones] increase the effectiveness of the outcome? And do meditators need to be physically together and meditating at the same time to really create positive, nourishing change?

**JH:** Very, very good questions. Practically speaking, according to all the published research, the closer you are to the meditating group, the more powerful the effect. And that effect is very much like a radio antenna, radio broadcast, or even a light bulb. The intensity of the light grows dimmer with distance. It falls off somewhere due to the distance, the same as the radio wave, the same as any classical field phenomenon. This appears to be more or less the case with the influence of

group meditation, unless the group gets big enough to start to influence the entire globe. At that point, it becomes more truly a global phenomenon. And that effect would require about 8,000 advanced meditators in a group. And we're really working hard to build up such a group. It's not so easy to find such a group, but we have about 2,000 and growing.

So proximity does seem to make a difference. But that may be, perhaps, only because meditators, even advanced as they are, are not all really established in a state of enlightenment. Many of them are growing in enlightenment. Some are there. And they're not necessarily completely established in that level of individual reality that is truly unbounded, truly global, truly cosmic. And consequently the degree of our influence may be somewhat physically limited. That's a speculation. I can't say that on the strength of research. But it may happen that meditators become more advanced as they practice. So for the time being, like chess players, we may have to move our assets into the vicinity of a conflict to really have a concentrated, powerful effect on eliminating the violence. That's what all the research shows. But among the seven studies I showed you on turning off the war in the Middle East, three of the groups studied were far away. Two were in the United States, and one was in the Netherlands. These groups were far from the Middle East, but those studies involved at least 8,000 meditators, where the influence was large enough to become more of a global upsurge in peace and a reduction in global terrorism.

When you want to meditate with a group, or to have maximum influence, it is most

effective to be in the group. That's just an empirical fact. However, if you can't be physically in the group, then if you can time your individual meditation to coincide with the group meditation, that also seems to have a beneficial effect. It hasn't been very carefully studied scientifically, but people subjectively report there's an increased likelihood to transcend and to experience universal Being when you're meditating coincidentally with a large meditating group. I think that answers the question.

**Question 4:** Does participation in the large group create deeper experiences, or are the people participating in the group already advanced meditators who have deep experiences to begin with?

**JH:** I am fortunate to be able to tune in by phone to the daily experiences of this big meditating force in Iowa, at Maharishi University, and to listen to and comment on the experiences there. It's extraordinary, like you're reading from the Upanishads. Experiences like this, certainly in these numbers, are extremely rare in this world.

So yes, these are advanced meditators, but they're in a group, which very much enhances the experience. Even a relatively new meditator could go and join this group and be amazed at the incredible bliss of his or her own experiences. But it's really on the basis of these deeper experiences that a mere 2,000 people can have a national effect.

**A**nd we really are having a national effect—but you ain't seen nothin' yet! We're just on the threshold, I think, of a real

*global transformation from civilization as it has been—I won't dwell on that—to what civilization can and must become now: a unified field-based civilization; a civilization of global harmony, global coherence, and peace perpetual in the family of nations; an enlightened civilization, where individuals everywhere are living their cosmic birthright, are experiencing the scientific truth of the unity of life and higher states of consciousness.*

*My final remark: I urge everyone who is not involved with this now to get involved with it. This is the most important type of growth. You can learn to be a healer; you can learn to be a levitator. You can develop any conceivable thing. They are all possible. You can develop your muscles, your biceps, your triceps, your quadriceps—but big deal. The real goal is fully developed mind, body, behavior, and higher states of consciousness. Once you've got the total functioning of the brain, you can do anything. You can levitate, you can heal—you can do anything. So do that: develop full potential of the brain and higher states of consciousness. You'll live in bliss, 24 hours a day. Even during anesthesia, you can experience the immortal, cosmic, unbounded nature of the Self. It gives invincibility, actually, to know that no matter what happens, even in the depths of sleep, you are never lost to the unbounded, eternal, immortal nature of the Self. That's what I would recommend. And I thank you very, very much for your time and attention today.*

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