Acknowledgement goes to Lulu Jia for her contribution to the production of this series: Consciousness-Based Education: A Foundation for Teaching and Learning in the Academic Disciplines. Acknowledgement is also due Rachele Shaw for her editorial help and to the staff of Maharishi University of Management Library for their reference, electronic, and archival support.
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Higher education faces a complex set of challenges today. We are seeing resources diminish at the same time we are hearing calls for greater access and affordability. Demands for greater transparency and accountability are being sounded by both the general public and the government. Government is exerting increasing controls in this long-independent area.

These challenges, however, are merely financial and political, and they are hardly limited to colleges and universities. The fundamental challenges are educational and center around the students themselves. Challenges include high levels of stress, pervasive substance abuse (particularly binge drinking), lack of preparedness for college-level work, and mental and emotional disabilities. In most of these areas, the problem is serious and worsening. Though colleges and universities are striving to address these challenges, few would claim we are turning the tide.

An encouraging trend is the increasing focus in higher education nationwide on promoting student learning. Yet these laudable efforts do not take into account the powerful forces working in opposition. It is well known that learning is inhibited by stress, sleep deprivation, alcohol, and poor diet—and these are among the most conspicuous features of the college student experience.

Something new is required. Education needs a reliable means of developing students directly from within. We need a systematic method for cultivating their creative intelligence, their capacity to learn, and their natural humanity. All education aims at these goals, of course—but the approach thus far has been from the outside in, and the results have been haphazard at best.

Consciousness-Based education was established to address this need. It integrates the best practices of education and places beneath them a proper foundation—direct development of the student from inside out.

The outcomes of Consciousness-Based education have been unprecedented and scientifically verified. These outcomes include significant growth of intelligence, creativity, learning ability, field independence,
ego development, and moral maturity, among others. These results are remarkable because many of these values typically plateau in adolescence—but Consciousness-Based education promotes this growth in students of all ages, developing potentials that otherwise would have remained unexpressed.

Beyond this rich cognitive growth, Consciousness-Based education significantly reduces student stress, boosts self-esteem, improves health, reduces substance use, and enhances interpersonal relationships. All of this comes together to create exceptional learning environments. This approach even measurably improves the quality of life in the surrounding society.

Consciousness-Based education was founded by Maharishi Mahesh Yogi, the world authority on the science of consciousness. First pioneered at Maharishi University of Management (previously Maharishi International University, 1971–1995) in Fairfield, Iowa, Consciousness-Based education is being adopted by schools, colleges, and universities around the world. It is easily integrated into any school, without any change in mission or curriculum.

Consciousness-Based education recognizes that student learning depends fundamentally on students' levels of consciousness or alertness. The more alert and awake the student, the more successful and satisfying the learning.

Consciousness-Based education consists of three components:

- a practical technology for directly developing students' potential from within,
- a theoretical understanding of consciousness that gives rise to a unifying framework for knowledge, enabling students to easily grasp the fundamental principles of any discipline and to connect these principles to their own personal growth, and
- a set of classroom practices, arising from this understanding, that also helps promote effective teaching and learning.

**The Transcendental Meditation program**

At the heart of Consciousness-Based education is the practice of the Transcendental Meditation technique. The technique was brought to light by Maharishi Mahesh Yogi from the Vedic tradition of India, the world’s most ancient continuous tradition of knowledge. It is practiced
for 20 minutes twice daily, once in the morning and once in the afternoon, while sitting comfortably with eyes closed. It is simple, natural, and effortless—so simple, in fact, that ten-year-old children can learn and practice it. It has been learned by more than six million people worldwide, of all ages, religions, and cultures.

The Transcendental Meditation technique differs from other procedures of meditation and relaxation in its effortlessness. It involves no concentration or control of the mind. Neither is it a religion, philosophy, or lifestyle. It involves no new codes of behavior, attitudes, or beliefs, not even the belief it will work.

The Transcendental Meditation program is the most extensively validated program of personal development in the world. It has been the subject of more than 600 scientific research studies, conducted at more than 250 universities and research institutions in more than 30 countries worldwide. These studies have been published in more than 150 scientific and scholarly journals in a broad range of fields, including Science, Scientific American, American Journal of Physiology, International Journal of Neuroscience, Memory and Cognition, Social Indicators Research, Intelligence, Journal of Mind and Behavior, Education, Journal of Moral Education, Journal of Personality and Social Psychology, Business and Health, British Journal of Educational Psychology, Journal of Human Stress, Lancet, Physiology and Behavior, and numerous others. No approach to education has as much empirical support as Consciousness-Based education.

This approach, moreover, has been successfully field-tested over the past 35 years in primary, secondary, and post-secondary schools all over the world, in developed and developing nations, in a wide variety of cultural settings—the United States, Latin America, Europe, Africa, India, and China.

The Transcendental Meditation technique enables one to “dive within.” During the practice, the mind settles inward, naturally and spontaneously, to a state of deep inner quiet, beyond thoughts and perceptions. One experiences consciousness in its pure, silent state, uncolored by mental activity. In this state, consciousness is aware of itself alone, awake to its own unbounded nature.

The technique also gives profound rest, which dissolves accumulated stress and restores balanced functioning to mind and body.
This state of inner wakefulness coupled with deep rest represents a fourth major state of consciousness, distinct from the familiar states of waking, dreaming, and sleeping, known as Transcendental Consciousness.

In this restfully alert state, brain functioning becomes highly integrated and coherent. EEG studies show long-range spatial communication among all brain regions. This coherence is in sharp contrast to the more or less uncoordinated patterns typical of brain activity.

With regular practice, this integrated style of functioning carries over into daily activity. Research studies consistently show a high statistical correlation between brainwave coherence and intelligence, creativity, field independence, emotional stability, and other positive values. The greater one’s EEG coherence, in other words, the greater one’s development in these fundamental areas. At Maharishi University of Management, students even have the option of a Brain Integration Progress Report—an empirical measure of growth of EEG coherence between their first and last years at the University.

The brain is the governor of all human activity—and therefore personal growth and success in any field depend on the degree to which brain functioning is integrated. The increasingly integrated brain functioning that spontaneously results from Transcendental Meditation practice accounts for its multiplicity of benefits to mind, body, and behavior.

Every human being has the natural ability to transcend, to experience the boundless inner reality of life. Every human brain has the natural ability to function coherently. It requires only a simple technique.

**Theoretical component—**

**a unified framework for teaching and learning**

Scholars have long called for a way to unify the diverse branches of knowledge. Current global trends are making this need ever more apparent. The pace of progress is accelerating, the knowledge explosion continues unabated, and knowledge is becoming ever more specialized.

Academic disciplines offer a useful way of compartmentalizing knowledge for purposes of teaching, learning, research, and publication. But each academic discipline explores only one facet of our increasingly complex and interrelated world. The real world, however,
is not compartmentalized—an elephant is not a trunk, a tusk, and a tail. Academic disciplines, consequently, are criticized as inadequate, in themselves, for understanding and addressing today’s challenging social problems.

Today, more than ever, we need a means of looking at issues comprehensively, holistically. We need a way of discovering and understanding the natural relationships among all the complex elements that compose the world, even among the complex elements that compose our own disciplines.

Various attempts to address this need have been made under the rubric of interdisciplinary studies—programs or processes that aim to synthesize the perspectives and promote connections among multiple disciplines. Some of these efforts have been criticized as superficial joinings of disciplinary knowledge. But the chief criticism of interdisciplinary studies—leveled even by its proponents—is that looking at an issue from multiple perspectives does not, in itself, enable one to find the common ground among contrasting viewpoints, to resolve conflicts, and to arrive at a coherent understanding.

The diverse academic disciplines can be properly unified at only one level—at their source. All academic disciplines are expressions of human consciousness—and if the fundamental principles of consciousness can be identified and understood, then one would gain a grasp of all human knowledge in a single stroke.

This brings us to the theoretical component of Consciousness-Based education. Consciousness-Based education does precisely this—and not as an abstract, theoretical construct but as the result of students’ direct experience of their own silent, pure consciousness. In this sense, practice of the Transcendental Meditation technique forms the laboratory component of Consciousness-Based education, where the theoretical predictions of Consciousness-Based education can be verified through direct personal experience.

This theoretical component offers a rich and deep yet easy-to-grasp intellectual understanding of consciousness—its nature and range, how it may be cultivated, its potentials when fully developed. This theoretical component also identifies how the fundamental dynamics of consciousness are found at work in every physical system and in every academic discipline at every level.
With this knowledge as a foundation, teachers and students in all disciplines enjoy a shared and comprehensive understanding of human development and a set of deep principles common to all academic disciplines—a unified framework for knowledge. With this unified framework as a foundation, students can move from subject to subject, discipline to discipline, and readily understand the fundamental principles of the discipline and recognize the principles the discipline shares with the other disciplines they have studied. This approach makes knowledge easy to grasp and personally relevant to the student.

**Pure consciousness and the unified field**

Consciousness has traditionally been understood as the continuous flux of thoughts and perceptions that engages the mind. Thoughts and perceptions, in turn, are widely understood to be merely the by-product of the brain’s electrochemical functioning.

Maharishi has put forward a radically new understanding of human consciousness. In Consciousness-Based education, pure consciousness is understood as the foundation and source of all mental activity, the most silent, creative, and blissful level of the mind—the field of one’s total inner intelligence, one’s innermost Self. (This unbounded value of the Self is written with an uppercase “S” to distinguish it from the ordinary, localized self we typically experience.) Direct experience of this inner field of consciousness awakens it, enlivens its intrinsic properties of creativity and intelligence. Regular experience of pure consciousness through the Transcendental Meditation technique leads to rapid growth of one’s potential, to the development of higher states of human consciousness—to *enlightenment*.

But consciousness is more, even, than this.

Throughout the twentieth century, leading physicists conjectured upon the relation between mind and matter, between consciousness and the physical world; many expressed the conviction that mind is, somehow, the essential ingredient of the universe. But Maharishi goes further. He has asserted that mind and matter have a common source, and that this source is pure consciousness. Consciousness in its pure, silent state is identical with the most fundamental level of nature’s functioning, the unified field of natural law that has been identified and described by quantum theoretical physicists over the past several
decades. Everyone has the potential to experience this field in the simplest form of his or her own awareness. Considerable theoretical evidence, and even empirical evidence, has been put forward in support of this position.

Maharishi has developed these ideas in two bodies of knowledge, the first known as the Science of Creative Intelligence, the second as Maharishi Vedic Science and Technology. The Science of Creative Intelligence examines the nature and range of consciousness and presents a model of human development that includes seven states of consciousness altogether, including four higher states beyond the familiar states of waking, dreaming, and sleeping. These higher states, which develop naturally and spontaneously with Transcendental Meditation practice, bring expanded values of experience of one’s self and the surrounding world. Each represents a progressive stage of enlightenment. Maharishi Vedic Science and Technology examines the dynamics of pure consciousness in fine detail. It reveals the fundamental principles of consciousness that may then be identified in every field of knowledge and every natural system.

Most important for teaching and learning, these sciences reveal how every branch of knowledge emerges from the field of pure consciousness and how this field is actually the Self of every student.

Strategies for promoting teaching and learning

Consciousness-Based education also includes a battery of educational strategies that promotes effective teaching and learning. Foremost among these is the precept that parts are always connected to wholes and that learning is most effective when learners are able to connect parts to wholes. In Consciousness-Based education, the parts of knowledge are always connected to the wholeness of knowledge, and the wholeness of knowledge is connected to the Self of the student.

One means of doing this is through *Unified Field Charts*. These wall charts, developed by the faculty at Maharishi University of Management and used in every class, do three things: (1) They show all the branches of the discipline at a glance; (2) They show how the discipline emerges from the field of pure consciousness, the unified field of natural law at the basis of the universe; (3) They show that this field is the
Self of the student, which the student experiences during practice of the Transcendental Meditation technique.

In this way students can always see the relation between what they are studying and the discipline as a whole, and they can see the discipline as an expression of their own pure consciousness. Again, this is more than an intellectual formulation—it is the growing reality of students’ experience as they develop higher states of consciousness.

Another strategy is *Main Point Charts*. Developed by the faculty for each lesson and posted on the classroom walls, these charts summarize in a few sentences the main points of the lesson and their relationship to the underlying principles of consciousness. In this way students always have the lesson as a whole in front of them, available at a glance.

**The next paradigm shift**

If higher education is fundamentally about student learning and growth, then Consciousness-Based education represents a major paradigm shift in the history of education. To understand this change, it is useful to reflect on the encouraging paradigm shift that has already been taking place in education over the past several decades.

This shift involves a move from what many call an *instruction paradigm* to a *learning paradigm*. In the instruction paradigm, the mission of colleges and universities is to provide instruction; this is accomplished through a transfer of knowledge from teacher to student. In the learning paradigm, the mission is to produce student learning; this mission is achieved by guiding students in the discovery and construction of knowledge.

This shift is a vitally important advance in education, leading to more successful outcomes and more rewarding experiences for students and teachers alike. But a further paradigm shift remains, and we can understand it by examining a fundamental feature of human experience.

Maharishi observes that every human experience consists of three fundamental components: a knower, a known, and a process of knowing linking knower and known. We may also use the terms experiencer, object of experience, and process of experiencing, or observer, observed, and process of observation.
This threefold structure of experience is nowhere more evident than in schools: The knowers are the students, the known is the knowledge to be learned, and the process of knowing is what the full range of teaching and learning strategies seek to promote.

Understanding this threefold structure helps us understand the paradigm shifts that are taking place.

The instruction paradigm places emphasis on the known. It focuses on the information students are to absorb and the skills they are to learn. In this paradigm, the instructor’s role is to identify what students need to know and deliver it to them.

The learning paradigm emphasizes the process of knowing. It recognizes that students must be actively involved in the learning process, that knowledge is something individuals create and construct for themselves, that students have differing learning styles and differing interests that must be taken into account. In this paradigm, the instructor’s role is to create learning environments and experiences that promote the process of learning.

The Consciousness-Based paradigm embraces the known and the process of knowing but places primary emphasis on the knower—on developing the knower’s potential for learning from within. The following diagram shows the respective emphases of each approach:
But the learning paradigm does not so much abandon the instruction paradigm as enlarge it, so that it includes the process of knowing as well as the known. And the Consciousness-Based approach completes the enlargement to include the knower:

Consciousness-Based education, in summary, is a theory and practice grounded in a systematic science and technology of consciousness, making available the complete experience, systematic development, and comprehensive understanding of the full range of human consciousness. More than 30 years’ experience and extensive scientific research confirm the success of this approach and its applicability to any educational institution.
About this book series
This series of twelve volumes is the result of a unique faculty-wide project that began with the founding of Maharishi University of Management in 1971 and continues to this day. Each volume in the series examines a particular academic discipline in the light of our Consciousness-Based approach to education.

Volumes include:

• an introductory paper introducing the Consciousness-Based understanding of the discipline,
• a Unified Field Chart, if available for publication, for the discipline—a chart that conceptually maps all the branches of the discipline and illustrates how the discipline emerges from the field of pure consciousness and how that field is the Self of every individual. Thus, these charts connect the “parts” of knowledge to the “wholeness” of knowledge and the wholeness of knowledge to the Self of the student;
• subsequent papers that show how this understanding may be applied in various branches of the discipline,
• occasional examples of student work exploring how the Consciousness-Based approach enhances learning in the discipline, and
• an appendix describing Maharishi Vedic Science and Technologies of Consciousness in detail.
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We welcome inquiries and further contributions to this series.

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Overview

Academic courses in government generally highlight several key elements: different styles and levels of government with their components, processes, and interactions; analyses of the policies and laws of different types of government, and their implications; the relationship between different branches of a government and its constituents; and the transformations of governments that enable them to meet society’s changing needs. All of these subjects fall within the realm of ideas and actions. Consciousness-Based education however, provides its students with an additional element: direct experience and theoretical understanding of the field of pure consciousness described by Maharishi Mahesh Yogi as the basis of thought and action, and therefore the foundation of the policies and actions of government. Moreover, students learn how development of individual consciousness and the collective consciousness of society enables each style of government to effectively meet the needs of its citizenry and to effectively function in the international climate of all other governments.

Maharishi’s Absolute Theory of Government, a principle element of Maharishi Vedic Science, regards the individual as the basic unit of the society as a whole. The quality of the society or the collective consciousness of that society depends upon the consciousness of all the individuals of the society. In Maharishi’s view, all the myriad actions of each individual are the inputs that effect the outcomes of government.

Government is the innocent mirror of national consciousness, reflecting whatever is presented to it, even though the members of a government may have their own personalities, opinions, and educational and political backgrounds. When members of government are engaged in governing, their actions are determined by the nation’s collective consciousness. Thus a government’s ability to fulfill the needs of
its citizens and provide essential services is founded upon the degree of coherence, or orderliness, within national consciousness.

Extensive research that will be summarized in this volume has shown that practice of the Transcendental Meditation and TM-Sidhi programs, individually and in a group, not only develops the consciousness of the practitioner, but at the same time contributes to the expansion of a society’s collective consciousness.

At Maharishi University of Management, students study the elements of government described above, but also examine the relationship between the development of consciousness and governmental effectiveness. They therefore not only consider the personal benefits of their practice of the Transcendental Meditation and TM-Sidhi program, but also learn about, and participate in, the Maharishi Effect—the creation of an orderly influence within collective consciousness from the practice of the Transcendental Meditation and TM-Sidhi program in a group the size of the square root of one percent of a community or nation.

The papers in this volume represent the thinking of theorists, researchers, doctoral students, and government administrators, who have examined various aspects of government in light of Maharishi’s Absolute Theory of Government. As well, two papers—excerpts from doctoral dissertations at Maharishi University of Management—demonstrate the depth of theoretical knowledge and research capability of Maharishi University of Management students.

Papers in the Volume

Each paper in this volume was written to stand alone, and therefore each author has brought out foundational principles of Maharishi’s Absolute Theory of Government relevant to his or her topic. Understandably there will be an overlap of subject matter among the papers, but each has its own flavor, either in describing the principles of Maharishi’s Vedic Science, introducing research related to a particular issue in society—such as criminal rehabilitation health care, etc.—or in presenting original source materials from the Vedic texts.

This volume contains three sections. The first offers three introductory articles that examine the core principles of Maharishi’s Absolute Theory of Government. Section two considers ideal principles of government as found in source materials of the Vedic literature:
the Bhagavad-Gita and the Vālmiki Rāmāyaṇa. The third and largest section explores benefits of the Transcendental Meditation and TM-Sidhi program for resolving deeply rooted social problems, such as those associated with governmental effectiveness, criminal rehabilitation, education, health care, economy, national security, and quality of life.

Section One: Overview Papers on Government
Ian Douglas, former chairman of the New Zealand Planning Council, connects Maharishi’s Absolute Theory of Government with issues confronting contemporary government. He contrasts the divisive nature of contemporary governments with the functioning of a government that has implemented groups promoting development of individual and collective consciousness, which have been shown to produce greater efficiency in governments and greater self-sufficiency for their constituencies.

In the second paper, Drs. Rachel Goodman, Richard Wolfson, and David Goodman frame a solution to the multi-layered threats pervasive in modern societies by describing the foundations of Maharishi’s approach to national security. The authors further summarize large-scale research studies that utilized the group practice of the Transcendental Meditation and TM-Sidhi program as an intervention. These studies demonstrated improvement in quality of life as well as decreased incidents of violence on the local, national, and international levels.

In the third paper, Victoria Alexander Herriott, J.D., L.L.M., locates the foundation of the U.S. Constitution in Natural Law Theory, described in the work of Coke and Blackstone, and then compares that understanding of natural law with descriptions of natural law provided in Maharishi’s Vedic Science and in quantum physics. She notes that the colonists chose to break away from English rule primarily because they understood that natural law supersedes any man-made law. In the same way, Maharishi has described the constitution of the universe, or natural law, as more holistic and the foundation for the man-made laws of a society. Dr. Alexander Herriott notes that Maharishi Vedic Science provides a technique, the Transcendental Meditation program, whereby individuals and societies can attune themselves to the laws of
nature and raise themselves and their nation to a state of Heaven on Earth.

Section Two: Ideal Government as Understood in Maharishi Vedic Science
Drs. Geoffrey Wells and Samuel Boothby consider excerpts from the Bhagavad-Gita, considered by Maharishi to be the essence of all Vedic wisdom (verse translation and commentary by Maharishi). Drs. Wells and Boothby discuss passages from the Bhagavad-Gita that illustrate principles of an ideal society, with particular emphasis on the enlivenment of dharma, natural law, in both individual and society.

Dr. William F. Sands offers a paper titled “Vālmīki Rāmāyaṇa: The Eternal Record of Perfection in Government” excerpted from his doctoral dissertation. This paper describes the principles of enlightened leadership and the mechanics through which a society can be brought to an ideal state, as depicted in the Vālmīki Rāmāyaṇa, one of the most popular and important texts of the Vedic literature. Through a careful analysis of Sanskrit words and expressions, Dr. Sands demonstrates that the principles of Maharishi’s Absolute Theory of Government are consistent with those found in the Vālmīki Rāmāyaṇa.

Section Three: Solutions to Challenges Facing Government
Dr. John Hagelin is an award-winning quantum physicist and the leader of the organization teaching the Transcendental Meditation program in the United States. The introductory paper to this section includes Chapter 5 from Dr. Hagelin’s Manual for a Perfect Government, titled “Harnessing the Laws of Nature to Bring Maximum Success to Every Area of Government.” It examines practical outcomes of the practice of the Transcendental Meditation and TM-Sidhi program for health, crime, defense, and the economy.

The subsequent articles of this section examine several of the topics covered by Dr. Hagelin in his chapter and in his book. These articles begin with a paper presenting research on governmental effectiveness: “Transforming Political Institutions Through Individual and Collective Consciousness” by Drs. Rachel Goodman, David Orme-Johnson, Maxwell Rainforth, and David Goodman, excerpted from the lead author’s dissertation research. This paper summarizes the results of the
Maharishi Effect on success and support for the executive branch of Government in the areas of U.S. Presidential approval ratings, media positivity toward the U.S. President, and changes in the quality of life in the Washington, D.C. area during a National Demonstration Project in Washington, D.C. when a group reaching 4,000 practiced the Transcendental Meditation and TM-Sidhi program during the summer of 1993.

An overview of Criminal Rehabilitation, by Drs. Michael Dillbeck and Allan Abrams which summarizes the results of the major prison rehabilitation programs that have employed the Transcendental Meditation technique. Variables studied include decreased anxiety; decreased rule infractions; increased ego-development, moral reasoning, and self-actualization; decreased drug abuse; and decreased recidivism. A table in the paper documents the study, design, sample size, measures employed, and effect size for each result.

In the Research on Education section, Drs. Sanford I. Nidich, Randi J. Nidich, and Ron Zigler present an overview of educational studies on the Transcendental Meditation program in middle and secondary schools. The paper includes, among several studies discussed, research on the efficacy of the Transcendental Meditation technique in middle school students in increasing academic achievement as measured by English and Math scores. A study was also conducted on 12th graders with results indicating an improved graduation rate, and an extremely low dropout rate (2.9%) of the 142 students practicing the Transcendental Meditation program in that study. The authors discuss these and other results in terms of increased integrated brain functioning and higher EEG coherence through practice of the Transcendental Meditation program.

In the section on Health Care Benefits and Cost Reduction, Dr. David Orme-Johnson compares five years of medical insurance utilization statistics of approximately 2,000 regular practitioners of the Transcendental Meditation program with a normative data base of approximately 600,000 members of the same insurance carrier. He found that even though the benefits, deductible, coinsurance terms, and distribution by gender of the Transcendental Meditation group were similar to the norm, nonetheless it had lower medical utilization rates in all categories. Furthermore, when compared with five other health
insurance groups of similar size and professional membership, the Transcendental Meditation group had 53.3% fewer inpatient admissions per 1,000 and 44.4% fewer outpatient visits per 1,000. Admissions per 1,000 were lower for the Transcendental Meditation group than the norm for all of the 17 major medical treatment categories. Dr. Orme-Johnson addresses the issue of self-selection in terms of previous medical research in this area.

Also in the Health Care section, Dr. Robert Herron proposes a prevention-oriented strategy to reduce medical care costs. Dr. Herron first surveys the costs of health care in the U.S. in comparison to costs in several other countries, and then describes a health promotion strategy involving the Transcendental Meditation technique. He then reviews three large-scale health care utilization studies that demonstrate a 50% reduction in health care use among practitioners of the Transcendental Meditation technique, when controlling for parameters such as age and occupation.

In the Improvement of the Economy Section, Drs. Ken Cavanaugh, Kurleigh King, and Birney Titus provide an overview of Maharishi’s Vedic approach to understanding the dynamics of the economy and then explore the hypothesis that the Maharishi Effect promotes an improvement in national prosperity and more positive economic trends. They further summarize research on the Maharishi Effect in both the U.S. and Canada, using Okun’s Misery Index.

In the Invincible Defense section, Lt. General Tobias Dai, former commander of the Armed Forces and former Minister of National Defence in Mozambique, reports on the use of the Transcendental Meditation and TM-Sidhi program both in the Mozambique military, as well as among the citizens in several large Mozambique cities. Researchers found that when the army, composed of members practicing the Transcendental Meditation and TM-Sidhi programs, remained in one location during the first quarter of 1993, crime and traffic fatalities decreased significantly throughout the nation, while traffic accidents remained the same despite an increase of 3-4 times the number of cars. When troop movements reduced the number of daily participants of the TM and TM-Sidhi programs in an area, the crime indices increased. General Dai further notes that during 1993, the economy
grew 19% despite an expected growth of only 6%, in part due to the end of the century’s worst drought.

A paper submitted by Drs. Ken Cavanaugh and Paul Gelderloos in the same section tests the hypothesis that between 1979 and 1986, superpower relations were significantly improved through the reduction of global stress and tension produced by four large global “World Peace Assemblies” of experts practicing the Transcendental Meditation and TM-Sidhi program. In these assemblies, the number of participants approached or exceeded one percent of the world’s population, the predicted critical threshold for a Global Maharishi Effect. Time series analysis found evidence of a significant increase in cooperation and a reduction in conflict for Soviet behavior directed toward the U.S., both during and shortly following the assemblies, as measured by monthly content-analyzed data from the Zürich Project on East-West Relations.

Also in the Invincible Defense section, Drs. Charles Alexander, David Orme-Johnson, and Kenneth Walton propose the implementation of the Transcendental Meditation and TM-Sidhi program as a methodology for preventing both man-made (technological) and natural disasters. Their proposal cites a meta-analysis showing the effectiveness of the TM and TM-Sidhi program in alleviating physiological, psychological, and social manifestations of stress, and on this basis they suggest that the reduction of stress in individual life is capable of breaking the cycle between stress, human error, disasters, subsequent panic, and further stress. They further describe the results of over 50 sociological studies that demonstrate how a very small proportion of a social system practicing the TM and TM-Sidhi programs in a group increases harmony and alleviates stress in society as a whole. Noting that the theory underlying the Maharishi Effect (supported by empirical data) indicates that the effect operates on the most fundamental, unified field level of natural law, they suggest that it can also be used to prevent the occurrence of natural disasters, such as hurricanes, earthquakes, tsunamis, and other natural catastrophes.

The final paper in this section examines improvements in quality of life in the U.S. as a result of a permanent group of practitioners of the Transcendental Meditation and TM-Sidhi programs at Maharishi University of Management in Iowa. This paper, by Drs. David Orme-
Johnson, Paul Gelderloos, and Michael Dillbeck, reports on a study of the Maharishi Effect between 1960–1984, using an index of 11 diverse quality of life variables, including crime rate, cigarette and alcohol consumption, patent applications, and divorce rate. The authors paid particular attention to the period of 1982–1984, when the group practicing the Transcendental Meditation and TM-Sidhi programs reached the expected threshold of the square root of one percent of the nation’s population.

**Section Four: The Appendices**

This section includes Dr. Kenneth Chandler’s “Modern Science and Vedic Science: An Introduction,” which served as the introduction to the inaugural issue of the journal *Modern Science and Vedic Science* and which presents an overview of Maharishi Vedic Science and the new technology of consciousness developed by Maharishi Mahesh Yogi. The second appendix in this section provides a list of relevant links and resources for this volume.
Section One

Government Introductory Papers
Success in Government

Ian Douglas, Past Chair
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ABOUT THE AUTHOR

Ian Douglas has had a distinguished career in the business sector and in government. He was in the public relations field at Ford Motor Company and later held several senior posts in the New Zealand government, culminating in his role as Chairman of the New Zealand Planning Council in Wellington. He had the honor of working with Maharishi Mahesh Yogi, who encouraged him to write about the connections between Maharishi’s Absolute Theory of Government and government as it is today. It was at Maharishi’s request that he wrote the article appearing in this volume.
ABSTRACT
This paper frames a discussion of Maharishi’s Absolute Theory of Government in the context of the current divisive nature of government, showing that the adversarial tendencies of any style of government have only perpetuated problems in the lives of the citizens of all nations. The author examines various interventions, such as economic policy, which, if fully developed, are thought to provide a means to substantively alleviate national problems. However, the author indicates that no economic policy or other type of policy intervention has been able to relieve the poor of their poverty or mend the ills of society on a wide enough scale to produce a quality of life supportive of everyone’s happiness and well-being. The author’s conclusion is that only fundamental access to the unified field of natural law through individual and group practice of the Transcendental Meditation and TM-Sidhi programs can support a governmental policy attuned with natural law that is coherent and nourishing for all.

I. Expectations and Experience
Politics has been described as the art of the possible. This aphorism suggests the limited expectations that are widely held of what government can achieve. The expectations are colored by recognition of the difficulties which governments face in trying to accommodate conflicting pressures placed on them by various elements in the community. They also reflect disappointment in the performance of governments whose achievements almost routinely fail to match the idealism of their stated objectives.

In the democracies, parties compete for the right to form a government. It is the political counterpart of what happens in the free enterprise economies characteristic of democratic societies. Just as firms bid for market share, so politicians bid for votes. They talk of “image,” of “charisma,” of “packaging policies,” and of the various ways in which they can improve their appeal to the electorate. They use advertising agencies and public relations consultants.

Within this competitive framework the conduct of politics is adversarial. In this respect it has much in common with the way in which democracies manage their judicial systems. The interests of justice are felt to be served by pitting people against one another—the plaintiff against the defendant, the accuser against the accused. The impartiality,
which is seen as the basic virtue of the judicial system is sought within a structure that encourages people to behave in a wholly partial way.

So it is with politics. In principle, democratic government is committed to administering the affairs of the nation even-handedly and in the interests of all its citizens. In practice, governments come to power through exploitative factionalism, through parties aligning themselves with certain constituencies of interest whose objectives inevitably bring them into conflict with other constituencies of interest.

Free and democratic societies, through their management of economic, judicial, and political affairs, have institutionalized conflict. Much of the rhetoric of democratic idealism confers respectability and even nobility on conflict. A system which encourages dog to eat dog has been set forth as the finest and most honorable ordering of human affairs which the wit of man has devised.

Winston Churchill remarked that democracy was the worst system of government—except for all the others. With all its shortcomings that reflect the state of the human condition, democracy remains as the broad framework which offers the best potential for government to achieve outcomes that meet decent aspirations and that honor human dignity. And yet democratic governments around the world frustratingly fail to satisfy their electorates. Cynicism abounds, directed not just at the parties that govern, but also at those that aspire to govern.

At this time, when government administration has reached such a deplorable state of failure, the knowledge exists to create a national government capable of satisfying everyone. This knowledge has been formulated by Maharishi Mahesh Yogi from the Vedic tradition of knowledge as his Absolute Theory of Government. Central to Maharishi’s Absolute Theory of Government is his insight that governments reflect the level of consciousness of their communities.

Government is the pure and innocent mirror of the nation, faithfully reflecting whatever is presented to it. (Maharishi Mahesh Yogi, 1992, p. 47)

Governments cannot rise above the level of national consciousness—the collective consciousness of all the individuals of the nation—no matter how idealistic their objectives may be. (Please refer to Orme-Johnson and Dillbeck, 1987, for a detailed description of Maharishi’s
principles of collective consciousness.) Unless the consciousness of communities and nations is changed, their governments will not be able to improve on their present undistinguished and often disastrous standards of performance.

In his Absolute Theory of Government Maharishi presents knowledge and technologies by which every government can administer the nation with the same orderliness and efficiency with which nature administers the entire universe without a problem. Maharishi describes his Transcendental Meditation and TM-Sidhi programs as technologies of consciousness, which easily and effortlessly align individual awareness with the total potential of natural law located in the simplest form of human awareness, spontaneously bringing all thought and action into accord with natural law. When the collective practice of these technologies brings the collective consciousness of the nation in tune with natural law, then violation of natural law, the cause of all problems in individual and collective life, has been shown to significantly decrease and life is spontaneously lived in an evolutionary direction—ultimately in complete harmony, orderliness, and progress.

This monograph looks at how perfect government can be achieved—at how what may seem to be a fanciful utopian dream can be realized with absolute certainty. It discusses basic problems in government administration: reliance on economic policy, stress in collective consciousness, and conflict-driven political activity. It locates the basis of these problems in the collective consciousness of the nation that is not in tune with natural law, and it presents the knowledge and technologies of Maharishi’s Absolute Theory of Government by which perfect government can be achieved.

This knowledge involves what may initially seem to be an unlikely interconnection between work in the unified field theory of quantum physics and the knowledge of consciousness from the Vedic tradition as brought to light by Maharishi. These two scientific streams coming respectively from the most recent findings in modern physics and from the oldest scientific tradition in history provide the underpinning for the changes that will revolutionize the art of government. The achievement of this remarkable correlation is Maharishi’s work, which has been to integrate modern scientific knowledge and methods with those of ancient Vedic science. His study of the Vedic literature and inter-
pretation of important aspects of the understanding of consciousness, that had been misconstrued over millennia, led to the development of the Transcendental Meditation and TM-Sidhi programs, practical and proven technologies, which eliminate stress and bring life into alignment with natural law.

Maharishi (1986) explains that no government has been able to satisfy all its people because all have lacked the knowledge and ability to handle the nation as a whole. Maharishi points out that everything in the world is basically governed by natural law. Therefore, natural law is that one element which can be utilized to influence all individuals and all nations simultaneously. The holistic value of natural law has been glimpsed by modern physics as a single unified field at the basis of nature’s functioning. Vedic Science has long known of the existence of this unified field of natural law as a field of consciousness. Only by making use of the holistic value of natural law available in the unified field of natural law, governing the whole universe, can the whole of the nation be handled (Maharishi Mahesh Yogi, 1986, 1992).

Vedic scientists have, throughout their tradition, understood and directly experienced the unmanifest existence of a single, self-interacting field of pure intelligence or pure consciousness at the foundation of all the laws of nature. Maharishi (1980) emphasizes:

The whole of nature is automatically governed; it cannot just go on without any basis of organizing ability. . . . From this we find at the basis of all creation an element—consciousness, intelligence—which can function from within itself and which has infinite organizing power. This element must be a field of all possibilities; it must be the totality of Natural Law. (p. 11)

Quantum physicists in our time have also come to the conclusion that the unified field is a field of pure intelligence. (Please refer to Hagelin, 1987, for a discussion of the unified field of natural law as a field of consciousness from a physicist’s perspective.)

The confluence of these two scientific streams has given the world its most significant scientific advance—the capacity benignly and effortlessly to change social behavior and to eliminate negative tendencies from national life and from international relationships. Any government can make use of the unified field of natural law to create an integrated and harmonious national consciousness. Maharishi’s
success in government

II. Current Problems in Government Administration

A. Reliance on Economic Policy

Recent years have seen a widespread and growing disillusionment with politicians in the democracies. It might have been thought that, with the collapse of totalitarian communism in Europe and growing pressure on it elsewhere, democracy would have been riding high. Many in the West were ready to claim these huge changes in the international order as a victory for democracy. But the celebrations have been short-lived. The ostensible victor is now in real trouble.

The pressure under which European communism collapsed seems to be applying its weight to all other political structures, including democracy. Western democracy has always claimed the high moral ground, but now it is on the defensive in country after country.

The global sweep of this phenomenon logically can be explained only by seeing it as evidence of a change in global consciousness—a major transition from one phase to another. This transition has been achieved by the rising purity and coherence in collective consciousness generated by over four million meditators whose daily practice of the Maharishi Transcendental Meditation and TM-Sidhi programs (particularly the group practice of these programs which will be discussed in a later section) has been neutralizing stress in collective consciousness (Maharishi, 1986; Maharishi International University, 1990; Institute of World Peace, 1992).

Governments are struggling in the face of this change because they do not understand the nature of what is happening within their countries and around the world. As a result of this lack of understanding, governments try to cope with their problems on the wrong level and with predictable lack of success overall. For a time their efforts might appear to bear fruit in one or more areas of administration, but at the expense of what is happening elsewhere. The economy improves while social distress remains high. Or social pressures are ameliorated by pouring money into social assistance, but at a level that the economy
cannot sustain. There is a lack of balance in what government can achieve and as a result people remain frustrated and dissatisfied.

Governments give primacy to economic policy. The conventional wisdom is that if the economy is put onto a sound basis so that sustainable economic growth can be enjoyed, then problems in other areas will become manageable. Social distress will be reduced and hopefully eliminated when people have jobs and have money in their pockets.

Health will improve because people will be able to afford medical care. Crime will improve because people will not need to steal to survive, and their stress levels will be lowered when they are employed and earning enough to make them comfortable. And for those few who continue to be disadvantaged within this happy scene, government will be able to provide care and support because a healthy economy will give it the fiscal resources that it needs to do so.

This is the theory implicit in the behavior and the rhetoric of politicians. It seems to be common to all “mainstream” parties, whose presentation of the theory differs among them only marginally, notwithstanding the extravagance with which these differences tend to be portrayed, especially at election time.

The experience belies the theory. While a soundly working economy is obviously desirable, it is not some master key which opens the door to fulfillment in all other areas of society—or even any other single area. Japan has been regarded as a model of economic efficiency, but its youth suicide rate is one of the world’s highest and overall there is a very limited capacity of its people to enjoy their affluence. Another wealthy society, which has also been seen as a paragon of economic efficiency, is Switzerland. The Swiss have one of the West’s most serious drug problems and a high incidence of AIDS. These are but two instances of societies under great stress notwithstanding their economic achievements. It is not credible, in looking at the international evidence, to maintain this purported linkage between economic efficiency and the broad fulfillment of a nation’s people. And yet politicians continue to behave as though the connection were inarguable.

The preoccupation with economic policy leads to endless debate nationally and internationally about particular economic schools of thought. Neo-Keynesians vie with neoclassicists, proponents of interventionism with free market theorists. Economic gurus move in and
out of fashion. When one chosen approach to economic management fails to deliver satisfaction, an alternative approach is embraced, often with a messianic fervor about the splendid outcomes that it will allegedly deliver. Economic debate in the 20th century, with its intensity and intolerance, is not dissimilar to the acrimonious religious tractarianism of 16th and 17th century Europe.

Politicians caught up in the economic policy arguments often look for exemplars among other countries to argue that they represent models which their own country should be following. The economic grass seems to look greener on the other side of the fence. The media, the international literature, and argumentation from parliamentary debating chambers and university cloisters to buses and bars, all go round and round in the search of optimal direction.

It does not seem to occur to the political and other constituencies involved in this tortured exercise that their basic premise may be wrong. Given their repeated failure to find fulfillment through economic prescriptions, one can admire, after a fashion, their persistence in continuing to worship this clay-footed god, but not their rationality. When constant endeavor down a particular path of action is invariably unsuccessful, it suggests rather plainly that the approach in question is not efficacious.

There are many who challenge the centrality of economic policy and they tend to come from the political left. These are generally people who find unacceptable the human cost that so often seems to be associated with economic change. Since the world share market crash in 1987, both governments and business in many countries have had to make painful adjustments to deal with the consequences of over-borrowing prior to the crash. The suffering induced by this has been reflected in high unemployment levels and stagnant or declining real incomes.

Much of the reaction against this pain has been expressed in a challenge to the primacy of economic agencies within governments. In countries such as Australia and New Zealand, where economic egalitarianism has been something of a tradition, there has been concern that economic policy management has resulted in a widening of the gap between the rich and the poor. Societies are becoming increasingly worried about the polarization of “haves” and “have-nots.”
Economic policy is seen as requiring trade-offs. For every benefit economic policy seeks to deliver there is a cost to be paid in some other area—often in social policy. This understandably arouses dissatisfaction and, at times, strong hostility. The conventional approach to government around cabinet tables and within parliamentary caucuses is to horse-trade priorities. Political factors tend to determine how resources are allocated. It is a system which is almost guaranteed to produce widespread dissatisfaction because it is not based on objective rationality or equity. For every winner, there is a loser.

The conventional view, shared by almost all political parties, is that this kind of trade-off is unavoidable. It is seen to be akin to an economic law. Economics is all about making decisions on the allocation of scarce resources and, almost by definition, not everybody’s aspirations to use those resources can be satisfied.

It is pertinent to compare this view with the experience of nature’s provision pointed out by Maharishi (1992). The natural order, where its laws have not been violated, is characterized by perfect functioning and balance. All basic needs are provided for in the most efficient and economical way. The infinite variety of creation reflects order and balance not just within the individual unit, but also in the way in which that unit interacts with the rest of creation. There is an organizing power within nature which supports and maintains the evolutionary process infallibly and completely. Nothing is wasted, nothing misdirected.

Nature’s laws work with complete impartiality. Their benefits are freely available across the whole of creation. For humankind, nature’s laws do not discriminate on ethnic, socio-economic, religious, gender, or any other grounds. They support all men and women everywhere.

The political process, on the other hand, chooses its winners and losers according to the philosophical constructs and the self-interested objectives of those in power. By its very character it cannot be impartial and even-handed in its delivery of benefits. Because of this, and notwithstanding rhetoric which seeks to proclaim otherwise, it has no basis for true equity in its treatment of the electorate.

B. Stress in Collective Consciousness
Some may argue that it is unrealistic to expect a political system to bring satisfaction into people’s lives. This, it might be said, is the role
of religion or of education or the humanities. But all these areas also reflect the community’s or the nation’s level of consciousness. Because the fundamental blockages to the achievement of satisfaction lie in the realm of consciousness—individual and collective—they can only be dealt with effectively at that level.

Again, it might be argued that finding fulfillment surely is the responsibility of the individual. It is certainly true that each individual, given the simple knowledge of how to do so, must make the decisions that will lead to his or her own fulfillment. It is also true that, as stress is removed from individual consciousness, the collective consciousness of the community or nation benefits accordingly. But what Maharishi’s Absolute Theory of Government now tells us is that collective consciousness can be quickly transformed through the technologies of the Transcendental Meditation and TM-Sidhi programs, which are exponential in their effect, so that the process of achieving societal fulfillment does not rely just on the slow and incremental build-up of individual experience.

If governments are to succeed in bringing together and delivering policies, which meet the needs of their people and satisfy their aspirations, then ways must be found to reduce and eventually eliminate community stress. The remarkable but very practical reality is that it is possible to create this vital underpinning of successful government. Government has a central role to play in the application of the technologies of the Maharishi Transcendental Meditation and TM-Sidhi programs. The promise that they offer—a promise validated by a large and growing body of scientific research and practical experience—is that government can become an instrument for the renewal of society, for the reduction and removal of collective stress, for the effortless achievement of social cohesion, of vastly improved health, and of effective economic performance reflecting harmony rather than conflict in collective consciousness.

C. Conflict-Driven Political Activity
The conflict-centered paradigms which underlie the administration of government, judicial procedures, and much economic activity within democratic societies today reflect community stress. Although community stress obviously represents the aggregate of individuals’ stress, it
has a life and characteristics of its own, which contribute to and intensify stress at the individual level. This results in a vicious cycle of negativity leading to conflict in society.

The totalitarian approach to the issues of conflict in the body politic is to seek to suppress opposition by force. In the democracies, opposition is seen as an integral part of the political order and attempts to deal with it are required by the rule of law to fall short of the blatantly oppressive. In neither case is the problem of conflict effectively managed. The reason for this failure is that conflict is perceived as being part of the normal order of things—something which has to be lived with rather than resolved. This view of conflict is at the root of the failure to deal with it.

For conflict is not a natural state of the human condition. Our discomfort with conflict is a reflection of this. We see it, rightly, as negative and destructive and it sits unhappily with our consciences. There is a deep human instinct about the unacceptability of conflict, which is reflected in the sense of pleasure that we feel when conflict is settled and in the worry that persists while conflict remains. Apathy and callousness are part of the avoidance mechanisms used to insulate people against the distress caused by the existence of conflict and suffering, but they are poor defenses, which impose their own costs on the mental and moral well-being of those who adopt them.

Conflict in society obviously extends far beyond the political processes, but political conflict serves to fuel conflict at all other levels and to contribute to a situation that then requires responses from government. Much organized effort goes into dealing with the consequences of conflict and attempting to reduce its incidence. The cost in money and other resources is huge. The legal structure, the police, and the armed forces are the most obvious direct costs of coping with conflict. But much of health, social services and educational provision is committed to dealing with conflict and the stress that underlies it, either in reactive or in anticipatory mode.

Conflict runs counter to a basic principle of nature—the unifying principle. Research in quantum physics, particularly over the past quarter-century, has identified the unified field as the fundamental state of all the laws of nature. The basic understanding given by quantum theory is that the whole of creation is the expression of underlying...
universal fields through which every discrete aspect of creation is connected (please refer to Hagelin, 1987).

This connection originates at the level of the unified field, which theoretical physicists see as underlying all other quantum fields—gravity, electromagnetism, the strong interaction field, and the weak interaction field. The movement towards establishing the existence of a single unified field was powerfully boosted by the work of Weinberg, Salam, and Glashow in achieving a theoretical unification of weak and electromagnetic forces, for which they received the Nobel Prize in 1979. Since then N=8 supergravity and heterotic superstring theory have provided a consistent quantum theory of gravity and a framework for the unification of all forces and particles of nature.

In effect, this work shows that nature is both unifying and diversifying. At one level—the unmanifest—there is a profound underlying unity in nature, while at the other level—the manifest—there is the appearance of extreme diversity. It is a logical inference that, because the dynamics of unification are fundamentally vested in the unified field which underlies all creation, while the dynamics of diversity stem from excitation of that field and are therefore wholly dependent on it, the unifying principle is the stronger of the two.

Conflict runs counter to this unifying principle. This is the basic reason why conflict creates suffering: it is a violation of natural law. It follows that political processes which are rooted in conflict must perpetuate suffering. They are incapable of bringing satisfaction to those whom they purport to serve. Enormous energy is expended by political parties in fomenting conflict and in dealing with its negative implications for themselves. This is energy which is not directed into positive channels and represents a huge cost in opportunities forgone.

The relentless pursuit of adversarial politics is an exercise in futility. What is perceived as “political reality” is, in fact, logical absurdity. By definition, negativity cannot produce positive outcomes. It is completely unrealistic to expect political processes, which are entrenched in negativity, to yield policies and government performance which meet the deeply felt needs of people for security, peace, and happiness. It is like planting weeds and expecting prize roses to grow.

The absurdity is tragically compounded by a genuine and widespread belief that adversarial politics is in the best traditions of democracy. It
is seen as an expression of freedom—the freedom of people to speak as they will, to uphold any religious, political, or philosophical belief. Freedom is indeed a noble concept, but its benefits cannot be delivered to people from within a political system which is embedded in conflict.

The inability of the democratic process to deliver satisfaction to the voters of the various countries has given rise to deep cynicism and frustration. The politicians are aware of the odium in which they are held, but ironically they seem to be incapable of changing their behavior. The odium is directed not just at governments, but at alternative governments. There has probably never been a time when politics was held in less regard.

Because behavior within the political systems seems to be impervious to positive change, notwithstanding the weight of discontent with it expressed by the public, there has been in several countries a call to see the systems themselves changed. Italians, sickened by political and business corruption, have expressed a wish to move from the system of proportional representation, which they have had throughout the postwar period, to one much closer to a “first-past-the-post” method of electing parliamentarians. New Zealanders, frustrated with the behavior of their politicians and angered by the failure to deliver election promises, have indicatively decided that they want to move from “first-past-the-post” to proportional representation. In each case there is misplaced confidence that changing the method of electing governments will produce better governments.

The problems are much more basic. The conflict-driven political processes of today’s democracies will not be reformed by constitutional amendments. Nor are they amenable to change through preaching and admonition, especially when that admonition is itself delivered in an adversarial context. Change will only come as the problem is tackled at its source. This means, in the first instance, defining the problem accurately and then having the capacity to apply an effective solution. The next section looks at these key issues.

III. The Basis of All Problems: Violation of Natural Law
We have related in the first section Maharishi’s explanation that governments are a reflection of the collective consciousness of the nation. Incoherence and disharmony in national consciousness is the basic
reason why governments fail to deliver satisfaction to their peoples. Maharishi (1986) describes this incoherence as arising from violation of natural law.

In recent years especially, we have become very aware of the consequences of violation of natural law at the level of the physical environment—the destruction of natural resources, damage to the ozone layer, the extinction of animal and plant species. The relationship of cause and effect in this area is clearly discernible. The same relationship exists in the wider environment of social interaction among peoples. Their violation of natural law leads to ethnic and national conflict, political division, social tension, crime and health problems.

In the case of the physical environment we readily recognize that the repair of damage and the restoration of balance can only be achieved as attitudes and practices are brought into conformity with nature’s requirements. Clearly, this also applies to the wider environment, although our recognition of this logic is less apparent.

While there is value in trying to educate and persuade people about the necessity of living in harmony with natural law, it is an unfortunate reality that this, of itself, is not wholly effective. Environmental groups committed to this approach have succeeded in raising awareness of problems and to some degree have catalyzed practical programs to deal with these problems, but they have a very limited capability to change human behavior. In the wider environment, churches and other religious agencies, together with social activists of varying kinds, have likewise struggled to persuade people to change their attitudes and their ways of dealing with one another at all levels. Much of this committed and conscientious activity has been an exercise in frustration for those involved.

The key to producing and sustaining positive change in the total environment is to allow society to be governed, effortlessly and spontaneously, from the deepest level of nature’s functioning—the unified field of natural law which is a field of perfect orderliness (Maharishi, 1992, 1986). Only from this level can the chaos on the surface be eliminated.

Bringing about such a fundamental change need not involve any physical change in the structures of government or in the way that administration is organized. This is not where the problem basically lies. Something new must be brought into government to revitalize and enliven the exist-
ing structures and processes. Changes in those structures and processes may naturally follow, but if that happens, it will be an easy and logical response to the deeper change that is already occurring.

How is this deeper change to be achieved? It can only come by allowing what Maharishi refers to as the “Constitution of the Universe” to become the basis of the constitution of the nation and the governance of all its affairs. The Constitution of the Universe represents the single, universal source of all orderliness in creation. Maharishi (1992) explains that just as the constitution of a nation contains the fundamental laws which govern the whole nation, the Constitution of the Universe represents the fundamental laws of nature, which administer the infinite diversity of the universe with perfect order and without a problem. For a national government to succeed, its constitution must be aligned with the constitution of nature’s government—the Constitution of the Universe.

The “Constitution of the Universe” is located in the unified field of natural law (Maharishi Mahesh Yogi, 1992). The existence and nature of the unified field of natural law were recognized and understood many millennia ago by the Vedic scholars of India, who developed the world’s first systematic scientific tradition. Maharishi has reformulated this ancient knowledge and correlated it with the work of quantum physicists in unified field theory. The outcome has been a fusion of historic proportions between ancient and modern science and confirmation of the greatness of Vedic scholarship. The objective approach of modern physics has glimpsed the unified field of natural law which was directly experienced by Vedic scientists.

IV. Technologies of Consciousness: Maharishi’s Transcendental Meditation and TM-Sidhi Programs

The Vedic scientists went further than mere identification of the unified field of natural law. Through their subjective approach they were able to develop a technology of consciousness which enables men and women to gain access to the unified field of pure consciousness simply and directly.

The exceptional power of this technology, delivered through the Maharishi Transcendental Meditation and TM-Sidhi programs is the more remarkable for the fact that its application is essentially effortless.
success in government

and requires no additional inputs, nor the exercise of any other agency, to transmit its effectiveness. It is a complete technology in itself. Nothing else is needed.

These technologies allow the activity of the mind to settle down and in so doing, the awareness becomes identified with the deepest level of nature’s functioning, the unified field of natural law. “With this program, with the Technology of the Unified Field, the Transcendental Meditation and TM-Sidhi programs, human awareness is capable of functioning from that level which is the self-referral level of performance of the Unified Field” (Maharishi Mahesh Yogi, 1985, p. 60).

The simple act of transcending thought through the Transcendental Meditation program and reaching the unified field of pure consciousness brings an influence of balance and harmony into the life of the person so engaged. When the individual gains the ability to function from the self-referral level of the unified field of natural law, life is spontaneously lived in accord with natural law, free from mistakes and problems (Maharishi Mahesh Yogi, 1986).

A very substantial body of scientific evidence—more than 600 studies from 200 universities and research institutions in 30 countries—shows that the regular practice of the Transcendental Meditation and TM-Sidhi programs reduces stress and thereby brings everyday living quite spontaneously more and more into harmony with natural law. It is an evolutionary process, where the benefits are instantly realizable and progressively evident. Transferring these benefits from the individual to the societal level can be achieved on an exponential basis, given the field nature of consciousness. Consciousness, like other fields in nature, such as the electromagnetic or gravitational fields, is invisible and immaterial, yet waves propagating through such fields produce influences throughout the field. The field of pure consciousness is unbounded and all pervasive; influences propagated through the field are therefore nonlocalized (Hagelin, 1987).

As early as 1960, Maharishi drew attention to the fact that when just one percent of the population of any given area practiced the Transcendental Meditation program, there was a measurable effect across that area of increased harmony and coherence, reflected in a wide range of social and economic indicators. With the introduction in 1976 of an advanced Transcendental Meditation technique—the Transcenc-
The phenomenon predicted by Maharishi and demonstrated by more than 50 studies is an outcome of a phase transition to a more orderly state, familiar in other areas of physics. The best known example of such a transition is that from a liquid to a solid or a gas.

Other examples can be seen in superconductivity, superfluidity, ferromagnetism, and lasers. In all these areas there is a critical threshold at which the incoherence of individual components in a system is overcome and the system begins to operate in a coherent, or orderly, way.

The coherent elements in a system have an influence on the total system that is proportional to their number squared, whereas incoherent elements have an influence proportional just to their number. This means that a small sub-group of coherent elements, proportional to the square root of the total number of elements in the system, can create a coherent influence which outweighs the incoherent influence of all the other elements and thereby brings order to the entire system.

The orderly and harmonious effect on the environment generated from the field of pure consciousness has been called by scientists “the Maharishi Effect” in honor of Maharishi Mahesh Yogi who first predicted it. It offers to governments the ability to bring order and harmony into the lives of their nations and into relationships between nations.

The raising of coherence in collective consciousness through the Transcendental Meditation and TM-Sidhi programs is clearly based on the operation of a scientific principle. The process is rightly described as a physical phenomenon rather than the outcome of an application of social science theory. Nevertheless, the way in which the Maharishi Effect works is measurable through social indicators. The more than 50 extant studies of the workings of the Maharishi Effect show a variety of social indicators positively affected by the Transcendental Meditation and TM-Sidhi programs, including conflict in war situations, crime, accident rates, hospital admissions, and the incidence of arson. In addition, the effect registers positively on economic indicators such as growth rates, employment, stock market trends, and patent applications, the latter reflecting
beneficial effects on creativity. (Please refer to Institute of World Peace, 1992, for a summary of the research on the Maharishi Effect.)

All of the more than 50 studies of the Maharishi Effect have been consistent in the directional thrust of their findings—the indicators have invariably improved. Extensive use has been made in these studies of time series analysis, a sophisticated statistical tool which enables the effect of an intervention, such as the application of the Transcendental Meditation and TM-Sidhi programs, to be accurately assessed. Time series analysis controls for cyclical effects and seasonal trends. In all cases there has been a high correlation between the application of the technologies and reversal of negative indicators, generally with an extraordinary probability factor of less than one chance in 10,000 that the correlation could be due to other factors.

The analysis is further strengthened by an absolutely consistent tendency for the indicators to improve immediately after the application of the Transcendental Meditation and TM-Sidhi programs. This is strong statistical evidence of a causal relationship between the practice of the technologies and improved social and economic indicators.

The early experience of the Maharishi Effect reflected situations where the numbers of those practicing the Transcendental Meditation program in an area (usually an individual city or a category of cities was studied) reached or exceeded one percent of the area’s population. After 1976, with the introduction of the Transcendental Meditation-Sidhi program, the studies generally reflected situations where group practice of the program reached or passed a threshold level of the square root of one percent of the population involved.

In all but one of the cases based on group Transcendental Meditation-Sidhi practice, the studies were of experiments conducted for a limited period. Even though the square root of one percent of a population is a small number of persons (the square root of one percent of the world’s population, for instance, is just over 7,000), the logistics of bringing them together for regular group practice over a prescribed period can be quite formidable. For the most part, those participating must eventually return to homes and jobs.

While this has been a limiting factor in studying the Maharishi Effect, it has underscored one other critical tendency. As soon as the group practice of the Maharishi Transcendental Meditation-Sidhi
programs stops or falls below the threshold level, the indicators start to revert back to their original states. This obviously provides further verification of the cause-effect relationship, but it demonstrates that increased coherence levels in consciousness can only be sustained while group practice continues at or past the threshold level.

In one case where group practice has been continuous, the benefits have been sustained and progressively enhanced. This case relates to crime in the Merseyside area of Britain and the effect on it of ongoing practice of the Transcendental Meditation-Sidhi program by residents who had elected to live in an “ideal village” at Skelmersdale, thereby facilitating their ability to perform their Transcendental Meditation-Sidhi program together.

The period of the Merseyside study, as reported to the annual conference of the British Psychological Society, Criminal and Legal Division, in March, 1993, extended from 1987 to 1990. During that time the Merseyside crime rate fell by 16 percent, while in the rest of England and Wales over the same period it rose by 20 percent. This meant that by 1990 crime in the area was at a level of 70 percent of where it would have been if Merseyside had, since 1987, experienced the average rate of crime growth of the rest of England and Wales.

It was estimated that, based on UK Home Office figures, the cost savings of reduced crime in Merseyside over the period of the study amounted to 850 million pounds sterling. This was almost certainly an underestimate in that petty crime (incidents involving less than 20 pounds) was not included in the police statistics. Merseyside moved in 1990 from having the second worst crime rate of the 10 major metropolitan centers of England and Wales to having the second best.

The Maharishi Effect, as demonstrated through these studies, reflects spontaneous behavioral change on a wide scale, bringing thought and action more in accord with natural law. The technologies of consciousness which produce the Maharishi Effect are therefore instruments that enable the lives of communities and nations to be brought into harmony with the Constitution of the Universe.

The threshold levels referred to earlier—one percent of a population practicing Transcendental Meditation and the square root of one percent of a population practicing together Maharishi’s Transcendental Meditation-Sidhi program—are minimum criteria for induc-
ing a phase transition to greater orderliness and harmony. The higher the extent of participation above those levels, the greater will be the impact as measured by the social and economic indicators. Positive trends will occur more substantially and quickly with the enhanced Maharishi Effect provided by bigger numbers of Meditators and Siddhas (the term used to describe practitioners of Maharishi’s Transcendental Meditation-Sidhi program).

Group practice of the Transcendental Meditation and TM-Sidhi programs is effective first, because it tackles problems at their base causal level in the consciousness of the nation and second, because the technologies operate with complete naturalness. These are not contrived technologies that require any strain or effort in implementation. They work easily and rapidly because they are fully aligned with the mind’s natural tendency to move towards its source in the unified field of pure consciousness. (Please refer to Maharishi, 1963, for a detailed description of the principle of the natural tendency of the mind and the application of this principle in the Transcendental Meditation program.) Maharishi summed it up when he said:

There does not exist, nor will there ever be, a more powerful or proven technology to transform the trends of life in society. No government worthy of the name could deprive its citizens of the immense practical benefits of this most advanced knowledge of our scientific age. Through my Vedic Science and technology—the science and technology of the Unified Field—any government leader can have easy access to the Unified Field and raise the administration of his government to be in perfect alliance with the administration of Nature’s government. (Maharishi International University, 1990, p. 3)

V. The Policies of an Enlightened Government

All governments need within their countries the vital underpinning provided by coherence-creating groups based on Maharishi’s Transcendental Meditation and TM-Sidhi programs. Without this, governments will continue to struggle with policy development and implementation. Incoherence in national consciousness impairs the understanding of issues and the analysis of problems, so that thinking is confused and misdirected. Policies based on such thinking must inevitably be sub-optimal and the process of administration must lack smoothness and effectiveness.
The first priority of government should therefore be the setting up of groups to practice the Transcendental Meditation and TM-Sidhi programs regularly and in sufficient numbers to induce the Maharishi Effect. The objective should be to bring together a group significantly larger than that required to reach the threshold level of the square root of one percent of the population. This would intensify the Maharishi Effect and thus bring faster and deeper change, which the social and economic indicators would reflect.

With such a group in place, the whole of government will benefit. Coherence in national consciousness will be reflected in every area of policy. Policy development will show a proper understanding of the cause-effect relationship, sound analysis of the issues and wisdom and sensitivity in assessing the implications of policy implementation. The administrative process will move smoothly and efficiently.

Maharishi (1986) explains that the effect of coherence, at the levels of both the individual and society, is the ability to think and act spontaneously in accord with natural law. An observed result of the reduction and removal of stress is more clarity in thinking and greater creativity. These will be reflected in economic performance and in a progressive shift of focus and resources to activity which is nourishing, supportive, and evolutionary.

People become more self-sufficient as coherence rises and this naturally predisposes towards a free market environment. The state has a role in helping to train people in skills acquisition and state agencies can assist productive enterprise in various ways to realize its potential, but controls and heavy-handed interventionism will not be needed in an environment in which activity follows natural law.

Increased self-sufficiency will be reflected also in a diminishing requirement for people to be supported by state benefits. There will be less dependency because of the reduction and eventual ending of unemployment, and because living in harmony with natural law will lead to a disease-free society. Maharishi (1986) points out that the source of sickness is violation of natural law and when this violation stops, as it will spontaneously do in an environment of higher coherence, good health will be the norm.

Although dependency will be reduced, it will be appropriate for the state to provide financial support for the elderly and for mothers with
young children. Mothers should not have to work for economic survival and should be free to give their attention to their children’s upbringing. The elderly should have the financial resources to enjoy retirement and should also be supported and encouraged to make a continuing contribution to the community through their wisdom, experience, and leadership.

The reduction and eventual elimination of crime will be another massive benefit of displacing incoherence in national consciousness. In addition to greatly enhancing the quality of life, this will deliver huge financial savings to the community and to the government.

The cumulative effect of greater economic growth, reduced and eventually eliminated unemployment, reduced dependence, better health, and lowered crime will be a fiscal situation that will allow taxes to be set at a low level. This will support the principle that those who earn know best how to spend.

Not just policy development and management, but the whole political process will change under the permanent influence of coherence in collective consciousness. Conflict in politics will end, making political parties redundant. Political debate will focus on substantive issues, rather than on shallow maneuverings and posturings for perceived partisan advantage. The best persons for the jobs will be appointed to governmental posts. The phase transition that results in these outcomes will induce a state of complete orderliness, balance, and harmony, both in society and in the physical environment. As incoherence is reduced at all levels, the laws of nature are able to structure greater order in the system. When taken to its furthest and logical extent, this principle leads to the total displacement of negativity and the creation of what Maharishi calls “Heaven on Earth.”

As world consciousness becomes purer and purer through the influence of coherence-creating groups in different continents, we are going to have Heaven on Earth. Negativity will not exist. The difference will be the difference between night and day. We are headed toward that day, and it’s not very far, when the whole human race and every government will be high above the reach of problems. (Age of Enlightenment Press, 1992, p. 35)

Government will create for the nation a framework of higher consciousness that will allow society and all its members to experience permanent fulfillment, satisfaction and peace at all levels of their lives.
Maharishi (1963) explains that it is for this purpose that nature has created us. The logic of evolution is that the resources are always available to enable nature’s purpose to be achieved.

Nature’s answers are simple, direct, logical, practical, and effective. Without them governments will inevitably fail. With them, no government can do other than succeed.

References

A Consciousness-Based Approach To Human Security

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ABSTRACT

Human security is an essential constituent of progress and peace in society. Yet there are innumerable factors that pose threats to the achievement of human security on local, national, and global levels. This paper introduces a Consciousness-Based approach, which can holistically address these factors at a fundamental level, reducing the very stress that perpetuates human security violations and in turn, increasing individual and societal coherence. Results of the technology, the Transcendental Meditation (TM) technique, and the more advanced TM-Sidhi program will be reviewed for their influences on alleviation of stress-related conditions in the individual and society. The premise will be introduced that the quality of awareness or consciousness of each individual in a society is the basis for the quality of human security on the societal level. Over fifty rigorous studies, conducted on the city, provincial, national, and international levels in several countries, find strong evidence that human security and quality of life are enhanced when 1% of the population practices the Transcendental Meditation program (results known as the Maharishi Effect) or groups of the square root of 1% practice the more powerful TM-Sidhi program (known as the Extended Maharishi Effect). Thus, the same technology of consciousness that promotes more positive characteristics and behaviors in the individual, also affects society in a positive direction. Enhancement of human security can be effectively approached in the Consciousness-Based model from both the microcosmic perspective of individual consciousness and the macrocosmic perspective of collective consciousness.

Introduction

Human security means that individuals can live a life free from fear of threats to survival, progress, and enjoyment of life. Maslow suggests in his hierarchy of needs, that safety and security concerns are foundational to progress and to the fulfillment of relational and self-actualizing needs. Moreover, common sense emphatically tells us that human security is an essential precondition for any development of progress in society.

Human security is an issue on many levels of life. In the family, abuse is a concern. In the community, the presence of school, gang, criminal and racial violence are all too real. The recent school violence in Colorado and British Columbia reminded us of the precarious nature of security in even the most developed countries and the most affluent
neighborhoods. Children learn violence through video games, television programs and sophisticated toys without necessarily achieving the level of maturity to determine the implications of life-threatening behavior. Families and communities are shocked out of their sense of complacency when these instances of child violence occur. False security can exist even in gated communities where video cameras, security guards and alarm systems provide a modicum of sanctuary. Yet crime occurs even here.

As well, unemployment, poverty and homelessness represent a threat to economic security and human well-being. These income inequalities can result in the kind of desperation leading to crime and terrorism, which are further threats to human security within the society.

Between nations, border and resource allocation issues as well as ancient grudges can flare to threaten peaceful interaction and co-existence. Yet, countries, armed with sophisticated weaponry and large military expenditures, send a signal that the nation is safe. Here the sense of security comes from an outer form of surveillance or weaponry, which either makes violence appear unreal or masks the dangers. In fact, biological, nuclear and chemical agents can sabotage even the most elaborate security and defense measures. For example, with the ability to communicate ideas globally, those that seek to cause harm can learn from the Internet how to concoct bombs and other means of mass destruction.

We can see that human security issues span a huge range of concerns from the individual need for security to the global responsibility to avoid nuclear disaster. Thus the solutions to human security must resolve the full range of issues in order to be truly effective.

We will present a program for resolving security issues on both the individual and the global levels. We propose that true security arises from alleviation of stress in the individual and the society, breaking a vicious cycle of desperation, maladaptive behavior, and resultant entrenched societal problems. Furthermore, we will indicate that alleviation of stress-related conditions can result in the prevention of outbreaks of fear, crime, terrorism, and war. We will discuss how the practice of the Transcendental Meditation technique and the advanced TM-Sidhi program dissolves stress-related imbalances in mind and body as a result of the deep rest gained during the technique. Further-
more, we will consider how the technique cultivates human coherence and inner stability through development of consciousness, providing a real and sustained basis for human security.

The *Consciousness-Based Approach to Alleviation of Stress*

Threats to human security are generated by human thought, emotion, and action. For example, stressful actions often occur when individuals perceive the need to compete for scarce resources, when no alternatives appear to fulfill individual or societal goals, or when desires of one individual or nation are perceived as threatening to the fulfillment of the desires of another. In other words, stress and tension often arise when boundaries and limitations dominate in the awareness of those involved. These boundaries may be real or perceived, because emotions, history, or values can also contribute to an “all or nothing/black or white” attitude. It is apparent that the action that follows from the perception that no other alternative is available, only creates more stress and tension for both the perpetrator and the victim (or between two protagonists). Thus the issue for those attempting to resolve these tensions is to provide an alternative to the outburst of violence and to create a climate within which goals that appear to be mutually exclusive can nonetheless be achieved.

Fundamental to any change of action must be a change of mind. Since the UNESCO Charter states that “war begins in the minds of men,” it is reasonable to assert that peace must also begin in individuals’ minds. However precipitous an action may be, some thought that has arisen in the mind has preceded it. Therefore, it must be on the level of thought that the impulse to action is influenced. Moreover, the quality of thought itself is implicated as the initial condition for the quality of any action: whether it be life-supporting or life-damaging—whether the action destroys human security and human welfare, or in contrast, whether it promotes security, harmony and peace.4

Fundamental to thought and action, however, is consciousness itself. Consciousness has been defined in many ways. Often the term consciousness has been used to refer to the experience of the individual, the individual identity, which is inclusive of ego, intellect, mind, and senses. Yet this individual identity is still a condition of “being conscious of” some thing or some thought. Maharishi Mahesh Yogi,
founder of the Transcendental Meditation and TM-Sidhi programs, has described this condition as object-referral consciousness, in which the individual or “knower” identifies with the actions, emotions, and other personality qualities of the individual identity. Consciousness is also defined in terms of the quality of awareness through which the individual perceives daily life. For example, three states of consciousness (waking, dreaming, and sleeping) have been defined in terms of psycho-physiological parameters, as distinct experiences of the mind and body. And even in the waking state, the quality of awareness or alertness which one could define as consciousness, varies depending upon amount of sleep the night before, level of fatigue, type of food eaten, medicine taken, and the influence of emotions and events on the biochemistry. Thus, consciousness as defined in these contexts is still a changing state.

William James, considered the father of modern psychology questions the nature of individual identity. He labeled identity in terms of its object-referral, changing aspect as the “Me” and he regarded the more stable aspect of the identity as the “I”:

The I, or ‘pure ego,’ is a very much more difficult subject of inquiry than the Me. It is that which at any given moment is conscious, whereas the Me is only one of the things which it is conscious of. In other words, it is the Thinker; and the question immediately comes up what is the thinker? Is it the passing state of consciousness itself, or is it something deeper and less mutable? The passing state we have seen to be the very embodiment of change. . . . Yet each of us spontaneously considers that by ‘I,’ he means something always the same.6

Maharishi describes this “I” as “pure consciousness”, even more fundamental than individual identity or individual changes in awareness and alertness. Pure consciousness can be located in individual experience as the simplest state of awareness, or “consciousness itself.” Pure consciousness is fundamental to every individual’s thought and action.7 Analogous to this is the movie screen, which remains stable, while all the various transformations of a film are occurring upon it. Yet, pure consciousness differs from the movie screen in that the screen is simply a passive mechanism to capture the projections of the movie whereas pure consciousness is described as an infinite reservoir of energy and intelligence from which the impulses of thought arise.
Pure consciousness can easily be experienced by anyone when attention is turned inward in a systematic manner. During this experience, even the subtlest level of the thinking process is transcended, and the individual is awake to the most essential nature of the self, an unbounded field of awareness. Although many people throughout different cultures and times have reported glimpses of pure consciousness, a procedure for its systematic cultivation has for the most part, been lacking.8

In recent times, Maharishi has brought out a technique that can be practiced by anyone for systematically locating pure consciousness in individual awareness. This technique, the Transcendental Meditation technique, is profoundly restful for mind and body. Through the natural mind-body interdependence, the profound settling of the mind during the Transcendental Meditation technique has been shown to alleviate fatigue and stress-related conditions in both mind and body. Individual practice of the Transcendental Meditation technique is therefore an approach to alleviating stress, and opening the awareness to a more expanded perception of life. The more expanded nature of consciousness, located during the practice, is stabilized during the activity of daily life so that the individual begins to feel a profound sense of inner security, rather than one fraught with limitations and emotional conflict.

Several peer-reviewed studies substantiate the effectiveness of the technique for stress reduction. Meta-analysis and random-assignment control studies show that the Transcendental Meditation technique is uniquely effective in treating various conditions associated with stress. For example, a comprehensive statistical meta-analysis of 146 independent study results found the Transcendental Meditation program significantly more effective in reducing trait anxiety than other techniques commonly used for relaxation or stress reduction.9 Recent randomized controlled trials report that the Transcendental Meditation technique is as effective as anti-hypertensive drugs in reducing mild hypertension; much more effective in reducing high blood pressure than a control technique; highly effective in reducing blood pressure in individuals with high levels of stress and multiple risk factors for hypertension.10

In a randomized study of post-traumatic stress disorder, patients who learned the Transcendental Meditation technique showed markedly decreased depression, decreased insomnia, and decreased alco-
hol consumption compared to controls receiving psychotherapy. In comparison with controls, the Transcendental Meditation group also showed decreased anxiety, decreased family problems, and decreased post-traumatic stress disorder.\textsuperscript{11} Meta-analysis studies also show the Transcendental Meditation program more effective than standard treatment programs for treatment and prevention of cigarette smoking, alcohol abuse, and drug abuse.\textsuperscript{12}

A large-scale health care utilization study by Orme-Johnson pointed toward improved health through practice of the Transcendental Meditation and TM-Sidhi programs conducted with data from a major health insurance carrier in Iowa. This study showed substantially lower hospital admission rates for serious illness among 2,000 Transcendental Meditation practitioners—including heart disease (87\% less), cancer (55\% less) and nervous system disorders (87\% less)—compared with a matched sample over a five-year period.\textsuperscript{13}

The Transcendental Meditation technique has also been used with inmates in the highly stressful conditions characteristic of prisons. Inmates practicing the Transcendental Meditation technique show significantly reduced anxiety, substance abuse, hostility, violence, prison rule infractions, and criminal recidivism compared to controls.\textsuperscript{14} These rehabilitation studies point to the possibility of law-abiding behavior even on the part of so-called “hardened criminals” who have contributed to the fear and stressful conditions in society.

Thus, the technique has been demonstrated as an effective treatment modality for the alleviation of many stress-related conditions. The profound rest gained during the technique neutralizes deep-seated stress, balancing conditions in the mind and body, and resulting actions. Moreover, the experience of unbounded awareness, creativity, and intelligence located during meditation and stabilized in the individual’s experience during activity cultivates an inner locus of control as measured by studies on field independence and self-actualization.\textsuperscript{15} When more alternatives can be entertained due to a wider-angle perspective on reality, there is less frustration and impulsive action to accomplish one’s desires. The Transcendental Meditation technique can thus be considered as an antidote to restricted thinking and resultant aggressive action.

Yet, as has been described, the threats to human security are multidimensional and global in proportion. How can a technique, which
alleviates the stress of the individual, influence these meta-conditions? The Consciousness-Based approach provides both theoretical understanding and a methodology for addressing these issues.

**Collective Consciousness**

A basic tenet of the Consciousness-Based approach is that the individual is the basic unit of society. The quality of consciousness of all the individuals in a society may be said to form the collective consciousness of that society, whether it is the family, the community, the city, province, nation, or the world. Just as an individual’s consciousness may display qualities that are more or less successful, energetic, orderly, anxious, or calm, so each society also reflects a degree of coherence, which may fluctuate over time. Coherence, in this context refers to the level of integration of the diverse concerns of all the individuals in the society with the needs of the society as a whole. When the individuals in a society are predominately stressed, stress permeates all levels of collective consciousness and influences all individuals in society. According to Maharishi, war, terrorism and other collective disasters are ultimately caused by the accumulation of stress in the collective consciousness.\(^\text{16}\)

In contrast, if the collective consciousness of a society is more coherent, the society will flourish:

Coherence means togetherness—that is, a situation in which differences cease to dominate and friendliness begins to reign. Any country within which harmony dominates becomes very powerful, because no energy and intelligence is wasted in resolving arguments and conflicts among its citizens. The government can structure steps of progress instead of worrying about whether it will survive and where the next shock will come from.\(^\text{17}\)

This perspective offers a choice to the individual with every thought and action: create coherence in consciousness, or contribute to the already overwhelming stress in society. Yet, it has been found that not everyone need practice the Transcendental Meditation program for coherence-creating effects to be observed in society. In the early 1970’s, researchers began testing a prediction by Maharishi, based on physics principles and on citations in the Vedic literature. (The Veda is considered to be the oldest continuous tradition of human knowledge; “Veda means knowledge, pure knowledge, complete knowledge.”)\(^\text{18}\)
Maharishi predicted that it would only take 1% of a population practicing the Transcendental Meditation technique to generate positive changes in the collective consciousness and show a measurable influence of coherence on the entire society. The theoretical rationale for how a few can affect the many is the principle of coherence in nature: coherence is more powerful than incoherence. For example, coherent laser light will shine further than incoherent, incandescent light.

Several variables were chosen to examine this phenomenon, which became known as the Maharishi Effect. Of prominent interest were studies on the crime rate, auto accident rate, and quality of life. Cities were chosen where 1% of the population had been instructed in the Transcendental Meditation technique, and matched with control cities for demographic variables. In 1974 the findings for the first of these studies was announced: when 1% of a city was practicing the Transcendental Meditation technique, the crime rate dropped significantly compared to controls.19

Over the last two decades, the initial research has been replicated in a series of increasingly rigorous experiments, through greater sophistication of statistical methodology, investigation of larger sample sizes, comprehensive control for factors affecting the dependent variables, replication across outcome variables and geographic locations, and employment of prospective research protocols. For example, Dillbeck, Banus, Polanzi, and Landrith III used cross-lagged panel analysis to demonstrate the Maharishi Effect, controlling for demographics, in a sample of 160 cities and 80 Standard Statistical Metropolitan Areas, which constituted over half the urban population of the U.S.20 Results indicated a causal effect of Transcendental Meditation participation in reduction of crime rate over a six-year period.

An even more powerful influence has been found when individuals practice the more advanced TM-Sidhi program. According to Maharishi, the Transcendental Meditation technique locates pure consciousness within one’s awareness, and the TM-Sidhi program trains the mind to function from the level of pure consciousness, producing greater coordination between mind and body, and the ability to enliven natural law for greater success in life. Of the advanced technology of the TM-Sidhi program, Yogic Flying is the technique that appears to produce the greatest mind-body coordination. Maharishi21 explains
that the body lifts up at the point of maximum coherence, indicating “maximum integration of brain functioning” as seen by coherence in EEG patterns.\textsuperscript{22} With systematic practice of these techniques, greater orderliness of thought and psychological and physiological well-being are developed.

Researchers discovered that when individuals practice the Transcendental Meditation and TM-Sidhi programs together in a group, only the square root of 1\% of the population is necessary to influence the quality of life in society in the direction of greater harmony and coherence. Physicist John Hagelin likens the Maharishi Effect to coherent systems in physics: “This prediction is based on a field theoretic model utilizing a coherent superposition of amplitudes, in which the intensity of the effect generated is proportional to the square of the number of participants.”\textsuperscript{23} The Maharishi Effect studies, which largely utilized time-series methodology, have indicated that these coherence creating groups improve the economy, reduce crime rate, improve the quality of life in cities and states, increase positivity of interactions between heads of state, and alleviate international conflicts.\textsuperscript{24} We will look at short summaries of selected studies later in the paper.

**Mechanics of the Maharishi Effect**

The research presented in the Maharishi Effect studies is informed by both a Vedic and a quantum mechanical (rather than a classical) perspective. Renowned quantum physicists hold that the force and matter fields in nature are interconnected by, and are expressions of fundamentally unified quantum fields.\textsuperscript{25} Moreover, Maharishi’s Vedic perspective describes consciousness as an unbounded field as well.

In this section a few key questions will be addressed: What are the mechanics of “action at a distance” or field effects as applied to the Maharishi Effect? How is coherence described in physical systems? What precedents in physical systems support the formula of the Maharishi Effect?

**Action at a Distance/Field Effects**

In physics, “action at a distance phenomena” are explained through fields. For instance, radio transmitters send out signals through the electromagnetic (EM) field, which can then be received by a radio in
one’s home. In this way, it is apparent that the transmission has a long-range effect. Analogously, the long-range effects of the Transcendental Meditation and TM-Sidhi programs are described by the characteristic of consciousness as a field—a particular field, which can be directly experienced and influenced by human awareness. The characteristics and properties of this field have been examined from both the Vedic and the quantum mechanical perspective.

Various explanations for the mechanics of the Maharishi Effect have been considered. Kleinschnitz reviewed several mechanisms to discover if any of them could “plausibly transmit an influence characteristic of the Maharishi Effect.” These mechanisms included human sensory mechanisms, such as sound, taste and smell; physical mechanisms which might directly impact the human physiology; and fields of the standard model in physics such as bosons, leptons, and quarks. Among the mechanisms mentioned here, he found that there was no characteristic propagation long-range enough to account for the Maharishi Effect phenomenon. Kleinschnitz indicates that even though “ELF (Extra Low Frequency) and VLF (Very Low Frequency) portions of the electromagnetic spectrum meet the propagation criteria for the field effect of consciousness, they fail as candidates because of the lack of a plausible mechanism for generating emissions from the body. The criteria that the effect be only positive also would be difficult to meet with these candidates.”

However, a more comprehensive explanation, consistent with Maharishi’s Vedic perspective has been considered in the superunification theory of quantum physics. Leading quantum field theorist John Hage-lin explains that the history of the last 30 years of physics has witnessed the progressive unification of the four fundamental forces of nature: electromagnetism, the weak force, the strong force, and gravity. (See Figure 1.) This progress towards unification has culminated in superunification at the Planck scale of $10^{-33}$ centimeters or $10^{-44}$ seconds. This fundamental scale of nature “describes all the fundamental forces and particles as the various modes of vibration of a single, underlying uni-
This unified field in quantum mechanics corresponds to the field of pure consciousness located during practice of the Transcendental Meditation program, which is also characterized as an unbounded unified field. The unified field in physics was located as a result of progressive unification of fundamental force and matter fields of nature, which are considered to be distinct at more surface levels of observation. Analogous to this, in the object-referral mode of human awareness, the knower (ourselves) perceives (Process of Knowing) an object (the Known). These three aspects of awareness are experienced as fundamentally distinct. However, within the unified field of consciousness, experienced by transcending even the subtlest aspect of the thought process, the knower, known, and process of knowing are unified in the experience of unbounded awareness. This unified awareness is known as “self-referral” consciousness, as the Self knows only itself.

The Chandogya Upanishad (3.14.1) expresses this reality as “Sarvam kalu idam Brahm,” which means: “All this is Totality.” The Upanishads, the Vedic literature concerned with the transcending quality of intelligence, declare that all fear results from duality (or the object-referral experience of reality in which the individual perceives all others as separate from the self). When the experience of Unity Consciousness dominates, and the individual sees the nature of others as being fundamentally the same as one’s own nature, fear is no longer a reality. Unity is perceived amidst diversity in this experience.

Moreover, Hagelin, in light of Maharishi’s Consciousness-Based approach to knowledge, describes a one-to-one correspondence between attributes of pure consciousness at the basis of the human mind described in Maharishi Vedic Science and attributes of the unified field in physics. These attributes are described by mathematical equations known as “the Lagrangian of the superstring,” which depict the “symmetries, components and self-interaction” of the unified field. Among these characteristics are “all possibilities,” “simplicity,” “perfect balance,” “perfect orderliness,” “infinite creativity,” and “infinite dynamism.” Hagelin notes
that “every stage in the sequential unfoldment of the laws of nature from the unified field has its corresponding Lagrangian, bringing to light new qualities of the unified field, which were present but unexpressed at the level of the superstring.” The first property that Hagelin describes among the unified field properties is intelligence:

By assumption, the unified field is the unified source of all the laws of nature governing physics at every scale. These laws of nature formally express the order and intelligence inherent in natural phenomena. If there were no laws of nature, there would be no consistent patterns of behavior, and nature would be unintelligible. If, as particle physicists believe, all the laws of nature have their dynamical origin in the unified field, then the unified field must itself embody the total intelligence of nature’s functioning.

Thus, when we consider approaching the issue of human security on both individual and global levels, we should access the organizing power and inherent intelligence of natural law itself, which is always functioning in nature to maintain orderliness and harmony among its constituent parts. When this same intelligence is enlivened in individual awareness and on the level of society, it is capable of creating coherence, which will disallow harmful influences of narrow thinking, stress, and fatigue, to overwhelm the good intentions of people everywhere.
Consciousness-Based Approach to Human Security

Orme-Johnson, Alexander, Davies, Chandler, and Larimore indicated that properties of the unified field are fundamentally non-local in nature. Furthermore, they add: “Several physicists have also noted that at fundamental scales, much of the objective character of macroscopic, classical physics begins to disappear and characteristically subjective qualities begin to emerge.”

When Maharishi describes the phenomenon whereby the group practice of the Transcendental Meditation and TM-Sidhi programs enlivens awareness at that field level of consciousness, he expresses the mechanics as “infinite correlation.” He indicates that at that level of consciousness, all the diverse values of life are found in coordination, rather than as disparate characteristics found on the surface level of the mind. This is analogous to the difference between the classical view of physics and the quantum mechanical. In the classical, as noted above, each individual is considered as separate. Object-referral awareness views these disparate elements through the senses. In contrast, the self-referral experience of the unified field of consciousness allows the individual to experience the unified level of reality and to enliven it. This “enlivenment” propagates throughout the field, as everything is influencing everything else on this level.

The implications for such a subjective technology are far-reaching in terms of human security on a global level. Hagelin, in his recent work, Manual for a Perfect Government, indicates that just as nuclear power is far more destructive than conventional weapons, the unified field of matter and of consciousness is far more powerful in its positivity than the negative effects of nuclear weapons. He points out that whereas nuclear weapons were created to function at a much more powerful level than ordinary chemical and electronic methods of defense, the technologies of consciousness lively in the Maharishi Effect “operate at a level of Natural Law that is even deeper than the nuclear level, where the characteristic energies are correspondingly greater.”

It is apparent that nuclear weapons are not a safe deterrent to war, as in the hands of the wrong people, they could be grossly misused and annihilate whole populations. In contrast, the technologies of the unified field of pure consciousness are truly preventive in nature, harnessing nature’s organizing power, which is life-supporting and nourishing to all aspects of individual and societal life.
Coherence-Creating Properties

As was previously mentioned, Maharishi predicted that only a small number of individuals practicing the Transcendental Meditation and TM-Sidhi programs in a group would create the coherence necessary to alleviate disorderliness in society.

Research has indicated that this number is only the square root of 1% of a population. There are examples in physical systems parallel to the Maharishi Effect, such as the functioning of lasers, superconductors, and superfluids. For example, in the case of a wave traveling through a field, the intensity of the wave is proportional to the square of the number of components emitting coherent radiation into the field. In another example, when a group of atoms is oscillating in coherence (synchrony of frequency and phase) enlivening an electromagnetic field, the intensity of the radiation is proportional to the square of the number of atoms. Moreover, in the functioning of a laser beam, a small subset of atoms is able to align the remainder of atoms to create a powerful beam of coherent light, in contrast to regular light, which is produced by random and incoherent photons.

Among the characteristics of the Maharishi Effect of interest to the issue of human security are those that promote invincible defense. Kofi Annan stated in an address to the General Assembly of the United Nations: “A tragic irony of many of the crises that continue to go unnoticed and unchallenged today is that they could be dealt with by far less perilous acts of intervention then the one we witnessed recently in Yugoslavia . . . any armed intervention is itself a result of the failure of prevention.”

As was discussed in the introductory section, security cannot be achieved through weaponry or through vigilance alone, whether in the school, the gated community, or the sovereign nation. Throughout nature, analogous situations occur which describe deterrence to invasion. In physical systems, if there is any weakness, foreign elements can enter the system. In contrast, if the system is coherent in relation to its own nature, it can repel entry by a foreign substance. A dramatic example is the Meissner Effect, drawn from superconductivity. In an ordinary conductor, the electrons flow in a disorderly manner. When a magnet is applied, the magnetic influence creates even greater
disorderliness in the conduct of the electrons. In contrast to ordinary conductance, a superconductor exists in certain metals at very low temperature, just above absolute zero. In this condition, there is zero friction to the flow of electrons, resulting in remarkable characteristics. As long as the superconductor is kept at that low temperature, there is no resistance to the flow of electrons. When a magnet approaches a superconductor, the electrons move around in such a way as to produce an opposite magnetic field that repels the magnetic field of the intruder.\textsuperscript{38}

This influence of the Meissner Effect is analogous to the effect created by the orderly properties generated by the group of practitioners of the Transcendental Meditation and TM-Sidhi programs. Maharishi has indicated that in a community or nation where this orderliness is being generated, disorderliness will not remain, nor can outside forces penetrate. The Vedic principle for this phenomenon is “Tat sannidhau vairatyagah” (Yoga Sutra, 2.35). This principle is translated as “In the vicinity of Yogic influence—unifying influence, integrating influence, coherent and harmonious influence—conflicting tendencies do not arise.”\textsuperscript{39}

In this context, the old adage, “an ounce of prevention is worth a pound of cure,” is appropriate. The Vedic expression for prevention is “Heyam dukham anagatam,” (Yoga Sutra, 2.16) which is translated as “Avert the danger before it arises.”\textsuperscript{40} Amassing of armaments, whether individually or in societies, provides a sense of security that can be overwhelmed by bigger and more powerful weapons. In contrast, the addition of a prevention group of practitioners of the Transcendental Meditation and TM-Sidhi programs in each society provides a formula for natural security which supports the success of all other methods of security, such as the military, peace-keeping forces, negotiations, police, etc.

\textbf{Collective Stress Reduction}

The Maharishi Effect studies are particularly relevant to human security in society. They indicate a strong correlation between large groups practicing the Transcendental Meditation and TM-Sidhi programs and reduction of various indicators of social stress, including inflation and unemployment, violent death, crime, terrorism, and war deaths. The effects have been replicated and can be further verified by any government or research institute. We highlight several published studies as representative of the body of work on the Maharishi Effect.
Conflict Resolution in the Middle East

In a study conducted in the Middle East in 1983, war deaths decreased 76% ($p = .019$) and war intensity decreased 45% ($p = .0045$) in the Lebanon war when the number of individuals practicing the TM-Sidhi program together in neighboring Israel reached a threshold of about 197. Time series transfer function analysis also showed that crime decreased by 7.4% in Jerusalem ($p = .023$) when a threshold of 65 practitioners was reached. Crime decreased by 4.1% in Israel ($p = .022$) when a threshold of 122 practitioners was reached. Other possible causes (weekends, holidays, weather, etc.) were statistically controlled for. The predicted changes in experimental variables were lodged in advance of the experiment. The authors recognized that this approach is novel and that its explanation requires “an entirely new field theoretic orientation to international relations.” The authors suggested that social scientists and policy makers investigate the “large-scale application of this simple and non intrusive technology to resolving international conflicts over extended periods of time.”

Violent Death Rates in USA

A study in the United States (1979-1985) assessed the influence of a large group practicing the Transcendental Meditation and TM-Sidhi programs in Fairfield, Iowa (Maharishi University of Management formerly called Maharishi International University, USA) on rates of violent deaths (composite of homicide, motor vehicle accidents, and suicide rates) in the USA. Box-Jenkins time-series analysis showed 31 fewer violent deaths per week ($p < .0001$) once the group of Transcendental Meditation and TM-Sidhi participants exceeded the square root of 1% of the U.S. population (1,500 in 1979 and 1,550 by the end of 1985). When the number of participants in the group was treated as a continuous variable, time-series transfer function analysis showed a 5.5% decrease of US violent deaths when the TM-Sidhi group exceeded the threshold. Violent death is a stark expression of social stress and a major threat to human security.
Inflation and Unemployment Studies

A series of studies was conducted on an index of inflation and unemployment in the U.S. and in Canada during the years 1979 to 1988. Cavanaugh and colleagues used time-series analysis with the index and size of a permanent group of participants in the Transcendental Meditation and TM-Sidhi programs in Fairfield Iowa. They found a highly statistically significant reduction in the inflation and unemployment indices when the TM-Sidhi group was equal to or greater than 1700 in number, the square root of 1% of the population of Canada and the U.S. Cavanaugh reported that “the estimated decline in the U.S. index was 5.62 points or 39.9 percent of the total decline of the index from its peak over the sample period. For Canada, the comparable estimate was a reduction of 4.55 points or 29.3 percent, of the total decline of the index from its peak.”

Washington, D.C. 1993 Study

As a group of practitioners of the Transcendental Meditation and TM-Sidhi programs in Washington, D.C. increased in size from 800 to approximately 4,000 over a two-month period in 1993, violent crime in Washington (measured by FBI Uniform Crime Statistics) began decreasing and continued to drop until the end of the experiment (maximum decrease 23.6%, \( p < .0001 \)). The expected benefits of the group in Washington, D.C. were lodged beforehand with an independent project review board. The effects of the group could not be attributed to other possible causes, including temperature, precipitation, weekends, and police and community anticrime activities. This study was a demonstration of the efficacy of large-scale coherence creating groups on social stress and is an important contribution to the understanding of social systems in terms of personal and community security. We suggest that governments concerned with social stress and human security replicate this study and expand its scope.

Studies in Manila, New Delhi, Puerto Rico, Washington, D.C., and Merseyside, UK

In other studies in metropolitan regions, statistically significant declines in violent crime were seen in Manila, New Delhi, Puerto
Rico, and Washington, D.C. when the size of the group practicing the Transcendental Meditation and TM-Sidhi programs reached threshold numbers. In a study in UK (1978-1991), crime rate fell by 16% in Merseyside (\( p = .00006 \)) when the size of the local group of TM-Sidhi practitioners reached its threshold, whereas during the same period, crime increased by 20% in the rest of England and Wales. In these studies, alternative explanations were explored and could not account for the findings.

**Conclusion**

Over 50 studies have shown the application of the collective practice of the Transcendental Meditation and TM-Sidhi programs in neutralizing collective stress in society, thereby increasing quality of life, and reducing situations of economic hardship, conflict, violence, and aggression on local, regional, and international scales. These findings indicate that by deploying groups of such experts in troubled regions, the situations of stress and conflict could be alleviated, providing a basis for long-term solutions and sustained peace.

Considering the number of people in the world today and its continual population growth, a group of 10,000 practitioners in at least one area of the world would ensure a sustainable and lasting peace. Moreover, groups of Transcendental Meditation and TM-Sidhi program practitioners, either trained locally or deployed to troubled regions, could reduce situations of conflict within days. As a preventive measure, permanent groups of practitioners could be set up on every continent to prevent the accumulation of collective stress and the resultant situations of conflict.

In summary, human security is at the basis of progress and creativity. Maharishi uses the analogy of “mother is at home.” When a child knows, at a fine feeling level, that mother is at home, the child can play freely and enjoy his or her activity. But when a child is aware that mother is not at home, the entire realm of play and activity is disrupted. The self-referral experience of pure consciousness provides the experience of inner peace and fulfillment, while at the same time dissolving stress. Practiced in groups, the Transcendental Meditation and TM-Sidhi programs support peace and security, coherence and progress in society. The alleviation of social stress through the Transcendental
Meditation and TM-Sidhi programs including Yogic Flying, although subjective in nature, can dissolve the tensions that give rise to war. In an era where physics informs us that nature is fundamentally an expression of a unified field, we must assert boldly that we can harness the organizing power of nature’s fundamental levels to alleviate the most aggravated conditions of stress in society. The research on the Transcendental Meditation and TM-Sidhi programs affirms its efficacy. Any government or large organization is invited to verify these findings and to help create needed coherence in a world replete with turbulent change. Groups of experts practicing the Transcendental Meditation and TM-Sidhi programs offer substantial hope for real peace in this new millennium.

Lloyd Axworthy, Minister of Foreign Affairs, has invited Canadians to provide their input to the policy process. Human security, he notes is more than just the absence of military threat. He indicates that fundamental human rights and quality of life are also essential. Furthermore, he, along with other world leaders such as Kofi Annan, point to prevention as a key component of human security. We propose that a permanent group of 10,000 practitioners of the Transcendental Meditation and TM-Sidhi programs be established in Canada to provide the essential condition for a sustainable security for the individual and for all levels of society.

Canada is one of the most respected nations on earth. All of Canada’s highest aspirations to support peace and security on a global level can be strengthened in this way.

Václav Havel, in an address upon receiving the Liberty Medal in Philadelphia, July 4, 1994, remarked:

It follows that, in today’s multicultural world, the truly reliable path to peaceful co-existence and creative cooperation must start from what is at the root of all cultures and what lies infinitely deeper in human hearts and minds then political opinion, convictions, antipathies or sympathies: it must be rooted in self-transcendence.

Now that the transcendental nature of the self can be systematically experienced, peaceful coexistence and global human security are conditions that we have the power to create.
Endnotes

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3 For further discussion on scope and issues related to human security, see Lloyd Axworthy, Human Security: Safety for People in a Changing World (Ottawa: Department of Foreign Affairs and International Trade, April, 1999).


Maharishi’s Absolute Theory of Government
Offers Fulfillment
to the Vision of the Founding Fathers:
The Pursuit of Happiness—
Fulfilling America’s Destiny

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**Abstract**

This paper discusses natural law philosophy as understood by the early colonial leaders, the Founding Fathers of the United States. It explores the correspondence between this understanding and the description of natural law in Maharishi Vedic Science and the unified field theories of quantum physics. The possibility is raised that this deeper understanding of natural law and its associated technologies could bring fulfillment to the true meaning of “the pursuit of happiness” envisioned by the Founding Fathers — the ability to live a life in accord with natural law.

**Introduction**

We hold these truths to be self-evident; that all men are created equal; that they are endowed by their Creator with certain unalienable rights; that among these are life, liberty, and the pursuit of happiness…

—Declaration of Independence, July 4, 1776

The meaning of these words has been the subject of scholarly debate for decades. What was the vision of the founding fathers? The Declaration of Independence and the United States Constitution, the defining documents of this country, were written and must be read in the context of natural law theory. Thomas Jefferson, Benjamin Franklin, John Adams, James Madison, and other Founding Fathers were all well-educated in the common law of England, which was based on the legal philosophy of natural law.

This paper explores the similarities between the eighteenth century understanding of natural law as described below,

The law of nature was before any judicial or municipal law (and) is immutable. The law of nature is that which God at the time of creation of the nature of man infused into his heart for his preservation and direction; and this is the eternal law, the moral law, called also the law of nature. (Coke, 1608, p. 392)

and natural law as elucidated by Maharishi Mahesh Yogi.

The universe is governed by Natural Law—the eternal, self-generated, self-perpetuated Cosmic Intelligence, omnipresent intelligence, fully awake intelligence at the transcendental basis of every grain of creation—the Cosmic Constitution, the Constitution of the Universe. (Maharishi, 1999, p. 3)
By providing a technology that allows individuals to contact the source of natural law within themselves, Maharishi Vedic Science offers fulfillment to the vision of the founding fathers that this new country could provide an opportunity for all citizens to realize their full potential and live life in accord with natural law, the “will of God.”

**What was the understanding of natural law theory at the time of the American revolution?**

To discover how the founding fathers understood natural law we must turn to the legal authorities of the time. All colonial lawyers studied the common law cases collected and reported by Sir Edward Coke, a seventeenth century jurist and legal scholar, and William Blackstone, who continued Coke’s work a century later (Bailyn, 1992, p. 30). All educated men were familiar with Coke and Blackstone as the foremost authorities on the common law.

Dean Roscoe Pound, a noted American jurist asserts that,

So steeped were the eighteenth century colonial lawyers in Coke’s teachings, for Coke’s Institutes were the most authoritative law books available to them, and they were dealing with a tradition and not a code, that the controversial literature of the era of the Revolution, if it is to be understood, must be read or interpreted by a common law lawyer. Indeed he must be a common law lawyer, . . . brought up to read and reread Coke and Blackstone until he got the whole feeling and atmosphere of those who led resistance to the home government. (Pound, 1945, p. 348)

The following quotation from Coke’s notes in the well-known Calvin’s case describes the universally acknowledged understanding of natural law at that time. According to Coke, natural law precedes man-made law and is unchanging and eternal. It is the same for all men everywhere. The ability to know natural law, to know right from wrong, was given to man by the Creator to guide and protect him. It was natural law that guided legal decisions before any laws were written.

The law of nature was before any judicial or municipal law (and) is immutable. The law of nature is that which God at the time of creation of the nature of man infused into his heart for his preservation and direction; and this is the eternal law, the moral law, called also the law of nature. And by this law, written with the finger of God in the heart of man
were the people of God a long time governed before the law was written by Moses, who was the first reporter or writer of law in the world . . . .

God and nature is one to all and therefore the law of God and nature is one to all . . . . This law of nature which indeed is the eternal law of the creator, infused into the heart of the creature at the time of his creation, was two thousand years before any laws written and before any judicial or municipal laws were made, kings did decide cases according to natural equity and were not tied to any rule or formality of law.

William Blackstone, the most famous jurist and legal commentator of his time, restated Coke in language more understandable to his contemporaries in England and the colonies. The following is an excerpt from an American edition of his work printed in Philadelphia in 1771. It expands the idea that the laws of nature are the will of God—that they came into being at the time of creation and continue to govern the universe. Man can use his reason to discover those laws of nature, and given free will by the creator can choose to follow or not follow natural law.

When the Supreme Being formed the universe and created matter out of nothing, he impressed certain principles upon that matter from which it can never depart and without which it would cease to be.... This then, is the general significance of law; a rule of action dictated by some superior being; and in those creatures that have neither the power to think nor to will, such laws must be invariably obeyed, so long as the creature itself subsists, for its existence depends on that obedience. But laws in their more confined sense and in which it is our present business to consider them, denote the rules, not of action in general, but of human action or conduct, that is the precepts by which man...endowed with both reason and free will, is commanded to make use of those faculties in the general regulation of his behavior.

Man considered as a creature, must necessarily be subject to the laws of his creator for he is entirely a dependent being . . . . Consequently, since man depends absolutely upon his maker for everything, it is necessary that he should in all points conform to his maker's will. This will of his maker is called the law of nature. For as God, when he created matter and endowed it with a principle of mobility, established certain rules for the perpetual direction of that motion, . . . so, when he created man, and endowed him with free will to conduct himself in all parts of life, he laid down certain immutable laws of human nature, whereby that free will is in some degree regulated and restrained, and gave him also the faculty
of reason to discover the purport of those laws. (Blackstone, 1769, 1771, Vol. I, pp. 27–31)

The colonist’s radical decision to break away from England and form a new country was in large part based on their recognition of the primal nature of natural law and the belief that it superseded any man-made law. Natural law inspired and gave authority to manmade law. Man-made law that was contrary to natural law was therefore invalid or lacking in authority and need not be obeyed.

This law of nature being coeval with mankind, and dictated by God himself, is, of course, superior in obligation to any other. It is binding over all the globe in all countries, and at all times; no human laws are of any validity if contrary to this; and such of them as are valid derive all of their force and all of their authority mediately or immediately from this origin. (Blackstone, 1771, Vol. I, p. 31)

Although, English citizens had the same fundamental belief in the supremacy of natural law, they had no constitutional way to disobey a law of parliament. The colonists did not have the same appreciation and respect for Parliament as British citizens living in the home country. If a parliamentary act was not in accord with their understanding of natural law then it was open to criticism and need not be obeyed. Why was there this difference?

The English Revolution of 1688 occurred in the years between Coke and Blackstone, and the following observance by Blackstone reflects the fact that as a result of the revolution in England, parliamentary acts were considered the supreme law of the land, even though this contradicts the natural law theory on which the common law of England was based. (Pound, 1945, p. 367)

In the following quote, Blackstone expresses the common law understanding of Coke that natural law was supreme and could be apprehended by human reason, but qualifies it by saying that no power existed under the constitution to control parliament, which implied that in fact the laws of parliament must be obeyed.

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1 The political thinking of the colonists was also influenced by European Enlightenment thinkers such as Locke, Montesquieu, Vattel, Baccaria, Burlamaqui, Pufendorf, Voltaire, and Rousseau, but this influence has been discussed in many other articles and books, such as *The Ideological Origins of the American Revolution* by Bernard Bailyn, and is beyond the scope of this paper.
Acts of Parliament that are impossible to be performed are of no validity; and if there arise out of them collaterally any absurd consequences, manifestly contradictory to common reason, they are, with regard to those collateral consequences, void. I lay down the rule with these restrictions: I know it is generally laid down more largely, that acts of Parliament contrary to reason are void. But if the Parliament will positively enact a thing to be done which is unreasonable, I know of no power in the ordinary forms of the Constitution that is bested with the authority to control it. (Blackstone, 1771, Vol. V, p. 79)

The English revolution established Parliament’s superiority, although, ironically, it was the superiority of natural law to man-made law and the authority of the King, which provided the justification for the revolution and the overthrow of the monarchy. The monarchy was reestablished by the people when William and Mary were invited to rule by an act of Parliament. Since Parliament was an expression of the will of the people and the monarchy was now subservient to it, Englishmen felt that their natural rights would be protected by Parliament because Parliament reflected the natural law that was the basis of the revolution.

The colonists did not share this confidence in Parliament. Since the British Parliament did not represent them or the interests of the colonies, they did not share the Englishman’s belief in Parliament’s infallibility. Protesting laws they deemed unfair, the colonists repeatedly expressed the contention that acts of Parliament, man-made laws, were not valid if they violated natural law. When the attempt to reconcile their differences was not successful, an appeal to the rights granted under natural law formed the basis of the rationale for the colonies to break away from their mother country. The Declaration of Independence written to King George and adopted by the Second Continental Congress in 1776 explained their actions to the rest of the world. (Maier, 1998, p. 20)

Relying on Coke’s understanding of common law, the colonists rejected the supremacy of Parliament and the authority of the King, and cited the grievances outlined in the Declaration of Independence as justification for separation from the mother country.

When in the course of human events it becomes necessary for one people to dissolve the political bands which have connected them one with another, and to assume among the powers of the earth the separate and equal station to which the laws of nature and of nature’s god entitle
them, a decent respect for the opinions of mankind requires that they should declare the causes which impel them to the separation.

We hold these truths to be self-evident; that all men are created equal; that they are endowed by their Creator with certain unalienable rights; that among these are life, liberty, and the pursuit of happiness; that to secure these rights, governments are instituted among men, deriving their just powers from the consent of the governed; that whenever any form of government becomes destructive of these ends, it is the right of the people to alter or to abolish it, and to institute new government, laying its foundation on such principles, and organizing it’s powers in such form as to them shall seem most likely to effect their safety and happiness. Prudence indeed will dictate that governments long established should not be changed for light and transient causes, and accordingly all experience hath shown that mankind are more disposed to suffer, while evils are sufferable, than to right themselves by abolishing the forms to which they are accustomed, but when a long train of abuses and usurpations pursuing invariably the same object, evinces a design to reduce them under absolute despotism, it is their right, it is their duty, to throw off such government, and to provide new guards for their future security. Such has been the patient sufferance of these colonies; and such is now the necessity which constrains them to alter their former systems of government. (1776)

The colonists realized that breaking away from Great Britain meant not only severing ties with an oppressive parliament and unresponsive monarch, but it necessitated the creation of a new government. The founding fathers chose to create a new form of government, not just a new version of the parliamentary monarchy they were rejecting.

The form of this new government did not become clear until the summer of 1787. Once again, many of the greatest minds of the time gathered in Philadelphia, this time to refine the Articles of the Confederation that bound the thirteen colonies together. These Articles had proven to be ineffective and a change was necessary if the new country was to survive. Was the country going to be a loose confederation of relatively independent states or a country with a strong federal government? History and recent events had given them reason to fear the strength of centralized authority. Even a parliament of the people could not be relied upon to always reflect natural law and protect the natural rights of its citizens. On the other hand, without a strong central government would the individual states be vulnerable to attack by foreign
powers? Would it be able to resolve differences between the states, or would those differences lead to dissolution of the fragile confederation?

In drafting the constitution of the new country, the supremacy of any one function of government was modified by the separation of the powers and functions of government into three branches, and by the creation of a system of checks and balances that limited the power of any one branch. The creation of a system that enabled each branch to have some control over the other two was an attempt to offset the abuse of power or mistakes in judgment that result from man’s inability to always act in accord with natural law.

While recognizing a human being’s fallibility, the colonists also believed that human beings could find their rules to live according to God’s will in their own hearts and minds, and those rules could be codified into national laws. To understand how colonists viewed obedience to natural law we must return to Blackstone.

The Creator is a being not only of infinite power and wisdom but also of infinite goodness, therefore, he has been pleased so to contrive the constitution and form of humanity that we should want no other prompter to inquire after and pursue the rule of right but only our own self love, that universal principle of action. For he has so intimately connected, so inseparably interwoven the laws of eternal justice with the happiness of each individual that (happiness) cannot be attained but by observing the former; and if the former be punctually obeyed it cannot but induce (happiness). In consequence of which mutual connection of justice and human felicity (God) has not perplexed the law of nature with a multitude of abstracted rules and precepts...but has graciously reduced the rule of obedience to this one paternal precept that man shall pursue his own true and substantial happiness. This is the foundation of what we call ethics or Natural Law; for the several articles into which it is branched in our systems amount to no more than demonstrating that this or that action tends to man’s happiness and therefore very justly concluding that the performance of it is a part of the law of nature; or, on the other hand, that this or that action is destructive of man’s real happiness and therefore that the law of nature forbids it. (Blackstone, 1771 Vol. I, pp. 30-31)

We can thus understand that the pursuit of happiness mentioned in the Declaration of Independence is the search for an understanding of natural law, or the ability to live life in accord with natural law.
According to Blackstone, living life in accord with natural law leads to happiness, and violation of natural law leads to suffering. As this quote indicates, human beings were created with the ability to determine right from wrong, the ability to know which actions are in accord with natural law. The test of an action’s correctness is whether or not it results in happiness. It is our own love of self and happiness that guides us to right action. We find a similar understanding of a person’s ability to act in accord with natural law in the writing of Maharishi Mahesh Yogi, discussed below.

**How is natural law defined by Maharishi Vedic Science?**

Maharishi Mahesh Yogi in his Vedic Science describes natural law as an infinite, unbounded field of pure consciousness, pure intelligence, which structures and controls every particle, both large and small, throughout the universe. He further describes it as the “Will of God,” the fundamental organizing power of creation.

The universe is governed by Natural Law—the eternal, self-generated, self-perpetuated Cosmic Intelligence, omnipresent intelligence, fully awake intelligence at the transcendental basis of every grain of creation—the Cosmic Constitution, the Constitution of the Universe. [This concept of the Constitution of the Universe is explained more fully on the next page.] (Maharishi, 1999, p. 3)

According to Maharishi, this unified, unmanifest state of intelligence expresses itself as specific and diverse forms, which we know as the various laws of nature that function at every level of creation.

From its eternal, self-referral, unified state of pure intelligence, the total potential of Natural Law organizes the system of emergence of different Laws of Nature. (Maharishi, 1995, p. 15)

This unmanifest state has been identified as identical to the unified field by quantum physicist Dr. John Hagelin. In his book, *Manual for a Perfect Government*, Dr. Hagelin describes the relationship of the manifest laws of nature described by classical mechanics and the underlying and more fundamental quantum mechanical laws of nature.

. . . in addition to being more energetic, deeper levels of natural law are increasingly comprehensive and holistic. The more superficial levels of nature can be seen as fragmented expressions of the more unified laws
governing deeper levels. Macroscopic behaviors are merely superficial manifestations of more fundamental underlying processes . . .

We can see that the whole, seemingly inert, manifest universe is just the ‘tip of the iceberg’ of natural law—a superficial, partial, and fragmented reflection of the concentrated, comprehensive intelligence and dazzling symmetries that exist at fundamental scales.

The culmination of this inward march of modern science has been the recent discovery of completely unified field theories. These theories, based on the ‘superstring’...identify a single, universal field of nature’s intelligence at the basis of all forms and phenomena in the universe—the fountainhead of all known laws of nature. (Hagelin, 2002, p. 11)

Due to its fundamental nature, Maharishi calls the unmanifest state of natural law, known to physicists as the unified field, the Constitution of the Universe, and likens it to the constitution of a nation, which is the source of all national laws.

The self-interacting dynamics of the Unified Field constitutes the most basic level of Nature’s dynamics, and is governed by its own set of fundamental laws. Just as the constitution of a nation represents the most fundamental level of national law and the basis of all the laws governing the nation, the laws governing the self-interacting dynamics of the Unified Field represent the most fundamental level of Natural Law and the basis of all known Laws of Nature. The laws governing the self-interacting dynamics of the Unified Field can therefore be called the Constitution of the Universe—the eternal, non-changing basis of Natural Law and the ultimate source of the order and harmony displayed throughout creation. (Maharishi, 1995, pp. 79–80)

Since the source of natural law, the Constitution of the Universe, is responsible for the sequential unfoldment of creation and its maintenance, it must be accessible at every point in creation, just as the organizing knowledge of DNA responsible for the development and maintenance of the human body is available in every cell.

The Constitution of the Universe, which is the total potential of Law, is the total potential of everything—it is the ultimate reality of everything. It is pure intelligence in its unmanifest state; it is endowed with all knowledge ranging from point to infinity. It is the common basis of everything, and it is also expressed in everything—it is the expression of
all layers of everything from the unmanifest to the manifest. (Maharishi, 1995, p. 236)

Maharishi goes on to explain that since this unified field of natural law that contains the total potential of all the manifest laws of nature is the basis of everything, it is the basis of our own consciousness. It is consciousness itself, the intelligence that structures creation.²

The total potential of Natural Law is the pulsating, reverberating character of intelligence. It is consciousness in its unstructured state. Whatever we see in the observable universe is just an expression of the unobservable intelligence of Natural Law, which is the pure creative intelligence of the observer himself. (Maharishi, 1995, p. 236)

Hagelin comes to the same conclusion on the basis of a correspondence between human intelligence and the intelligence found in nature, derived from the Lagrangian of the superstring.

The most natural conclusion to be drawn from such a detailed quantitative and qualitative correspondence is that the unified field of pure, self-interacting consciousness and the unified field of modern theoretical physics are one and the same. (Hagelin, 2002, 60)

The conclusion that the unified field of consciousness and the unified field of natural law are one and the same is the basis for understanding how Maharishi Vedic Science can help the individual live a life in accord with natural law.

² Maharishi uses a simple analogy to illustrate how consciousness, or Being, is the essential, non-changing constituent of all creation, with its multiple forms and phenomena. The elements, hydrogen and oxygen are unchanging and yet they are the basic building blocks of the changing forms of water in its vaporous, liquid, and frozen states. “Even though the properties of gas, water and ice are quite dissimilar, the essential constituents hydrogen and oxygen are always the same. As the oxygen and hydrogen, remaining in their never-changing states, are found exhibiting different qualities, so also Being, remaining in Its never-changing, eternal, absolute character, is found expressing itself in the different forms and phenomena of diverse creation” (Maharishi, 2001, 33–4). This analogy illustrates that consciousness not only underlies all diversity; it is permeating creation at every point. It is the essential constituent of all of creation.
How can Maharishi Vedic Science bring fulfillment to the vision of the Founding Fathers?

If this unified field of natural law, this unmanifest level of knowingness, of creative intelligence is found within us, it should be accessible and available to the conscious mind.

Because the Constitution of the Universe is present everywhere, everyone is asked to follow it and act according to it: what is to be done and what is not to be done should conform to the script of the Constitution of the Universe, the script of Natural Law, because it is available to every individual within himself. (Maharishi, 1994b, 210)

Hagelin continues this same logic of the correspondence between human intelligence and the intelligence of nature:

In other words, the deepest level of human experience, pure consciousness, constitutes the direct, subjective experience of the unified field currently being explored by modern theoretical physics. This conclusion is both parsimonious and consistent with common sense: it is difficult to conceive of two distinct unified fields of natural law—one at the basis of conscious experience, and one at the basis of everything else in the universe. (Hagelin, 2002, 60)

Maharishi Vedic Science not only includes a theoretical understanding of natural law, but its practical application, the Maharishi Technologies of Consciousness: Maharishi Transcendental Meditation and the TM-Sidhi programs, which allow the individual to directly contact the field of the total potential of natural law, the field of pure consciousness.

The Transcendental Meditation technique is an effortless mental technique, practiced for fifteen to twenty minutes twice a day. During the practice, the individual sits in a relaxed, comfortable position with eyes closed, and allows his attention to go within. In a very natural and effortless way, the Transcendental Meditation technique allows the active mind to become increasingly quiet and experience Transcendental Consciousness, the state of least excitation of consciousness. Simultaneously, the body enjoys a restful state, releasing stress and fatigue.

My Transcendental Meditation is a simple, natural, effortless procedure whereby the mind easily and naturally arrives at the source of thought, the settled state of mind—Transcendental Consciousness—pure con-
consciousness, self-referral consciousness, which is the source of all creative processes. This process can be likened to a river which naturally and effortlessly flows onto the ocean and gains the status of the ocean. (Maharishi, 1994a, p. 280)

Maharishi postulates that contact with pure consciousness leads to familiarity with the laws of nature and can ultimately lead to the ability to live life in accord with natural law.

Practicing Transcendental Meditation and thereby researching in the field of consciousness is the procedure to spontaneously enliven the total potential of intelligence in human physiology and train the physiology to function in the most natural way, in the most orderly manner, according to Natural Law—daily experiencing self-referral consciousness in order that the infinite organizing power of one’s own Transcendental Consciousness (one’s own nature, one’s own simplest form of awareness, the nature of one’s Self) becomes the guiding light of every thought and action, promoting success in every undertaking and actualizing and spontaneously engaging the infinite organizing power of the Unified Field of Natural Law [Maharishi goes on to discuss verses from the Veda that confirm the concept of “the singularity of fully awake, self-referral consciousness in relation to the infinite organizing power of Natural Law.”] (Maharishi, 1994b, pp. 181‒85)

This tendency to live life in a more evolutionary direction, or more in tune with natural law, can be seen not only in individuals but also in communities or societies in which one percent of the population practices Transcendental Meditation, or the square root of one percent of the population practices Maharishi Transcendental Meditation and TM-Sidhi programs together.3

When Transcendental Meditation is practiced by the people, national consciousness, collective consciousness, becomes aligned with Natural Law—the Constitution of the Universe—and all aspects of society

3Research supports this contention. See studies in Orme-Johnson, D.J., Chalmers, R.G., Dillbeck, M.C., and Wallace, R.K., (Eds.), Collected Papers Volumes 1–7 that indicate that individuals who practice Maharishi Transcendental Meditation become less anxious, more creative, more productive, and more able to handle the stress of life. The group practice of the Transcendental Meditation and TM-Sidhi program can create similar effects on societies. Research on the Maharishi Effect has found a reduction in war deaths, crime, motor vehicle accidents, fires and other indications of societal disorder and an increase in patent applications, stock markets, and other signs of social progress indicative of a society more in tune with natural law.
become evolutionary, progressive, and harmonious. By taking recourse to the Constitution of the Universe—the total intelligence of Natural Law—through the collective practice of Transcendental Meditation, governments can fulfill the lofty principles set forth in their constitutions and display the same efficiency and effectiveness with which Natural Law governs the universe. (Maharishi, 1999, p. 3)

This ability to know natural law or the will of God by the self-referral process was familiar to the founding fathers and expressed in a quote from Blackstone.

The absolute rights of man considered as a free agent endowed with discernment to know good from evil, and with power of choosing those measures which appear to him to be most desirable, are usually summed up in one general explanation and denominated the liberties of mankind. This natural liberty consists properly in a power of acting as one thinks fit without any restraint or control unless by the law of nature, being a right inherent in us by birth and one of the gifts of God to man at his creation when he endowed him with the faculty of free will. (Blackstone, 1771, Vol. I, pp. 108–109)

... For he has so intimately connected, so inseparably interwoven the laws of eternal justice with the happiness of each individual that (happiness) cannot be attained but by observing the former; and if the former be punctually obeyed it cannot but induce (happiness). (Blackstone, 1771, Vol I, p. 31)

The Founding Fathers, recognizing this principal, guaranteed to all citizens of the new country the right to follow God’s will in their own way by adopting the first amendment to the constitution, which guaranteed Freedom of Religion. The separation of Church from State was a radical idea at the time, but it was a natural progression in a country created by the emigration of diverse cultures seeking the freedom to worship and live according to their own understanding of God’s will.

Guaranteeing the freedom to know God’s will, or natural law, through introspection and religious beliefs was intended to lead to the happiness of the individual and the society. Unfortunately, without a way to directly access the unified field of natural law, itself, freedom of religion was not enough to guarantee that individuals and society would truly find the happiness of living life in tune with natural law.
Maharishi Transcendental Meditation and TM-Sidhi programs provide the technology to make that vision a reality. Hagelin explains how these technologies used in the context of education can bring fulfillment to the vision of the founding fathers:

. . . more fundamental levels of natural law are more unified, more comprehensive and more holistic. Gaining intimate exposure to these most profound and universal levels of natural law could bring a benefit equivalent to gaining knowledge of innumerable specific laws of nature functioning at more superficial scales. Capturing the totality of natural law at its unified source, and thus gaining intimate familiarity with natural law at its most unified and universal level could—and according to current research does—bring behavior that is in accord with the totality of natural law—action that is universally enriching and global in scope. Such educational technologies provide, for the first time, the practical means to achieve Jefferson’s goal...to produce ideal citizens, fully in tune with natural law, capable of utilizing natural law effectively to achieve their desires, while upholding the progress of society as a whole and the life, liberty and happiness of its members. (Hagelin, 2002, pp. 38–39)

Conclusion.

The founding fathers understood the importance of contacting the source of natural law within each individual, but without a technique they were unable, even with the freedom to “pursue happiness,” to ensure that the individuals of the nation would be able to live life in accord with natural law. Maharishi Vedic Science provides the technology to make this vision a reality. Maharishi even expands this vision to include the ability to create a level of life that can only be called heaven on earth.

As long as one hundred per cent value of Natural Law is lived in daily life, people spontaneously act in accordance with Natural Law; or, in the language of religion, act in accordance with the ‘Will of God’; or, in the language of science, live life according to Natural Law—a state of perfect physiological, psychological, sociological, and ecological integration—ideal mental and physical health. (Maharishi, 1994, p. 216)

We are now in possession of the supreme knowledge of Natural Law—the scientific knowledge of the source of Nature’s perfect order and how
to access it—which can bestow perfection on any individual and on any
government, and can raise life everywhere to the level of Heaven on
Earth. (Maharishi, 1995, p. 78)

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Section Two

Ideal Government as Understood in Maharishi Vedic Science
Absolute Principles of Society
in Maharishi’s Commentary on the Bhagavad-Gītā

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ABSTRACT

In his commentary on the conversation between Arjuna and Lord Krishna in the Bhagavad-Gītā, Maharishi Mahesh Yogi presents principles that govern the most evolutionary, and therefore ideal, individual and collective life in society. Maharishi derives these principles from an analysis of the role that the field of pure consciousness—the unified field of natural law, the total potential of natural law—plays in structuring the evolution of the universe, including human life. Maharishi describes the mechanics of how natural law governs evolution through the instrument of dharma—the cosmic force of evolution that keeps life progressive. In addition, Maharishi describes how natural law structures the diversity of evolutionary paths through family dharmas that uphold the most evolutionary lifestyles for different individuals with different psychological and physiological characteristics. Based on these principles, Maharishi explains that individual suffering and collective catastrophes like war result when individuals use their free will to violate natural law, deviating from the evolutionary process structured by cosmic and family dharmas. Thus, all problems in society ultimately stem from individual thought and action, and an ideal society can only be structured by teaching individuals how to spontaneously think and act in accord with natural law. Maharishi’s Vedic Science makes available technologies for promoting individual growth to higher states of consciousness, in which all thought and action is spontaneously in accord with dharma, the total potential of natural law. Maharishi predicts that societies of such enlightened individuals will create a perfect civilization—Heaven on Earth.

Introduction

In his Vedic Science, Maharishi Mahesh Yogi has brought to light the complete science of consciousness available in the Vedic literature. The essential insight of Maharishi’s Vedic Science is that the entire universe is the expression of a fundamental field of pure intelligence, of pure consciousness. The Vedic literature itself, Maharishi (1986a) explains, embodies the eternal self-interacting dynamics of the field of pure consciousness. These self-interacting dynamics give rise to all the laws of nature that structure creation and guide its evolution (pp. 24–49; please also refer to Dillbeck, 1989).

Maharishi (1972) teaches that for human life, evolution expresses itself in the development of higher states of consciousness, in which the
experience of pure consciousness is increasingly integrated into daily life. Maharishi (1978, 1986a) has demonstrated that each branch of the Vedic literature contains systematic knowledge of these higher states of consciousness as well as specific technologies for developing them. Maharishi (1978, 1986a) has brought to light many of these technologies in his Vedic Science, including, most fundamentally, his Transcendental Meditation and TM-Sidhi programs whose practice has been shown to systematically develop higher states of consciousness.

On the basis of the knowledge and technologies brought to light from the Vedic literature in his Vedic Science, Maharishi (1991) has created a comprehensive program for reconstructing human life on earth. For individuals, the implementation of these programs can quickly give rise to the highest state of consciousness, which Maharishi (1978) terms enlightenment. For society, Maharishi’s programs can create an ideal structure composed of enlightened individuals, who spontaneously act in accord with natural law and thus continuously enhance the evolution of the entire environment. Such a perfected state of collective life is described in the Vedic literature, and Maharishi (1991) terms it Heaven on Earth.

In the vast body of the Vedic literature, Maharishi has given the Bhagavad-Gītā a place of special importance with regard to the knowledge and technologies for perfecting individual and collective life. Introducing his commentary on the Bhagavad-Gītā he explains:

The Bhagavad-Gītā presents the science of life and the art of living. It teaches how to be, how to think and how to do. Its technique of glorifying every aspect of life through contact with inner Being is like watering the root and making the whole tree green. It surpasses any practical wisdom of life ever cherished by human society. (Maharishi Mahesh Yogi, 1967, p. 19)

The term “Being” here signifies the field of pure consciousness referred to above. Maharishi (1963) explains that it is a field of pure existence, hence a field of Being (pp. 26–30).

The Bhagavad-Gītā has immense practical value, Maharishi (1980) points out, because of the comprehensive range of knowledge it presents; its knowledge is, in essence, that which is found in the Vedic literature as a whole. Thus, the Bhagavad-Gītā provides knowledge of the complete range of natural law; and this knowledge is competent to
transform human life at any level, individual or collective, from suffering to enlightenment:

It may not be necessary for everyone to go through the entire Vedic literature, but the seven hundred verses of the Bhagavad-Gītā, in the light of personal experiences, should be good enough to elevate one’s awareness to the totality of Natural Law and enable one to live life completely according to Natural Law. (p. 20)

Historically it is clear that more comprehensive knowledge contributes significantly to quality of life in a society: Newtonian physics, for example, underpinned the industrial revolution; quantum physics the electronic age. Maharishi (1967) emphasizes this role of knowledge in providing a foundation for the quality of life in the preface to his commentary on the first six chapters of the Bhagavad-Gītā. He presents the Bhagavad-Gītā as that universal knowledge, on the basis of which alone, society can be properly organized to provide for the unrestricted development of its citizens and for the fulfillment of its collective purpose. Maharishi explains that over time this knowledge has been lost and revived many times, but that the result of this loss for society at large has been catastrophic. This paper reviews the principles that comprise this knowledge of society—absolute principles, in that they derive from an understanding of the absolute basis of life, the field of pure intelligence—as given in the Bhagavad-Gītā and as commented upon by Maharishi.

Maharishi’s commentary is presented from the perspective of the highest state of consciousness—unity consciousness—and includes commentary on each of the other major states of consciousness as well. Maharishi (1972) has explained that in higher states of consciousness perception is more refined and comprehension unbounded (pp. 9-3, 9-4). In the highest state, perception is faultless and completely comprehensive (1972, Lesson 32). Maharishi’s commentary therefore provides the most complete explanation of the universal principles of society. For this reason, throughout this paper we rely on Maharishi’s commentary to illuminate and explain fully the dialogue between Arjuna and Lord Krishna.

Viewed as a narrative, the Bhagavad-Gītā is an account of the conversation between Arjuna and Lord Krishna on the battlefield of Kurukshetra. Although many commentators have portrayed Arjuna as weak and confused, Maharishi (e.g., 1967, p. 77) emphasizes repeatedly
in his commentary that Arjuna is a highly developed man: His natural field of concern embraces the society as a whole, which he considers at a profound level. In the course of their conversation, Arjuna petitions Lord Krishna with an ultimate dilemma. Maharishi (1967) summarizes Arjuna’s petition on behalf of humanity as: “It serves as a petition from the representative of human kind to the Incarnation of the Divine—a petition to say that, even though we try our best to live a life of righteousness, suffering does not appear to leave us. The demand is: give us a life free from suffering” (p. 25).

Lord Krishna’s teaching on society is revealed in response to this petition. Maharishi (1967) points out that in the Bhagavad-Gītā, Lord Krishna is the embodiment of the absolute value of life, the field of pure consciousness itself, responding to a petition of Arjuna, the representative of humanity. Maharishi emphasizes that this teaching, emerging as it does from the embodiment of the total potential of natural law, is universal in its scope and application: The principles it offers are not limited to a particular time and place, but are absolute.

These absolute principles of society are elaborated primarily in Maharishi’s commentary on the first chapter of the Bhagavad-Gītā. Maharishi (1967) notes that “This chapter presents the mechanics of nature and reveals the fundamentals of life and society” (p. 26). This presentation actually occurs before the main body of Lord Krishna’s teaching to Arjuna, which begins in Chapter II. However, Maharishi explains, the first chapter lays the ground for that teaching, in that:

Although it does not contain the actual discourse of the Lord, which really begins in the second chapter, it presents the basic problems of life and gives Lord Krishna the chance to propound the philosophy and practice which enable man to live his life free from suffering. It is of great value for its contribution to the science of living. (p. 25)

Reflecting on Arjuna’s profound concerns gives Maharishi the opportunity to describe the absolute principles that govern life at every level, both individual and collective.

The elucidation of the principles given here by Maharishi belong to the early phase of his teaching. Over the 25 years since their first publication in his Bhagavad-Gītā commentary, Maharishi has continued to elaborate on them. Yet, since they are absolute principles of Vedic knowledge, they have remained consistent over this time. The
new elaborations of this knowledge that have emerged have their seeds, therefore, in the earlier discussions. To maintain continuity with more current formulations of Maharishi’s Vedic Science and Technology, from time to time this article will also refer to Maharishi’s later expressions of these principles.

Dharma as the Absolute Basis of Society
The absolute basis of the principles of society is brought out by Maharishi in his commentary on the first verse of Chapter I. The verse, in Sanskrit and in Maharishi’s translation, is as follows:

धृतराष्ट्र उवाच
धर्मं कुरुर्भवेत समवेता युयृत्सवः
मामका: पारापार्श्वेऽव किमकुर्विन संजय

Dhrītarāṣṭra uvācha
Dharma-kṣetre kuru-kṣetre samavetā yuyutsavaḥ
māmakāḥ Pāṇḍavāḥ chaiva kim akurvata Sanjaya

(Bhagavad-Gītā, 1.1)

Dhrītarāṣṭra said:
Assembled on the field of Dharma, O Sanjaya, on the field of the Kurus, eager to fight, what did my people and the Pāṇḍavas do?

Commenting on this verse, Maharishi (1967) singles out the term “dharma,” and provides a precise definition of it:

“Dharma” is that invincible power of nature which upholds existence. It maintains evolution and forms the very basis of cosmic life. It supports all that is helpful for evolution and discourages all that is opposed to it. Dharma is that which promotes worldly prosperity and spiritual freedom. (pp. 26–27)

As Maharishi’s commentary progresses, it becomes evident that this definition is fundamental to the entire teaching of the Bhagavad-Gītā. Maharishi identifies dharma with “nature,” “cosmic life,” and “existence.” Dharma is thus to be found everywhere in creation, as an essen-
ential attribute of cosmic life. It forms the unified “basis” of life, and operates from there. It is, in other words, one with the universal field of pure intelligence.

In addition, dharma is the “invincible power” of nature: It is an active principle, or what Maharishi (1972) has elsewhere termed “creative intelligence.” Its role is to “uphold” existence by maintaining “evolution.” The term evolution is here used by Maharishi in a technical sense that is different from modern usage: It refers to the dynamics, implicit in the design of life, through which life rises to its highest value. Dharma upholds evolution in a direction that we would uniformly recognize as good: It “promotes worldly prosperity and spiritual freedom” (Maharishi Mahesh Yogi, 1967, pp. 26-27).

Maharishi (1967) explains that dharma conducts the process of evolution in two ways, by lending “support” to elements that are “helpful” to evolution, and by “discouraging” things that are “opposed to it.” In this it is invincible because, being the essential nature of life itself, nothing could lie outside its sway.

Maharishi (1967) goes on to describe in detail the mechanics of evolution for which dharma is responsible. He notes first that the movement of the evolutionary process is composed of two elements that are opposite in character:

When life evolves from one state to another, the first state is dissolved and the second brought into existence. In other words, the process of evolution is carried out under the influence of two opposing forces—one to destroy the first state and the other to give rise to a second state. (p. 27)

The role of dharma, he goes on, is to coordinate the functioning of these two elements so that they work together in a perfectly integrated fashion:

These creative and destructive forces working in harmony with one another maintain life and spin the wheel of evolution. Dharma maintains equilibrium between them. By maintaining equilibrium between opposing cosmic forces, dharma safeguards existence and upholds the path of evolution, the path of righteousness. (p. 27)

In the more recent formal presentation of his Vedic Science, Maharishi (1986a) describes this process in terms of the laws of nature that have their basis in the unified field of all the laws of nature, the
field of pure intelligence, and are always self-referral in their functioning:

"From the most quiet, transcendental level, nature performs, and it performs within itself. It is the self-referral activity of Natural Law that is responsible for absolute order in creation" (p. 75). He continues, "It is the most refined level of quantum-mechanical activity of nature, from where absolute orderliness controls, commands, and governs all affairs of the universe" (p. 75). Natural law is always powerful, and every natural law has two sides to it, creative and destructive. In balancing the two processes of creation and destruction, natural law promotes evolution. The promotion of evolution requires a balanced state of creative activity; nature does this spontaneously by self-referral functioning.

Here again Maharishi identifies the central elements and relationships of the basic functioning of nature: the creative and destructive aspects of natural law, whose balanced state (equivalent to “equilibrium”) is linked to evolution. Evolution in turn is connected to “self-referral functioning”; that is, to the way in which the parts are continually connected, or referred, to the whole, in such a way that “absolute order” is maintained (Maharishi Mahesh Yogi, 1986a, pp. 109-110). The concept of the self-referral functioning of natural law and its role in maintaining balance in nature is discussed in more detail below.

In his commentary on the Bhagavad-Gītā, Maharishi (1967) applies this understanding of dharma and evolution to both individual and collective human life. He affirms, firstly, the existence of free will for mankind: “Man’s life is so highly evolved that he enjoys freedom of action in nature. This enables him to live in any way he desires, either for good or for evil” (p. 27).

The results of action, Maharishi goes on to explain, are determined by the quality of that action: “As he behaves, so he receives” (p. 27). Dharma operates according to this principle in a completely set and automatic way, like a machine, its output determined by its input. Maharishi (1967) describes this process of action and reaction in terms of a principle of equilibrium:

When the good increases in life and the positive forces tend to overbalance the normal state of existence, then the process of dharma, restoring equilibrium, results in feelings of happiness in the heart and satisfaction in the mind. In the same way, when evil increases in life and the nega-
tive forces predominate, the power of dharma, restoring the balance, produces sensations of pain and suffering. (p. 27)

Here Maharishi seems to refer to the relationship between action and its effects as unbalanced until the cycle is completed: Until one reaps the fruit of one’s actions, the relationship is in a state of disequilibrium.

Maharishi emphasizes that the increase of good or of evil is brought about solely by human action. Knowingly or unknowingly, individuals give support either to the creative or to the destructive (positive or negative) aspects of natural law. In the following passage Maharishi (1967) refers to a different kind of equilibrium, one that distinguishes between the results of positive, as against negative, thoughts and actions:

Life is as we want it—either suffering or joy. When we allow the positive and negative forces to remain in their normal state of equilibrium, we live through normal periods of life. Assisting the growth of negative forces results in suffering; when we help the positive forces to increase we share the joy of life. “As you sow, so shall you reap,” expresses the role of dharma in practical life. (p. 27)

It appears that Maharishi is using the term “normal” here to describe a relatively static state of life, one where evolution proceeds at a slow pace, as he describes more fully elsewhere:

The life current or stream flows constantly, carrying all life along with it spontaneously. We are all floating along with it, and that is the way most people are evolving. However, human beings, having been given free will, can modify this in two ways. We can deliberately and consciously begin to swim with the current and thereby progress faster. He continues: Or we can try to be different, asserting our little ego, and swim against the current. And that means incessant struggle and sure failure. This last causes only struggle. (Maharishi Mahesh Yogi, 1986b, p. 576)

Here Maharishi indicates that normal life involves a slower process of evolution, indicated by the metaphor of floating in the stream of life. In his Gita commentary, Maharishi (1967) describes the effects on the acceleration of one’s evolution that the force of dharma produces from accumulation of either negative or positive thoughts and actions:

A high degree of concentration of negative forces, without positive force to balance them ends in suffering and destruction of life. Similarly, a high degree of concentration of positive forces fails to maintain life in its
normal state. The life of an individual under the influence of increasing positive forces enters into a field of increasing happiness and is eventually transformed into bliss-consciousness, in which state it gains the status of cosmic existence, eternal life. (p. 27)

This last statement contains a principle of the greatest significance for the structuring of human society. It establishes an absolute standard for the conduct of human life. It locates an ultimate goal for the life of all human beings: “bliss-consciousness, in which state it gains the status of cosmic existence, eternal life.” As explained later in the Bhagavad-Gītā, this is the full development of human life, achieved through the regular practice of Maharishi’s Transcendental Meditation technique, in which the individual conscious mind finds itself to be in reality universal. The term “bliss-consciousness” refers to the nature of the direct experience of the field of pure consciousness through Transcendental Meditation. A life established in bliss-consciousness, Maharishi (1967) teaches, is spontaneously lived without mistakes: It is a life of complete fulfillment, and infinitely nourishing to all aspects of creation (p. 449).

Speaking more recently in terms of his Vedic Science, Maharishi (1986a) explains the essential principle governing the possibility of gaining such a state of life. He describes the field of self-referral consciousness: “The self-referral state of consciousness is that one element in nature on the ground of which the infinite variety of creation is continuously emerging, growing, and dissolving. The whole field of change emerges from this field of non-change, from this self-referral, immortal state of consciousness. The interaction of the different intellectually conceived components of this unified, self-referral state of consciousness is that all-powerful activity at the most elementary level of nature.” Continuing, he notes that:

If this state of consciousness, or this state of nature’s activity, could be brought on the level of daily life, then life would naturally be as orderly and as full of all possibilities as is the nature of this self-referral state of consciousness. (p. 26)

This is individual life in enlightenment, where one is able to reflect and embody the universal value of life, able to spontaneously think and act in accord with natural law, that is spontaneously live life free from mistakes (Dillbeck & Dillbeck, 1987, p. 398).
We note further that Maharishi (1967), in the Gita commentary, describes the nature of the path by which enlightenment is achieved: It is “a field of increasing happiness” (p. 27). Unhappiness or suffering are not held to be aspects of this path. On the contrary, as we have seen, they arise in the context of the increase of the destructive value of natural law returning the results of negative, or nonevolutionary, actions to the doer. Maharishi does not associate the necessity for suffering, the concept of gain from suffering, or of learning from mistakes, with the path of evolution. He emphasizes that the path of evolution is a path of happiness; and it is, in fact, a path of increasing, rather than fixed, happiness. This increase accords with Maharishi’s definition of evolution as always progressive.

In describing Maharishi’s unique contributions to the understanding of the role of dharma in the growth to enlightenment, it is worth noting the difficulties other translators have found in dealing with the notion of dharma. It has been variously translated, for example, as “righteousness” (Radhakrishnan, 1948), “truth” (Mascaro, 1962), or “virtue” (Sargeant, 1984). As Maharishi’s commentary makes clear, while all these ideas are implicit in the notion of dharma, none of them does justice to its range and significance, to its role in supporting the path of natural evolution. The essence of Arjuna’s dilemma—how even the righteous cannot seem to live a life free from suffering—and the answer to it rests on the full understanding of the nature of dharma, as applied to practical life. It is therefore evident that the value of such translations and commentaries on the Bhagavad-Gītā as those quoted above must be limited.

In summary, Maharishi’s commentary on this verse presents a fundamental and comprehensive account of the inner mechanics of nature’s functioning, and of the nature and goal of human life. These are absolute principles: They are true for all times and all places, regardless of historical period or of cultural or geographic context. As Maharishi (1967) remarks later, “Here is a great teaching of vital importance which has been missed for centuries. It sets a standard for any society” (p. 69). These principles arise from Maharishi’s direct investigation into the unified basis of nature’s intelligence on its own level, the field of pure consciousness, through the subjective techniques of the Vedic tradition (described below). A theory of society based on these principles will
have the same absolute status in its explanation of the nature of society, of the causes of social dysfunction, of the goal of social life, and of the best strategy of social advancement. This is the absolute theory of society presented in Maharishi’s commentary on the rest of Chapter I of the Bhagavad-Gītā.

Dharma and Society
From a consideration of the absolute basis of dharma, Maharishi moves to a consideration of its applied, practical value in human life. Maharishi first comments upon the fact that the Bhagavad-Gītā speaks of “dharmas,” in the plural, as well as in the singular, as Arjuna considers the possible consequences of allowing the destruction of his kinsfolk to take place:

कुलचये प्रश्नश्यन्ति कुलधर्माः सनातनः
धर्मं नष्टे कुलं कृत्सनमधर्मोऽभिभवत्युत

Kulakshaye praṇashyanti kuladharmaḥ sanātanāḥ
dharme nashte kulāṁ kṛitsnam adharmo ’bhibhavatyuta

(Bhagavad-Gītā, 1.40)

The age-old family dharmas are lost in the destruction of a family. Its dharma lost, adharma overtakes the entire family.

This diversification of dharma Maharishi (1967) connects to the emergence of diverse paths of evolution, all of which are expressions of the one universal field of dharma already discussed:

“Dharmas,” the plural of dharma, signifies the different powers of nature upholding different avenues of the way of evolution. They take expression as specific modes of activity or different ways of righteousness, which keep the whole stream of life in harmony—every aspect of life being properly balanced with every other aspect—and moving in the direction of evolution. (p. 64)

Maharishi locates two steps of diversification, moving from abstract to concrete. The first is related to the “different powers of nature” and “different avenues of evolution”; that is, the different values of natural law that arise at the level of the unified field of all the laws of nature. The second is related to “different modes of activity” that are governed
by each of these elements of natural law. Maharishi (1967) then identifies a third stage of the process: the formation of these modes of activities into traditions, on which the structure of society is based:

As these specific modes of activity are passed on from generation to generation, they form what we call traditions. It is these traditions which are referred to here as family dharmas. (p. 64)

Maharishi points out that the description of dharmic traditions as “age-old” has a special significance. The term translated is sanātana which has been held to have the meaning of eternal, everlasting, or ancient (Monier-Williams, Leumann, & Cappler, 1979, p. 1141); but Maharishi (1967) brings out the more explicit sense of age after age, generation after generation, in other words, the continuity of human experience:

Arjuna uses the word “age-old” because the ideals of life that have withstood the test of time represent the genuine path of evolution, the upward current in nature. Nothing that is against evolution lasts long. Therefore the tradition which has survived the ages has certainly proved itself to be the right one, the one nearest to the Truth, which is Life Eternal. (p. 65)

“Life Eternal” refers to the immortal status of the unified field of natural law, the field of pure consciousness.

Maharishi therefore defines genuine traditions in society, embodying the different dharmas, as those which, being in accord with natural law, meet the criteria of having lasted over a long period of time. He also identifies these traditions with families: They are practiced, preserved, and passed on within families. In this sense the family is the structural basis of the society.

In his commentary on a later verse (I.44), Maharishi (1967) explains the practical value of this traditional structure for the growth of higher states of consciousness in the whole population:

“Family dharma” is an established tradition where people born in a particular family engage in the profession of that family. Because of their parental heritage they work efficiently, produce better material for society and improve in their profession. Working with all ease and comfort in their profession, they do not exhaust themselves in work and find time to be regular in their practice for spiritual unfoldment, which is
the basis of all success in life. This is how family dharmas and traditions help both the individual and society. (p. 69)

What is most significant in this analysis is the criteria by which the ideal structures of society are to be measured: their ability to support the growth to higher states of consciousness of their citizenry. Here Maharishi indicates the effect of family dharmas is in two directions. First, they prevent exhaustion, and the stress on body and mind that it produces. Psychophysiological stress of this kind, Maharishi (1972) emphasizes, is the main impediment to the natural enjoyment of higher states of consciousness (pp. 2-3). Second, they bring the highest level of efficiency to one’s work, thus allowing establishment of the proper balance of life, with its priority in the development of consciousness (“time to be regular in their practice for spiritual unfoldment”). Ideal social structures are thus shown to be rooted in the practical and balanced daily routine through which life is raised to enlightenment.

Each individual in the society, therefore, Maharishi (1967) teaches, has a particular dharma, a particular path of action within a tradition, that is most conducive for his or her evolution. This principle is referred to later in the Bhagavad-Gītā (p. 191) by the following injunction:

नियतं करु कर्मं त्वम्
Niyataṁ kuru karma tvam

(Bhagavad-Gītā, 3.8)

Do your allotted duty.

Here the adjective “niyataṁ,” which Maharishi translates as “allotted,” derives from the root “yam,” to sustain, hold up, support. As we have seen, Maharishi’s principal definition of dharma centers on that which upholds, maintains, and supports life (1967, p. 26). Hence that action (karma) which is allotted (niyatam) is action according to dharma.

Maharishi defines allotted duty as activity which is natural for the individual which effectivity promotes his evolution. He emphasizes the damaging effects on mind and body of engaging in action that is not in accord with one’s dharma:
An important aspect of natural duty is that it is imperative for a man; if he does not perform his allotted duty, he will be engaging in actions which lie outside the path of his own evolution. . . .

It is equally essential to understand that action which is not natural will inevitably produce strain and tension both in the doer and in the atmosphere around him. If the process of action is strained, it interferes with the harmony between the doer and his work, the subject and the object; this in turn hinders the infusion of the divine nature into the field of activity, and resistance is created to the development of cosmic consciousness. That is why the Lord particularly mentions “allotted duty.” (p. 191)

Again Maharishi emphasizes that the main effect of such strained action will be to hinder the development of higher states of consciousness through the increase of stress and tension (cosmic consciousness being, Maharishi explains, such a higher state, the fifth state of consciousness, 1967, p. 173). Moreover, the effect is not limited to the individual alone: It has its wider effect on the environment at large. This is a point we will come back to later in this article.

It is for all these reasons, Maharishi (1967) emphasizes, that the best advice is for each individual to remain within his own tradition, within his own dharma:

All beings, under the tremendous influence of the mighty force of nature, are held fast in the current of evolution. Each has his own specific course to follow. If a man deviates from his own natural course, his own dharma, then it is like changing boats in a fast current. He has to struggle hard to maintain life—a struggle which is experienced as sorrow and suffering and which gives rise to all problems on the path of evolution. (p. 66)

As we saw in Maharishi’s commentary to I.1, life conducted according to the constructive capability of the absolute level of dharma—in full accord with natural law—is “a field of increasing happiness” (1967, p. 27). Conversely, action not in accord with dharma, not in accord with natural law, “ends in passivity or extinction of life” (p. 28). Here Maharishi applies this insight into the mechanics of evolution at their source to the practical experience of the quality of daily life.
Maharishi (1967) illustrates and extends the notions of dharmas and their role in society in his commentary on 1.43, through the analogy of the laws that govern the functioning of different levels of the body:

The laws maintaining the well-being of the whole body consist of a collection of the laws maintaining its different parts, together with others added to coordinate different limbs. The laws of the evolution of the body likewise are the sum total of those governing the evolution of different limbs, along with those coordinating them. (p. 68)

Here the analogous term to dharma is “law,” in the sense of “laws of nature” or “scientific laws”; “law” is in fact commonly held to be a primary meaning of dharma (Monier-Williams et al., 1979, p. 510). Maharishi notes that there are different laws governing the functioning and coordination of the different levels of the body; here he mentions “parts” and “limbs,” which we may infer stand for all the different levels of physiological functioning known to science, such as cells, tissues, organs, and systems (Wallace, Fagan, & Pasco, 1988). These laws are analogous to the different dharmas, expressed in the traditions preserved in families, that structure the society. Further, Maharishi notes, one speaks of the law of the whole body, expressed in the laws that govern its different parts; in the same way dharma, considered in its absolute status, upholds life at all levels in the evolutionary direction through the different dharmas appropriate to each level.

Maharishi (1967) extends this analysis to the understanding of society in terms of the different levels of social life—the individual, as the unit of the society, the family, and the community—and in terms of the society as a whole:

In a similar way, there are dharmas governing individual evolution and there are dharmas which connect and coordinate different individuals. These latter are said primarily to govern the evolution of the society or caste. In verse 40 Arjuna was thinking in terms of the dharma of the family. In this verse he is considering the dharma of the caste, that is, a collection of families upholding similar dharmas. (p. 68)

Here, then, the notion of different dharmas is extended from individual life and family traditions, to the traditions that govern larger units of the society, in this case the caste. It is important to note that Maharishi defines caste not in the conventional terms of an heredi-
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tary class of Hindu society, but in terms of family and of dharma: “a collection of families upholding similar dharmas.” Again it should be emphasized that Maharishi is not describing the principles that govern a particular society in a particular geographic area at a particular time in history, but the universal principles which, when able to function in their completeness, give rise to an ideal state of individual and social life. Here, Maharishi reconstructs the meaning of such an apparently culture-specific term as “caste,” making it generally applicable to all human societies, in terms of its basis in the absolute principle of dharma.

With the different levels of dharma described, we may now understand Maharishi’s analysis of Arjuna’s fundamental dilemma, which is how to avoid killing his kinsmen in a battle which he knows intellectually to be righteous (I.36–I.39). Maharishi’s (1967) conclusion is that what may be action according to the dharma of one level may not be in accord with the dharma of another level:

Arjuna, although his consciousness is pure, has not yet fathomed the absolute Being which is the field of the cosmic law. This is why he fails to see that he is living in an atmosphere saturated with evil influence, in which it is not possible for virtue to survive for long. Arjuna is trying to refrain from fighting out of consideration for family and caste dharmas; he is not aware of the absolute state of dharma whose power is leading him to fight. (p. 64)

The “absolute state of dharma” is here equated with “the absolute Being,” “the field of cosmic law”—pure consciousness—the law of the whole, in other words, rather than the law of the parts. Family and caste dharmas, Maharishi explains, have their own validity on their own level. Love of one’s kinsfolk, or pride in one’s community, are entirely appropriate for that level, and confer real value on family and community life; yet there are higher principles, involving higher duties, that may appear to contradict these more localized considerations. This principle might be understood, by way of example, in the punishment administered by a parent to a child. This punishment may appear to go against the fundamental duty of the parent to protect and nourish the child; yet, if carried out in the spirit of love, according to a more comprehensive consideration of what is best for the child’s evolution, it is action in accord with natural law and helps to fulfill the very purpose of parenthood. So it is with the wider fields of human concern.
Maharishi explains that action motivated from the absolute level of dharma may appear in its surface manifestation to be quite different from the action expected at more localized levels; however, such dhar- mic action always nourishes, enriches, and fulfills the dharmas of all areas and levels of life. Thus the ideal structure of society would be such that each level is fully able to carry out its own dharma which, though different from the dharma of another level, is always coordinated with it from its source, the absolute field of dharma, the field of pure con- sciousness. When individual thought and action is supported by the level of absolute dharma, its expressions in various relative dharmas are always perfectly integrated with and fully nourishing to each other.

Social Relationships and Social Behavior
The foregoing consideration of dharma and society primarily addresses the question of the ideal structure of society. As we have seen, Maharishi derives this structure from a consideration of the inner mechanics of the absolute basis of life and its evolution. At the same time, Maharishi provides unique insight into the nature and structure of the social relationships, and the behavior that flows from them, which constitute the actual reality of ideal life in society. These principles will be the focus of this section.

Maharishi begins by observing that all social relationships are based on love. He explains this principle in the context of the commentary on verse I.25:

भीष्मद्रोष्प्रमुखवतः सर्वेषां च महीनिताम्
उवाच पार्थ पश्येतान्समवेतान्त्कृतुनिति

_Bhishma–Drona–pramukhatah sarveshāṁ cha mahikshirtāṁ_
_uvvācha Pārthā pashyaitān samavetāṁ kurūn iti_

*(Bhagavad–Gītā, 1.25)*

_Before Bhishma and Drona and all the rulers of the earth,_
_Lord Krīṣṇa said: Pārtha (Arjuna)! behold these Kurus gathered together._
With great delicacy of understanding, Maharishi (1967) singles out the word “Partha” for special attention, and from it develops a fundamental principle of social life:

Lord Krishna addresses Arjuna as “Partha,” the son of Pritha. With this expression He reminds Arjuna of his mother and thereby creates a warm wave of love in his heart, the warmth of love that connects son and mother. It is this tender bond of love that develops into all family and social relationships, that maintains a family, a society, a nation and a world. (p. 47)

There is great psychological insight in Maharishi’s understanding of the effect of this one word on Arjuna; and his reflection on it, expressed in the second sentence of the above quotation, enunciates a principle of great power. Maharishi unequivocally applies it to social life at every level, from its elemental form in the family, to the wider society, and ultimately to the global society, conceived of as a whole. Maharishi is here speaking of social life in its ideal form; or, to put it another way, whatever is worthy of the name of social life. Relationships that are exploitative or damaging, or in some way negative, are not worthy of the name “relationship,” except in the technical sense of interaction between two or more people. Thus, when Maharishi (1967) speaks of relationships, he emphasizes the nourishing, evolutionary aspect of what people can bring to each other. The principle is amplified as follows:

Having created this wave of love in Arjuna’s heart, Lord Krishna desires to strengthen it; and for this He says: ‘Behold these Kurus gathered together.’ This quickens all the ways of the heart, where different relationships are held in different shades of love. (p. 47)

In the last clause Maharishi more precisely explains the relationship between love and society: The different social relationships—those constituting family, society, nation, and world—are seen as “different shades of love.” Love is the essential content of society: It flows throughout, directed in different ways to different objects at different levels, and creates the different contexts in which social relationships arise. Maharishi in fact seems to use the term “love” to refer to the same absolute value of life described in I.1, here denoted in its subjective character. Love is thus far more than the localized personal phenom-
enon we usually associate with the term; Maharishi locates its universal character. Elsewhere Maharishi (1973) expounds:

Love is the sweet expression of life, it is the supreme content of life. Love is the force of life, powerful and sublime.

He continues: Love is the supreme blessing of life; love as love is universal. Personal love is concentrated universal love. (pp. 13, 19)

There is thus, Maharishi (1967) teaches, an intimate relationship between dharmas in society and social relationships. The one structures, or finds expression in, the other:

“Family dharmas” are the powers of different principles which uphold the coordination between different members of a family, at the same time enabling every member, consciously or unconsciously, to help every other member on his path of evolution. Such family dharmas are, for example, those that go to make the relationship of a mother with her son or daughter, or of a brother with his brother or sister, and so on. (p. 68)

The term translated as “family” here is kula which has the sense of an “assemblage,” inclusive of all kinds of social relationship, including community, caste, and so on, with “family” the primary meaning (Monier-Williams et al., 1979, p. 294). The principle enunciated therefore carries the inference of being applicable to every level of society and social life. Again we may note the practical nature of Maharishi’s commentary: Social relationships have their value in the assistance each member of the relationship brings the other in accelerating the pace of their evolution, of their growth to higher states of consciousness.

Maharishi (1967) re-emphasizes this point later in the Bhagavad-Gītā (II.33) from the perspective of the moral code of the society, which, he observes, comprises all the varieties of relationship that structure the society, just as the absolute field of dharma comprises all the varieties of dharma:

It may be mentioned that the moral code of conduct in any society has dharma at its basis, whether or not the people in that society are aware of the inner workings of nature guided by the invincible force of dharma. The fundamentals of social behavior in every society on earth are based on this principle which governs the laws of evolution. (p. 110)
It is interesting here to note the qualification “whether or not the people in that society are aware of the inner workings of nature.” Maharishi is pointing out that the absolute field of dharma, the field of pure intelligence, is an objective reality of nature, transcending the level of thought and feeling that constitutes the normal daily level of human awareness, and governing life—including the ideal structure of social relationships—from that level. In a similar way, one may not be aware of the existence of the electromagnetic or gravitational field, yet the laws pertaining to these fields govern the phenomena of their respective domains, and constantly impinge upon the material domain of everyday life.

Finally, Maharishi repeatedly makes the point, particularly in his commentary on Chapter I, that a mark of developed consciousness is the natural flow of compassion for others. Love, he teaches, is the impulse of giving; a relationship thrives only when each person gives to the other (1963, pp. 180–182). Arjuna’s dilemma, he points out, is brought about by the greatness of his heart and mind—the fullness of his feeling for his kinsfolk and for the whole society, and the strength and clarity of his insight into his duty to others. A lesser man, surrendering to one or other impulse, might have launched himself into action without further reflection. Arjuna’s status is different, Maharishi (1967) remarks:

This brings to light the greatness of Arjuna’s heart and mind. His vision is clear: he views the situation with a serene and deep insight. His logic is profound. His thought is balanced and noble. His feeling is for others: when he thinks, it is in terms of others; if he wants to fight and gain sovereignty, it is for the sake of others; if he wants to amass enjoyments and pleasures, it is for the sake of others; if he wants to live, it is for others. Such is his developed consciousness, devoid of any thought of self-interest. This is the status of truly great men—living, they live for others; dying, they die for others. (p. 57)

At the highest level of human development, in the state of enlightenment, Maharishi (1967) teaches, this principle takes on a new reality of a universal value:
As the unwise act out of their attachment to action, O Bhārata, so should the wise act, but without any attachment, desiring the welfare of the world.

Maharishi (1967) comments that an enlightened man's action benefits the world:

His actions are in response to the needs of the time; they fulfil the demands of their surroundings. The wise are tools in the hands of the Divine; they innocently carry out the divine plan. Their actions arise from their desire for ‘the welfare of the world.’ (p. 218)

Here the field of social relationships has expanded to embrace the whole of humanity, the ideal of what Maharishi identifies as vasudhaiva kutumbakam (Maha Upanishad, 6.17) and translates as “the world is my family” (Maharishi Mahesh Yogi, 1987, p. 9).

The Causes of Social Disintegration and War

Maharishi’s analysis of the absolute principles of society encompasses not only those that structure an ideal society but also those that account for social disintegration and disharmony. From the most expanded perspective, Maharishi (1967, 1986a) teaches, the fundamental cause of social disharmony of any kind, and of its most extreme manifestation—war—is to be found in the loss of the complete knowledge of life that is restored by Lord Krishna in the Bhagavad-Gītā:

When the philosophy of integrated life restored by Lord Krishna was lost from view, the idea grew that everything which life can offer is present on the obvious levels of existence, and that it would therefore be useless to aspire to anything that might lie deeper than external appearances. Society became dominated by this superficial outlook, insight
into Reality was lost, the right sense of values forgotten and the stability of life destroyed. (1967, p. 10)

Here Maharishi makes it clear that underlying the “obvious levels of existence” is an absolute field, which, as we have seen, is the field of pure consciousness. This absolute field is “Reality”: It is the essential content of life. The more superficial, relative levels are the different expressions, or modes, of that Reality.

Complete knowledge thus includes Absolute, or unmanifest and relative, or manifest levels of life. (Maharishi Mahesh Yogi, 1967, e.g., pp. 105–106, 442). Knowledge of the surface values alone, without knowledge of their source, is partial knowledge, unreliable and misleading at best. Action based on such inadequate knowledge must give rise to mistakes and its attendant suffering. The condition of a society based on such action is clearly depicted by Maharishi: “Tension, confusion, superstition, unhappiness and fear prevailed” (p. 10).

The inner mechanics of this phenomenon are explained by Maharishi (1967) in terms of the loss of dharma, loss of the path of evolution. The mistakes made by people in their daily life through lack of complete knowledge produce a cumulative effect in the society:

Calamities, crises and catastrophes in a community or country are caused by the increase of negative forces resulting from the evil deeds of a majority of their people. A high degree of concentration of negative forces, without positive forces to balance them, ends in suffering and destruction of life. (p. 27)

The chain of cause and effect is here traced from “evil deeds of a majority of the people,” to the “increase of negative forces,” to “a high degree of concentration of negative forces,” and finally to “suffering and destruction in life.” An evil deed is defined as an action that violates the progressive value of natural law: It deviates from the path of evolution, which is, as we have seen, identified by Maharishi as the path of righteousness. Such an action, it is explained here, creates a negative influence: It enlivens the destructive values of natural law. Many such actions accumulate and concentrate that destructive quality in the society at large. Eventually it breaks out in some form of suffering, which is described as being opposed to life.
Maharishi elaborates on the nature of this breaking point in his commentary on I.13, (which also refers to verse I.12):

\[
\begin{align*}
\text{तस्य संजनयन्हर्षं कुरुवृद्धं पितामहं:} \\
\text{सिंहनादं विनंघोधं: शहं दध्मो प्रतापवान्}
\end{align*}
\]

\text{The aged Kuru, the glorious grandsire (Bhishma), gave a loud roar like a lion and blew his conch, gladdening the heart of Duryodhan.}

\[
\begin{align*}
\text{तत्त्वं श्रीर्षव भर्त्यर्ष पश्वानकगोमुंद्वा:} \\
\text{सहसेवाभ्यवहन्त्व स शब्दस्तुमलोभवत्}
\end{align*}
\]

\text{Then quite suddenly conches, horns, kettledrums, tabors, and drums blared forth, and the sound was tumultuous.}

Maharishi (1967) comments:

“Quite suddenly” gives expression to the way in which nature functions. Nature ensures great flexibility for the growth of good or evil in the atmosphere. But when an influence grows beyond elastic limits, nature will no longer sustain it; suddenly the breaking-point is reached. The sudden burst of the lion roar of Bhishma and the tumultuous noise produced by the whole army symbolized the great cry of nature announcing the breaking-point of the immeasurable evil that Duryodhana and his supporters had accumulated for themselves. (p. 35)

The first point we notice in this description is the “great flexibility” attributed to nature in the growth of good or evil. The ideal path of evolution, as we have seen, is one of progress. When imbalance in the
quality of thoughts and actions—in this case predominantly negative—arises, some environmental influence is produced, as described above; if the imbalance continues, the influence continues to grow, as the previous verse states. Here Maharishi explains that such growth can continue without a catastrophic impact on life for some time, and the opportunity to restore balance continues to be available. This is the “flexibility” of nature. There comes a point, however, when the limits of this flexibility are reached, and the accumulated influence suddenly breaks. The image evoked by the term “elastic limits” is clear. As it breaks, Maharishi (1967) emphasizes, it does so according to the principle of “As you sow, so shall you reap” which, as explained in Maharishi’s commentary cited above, also “expresses the role of dharma in practical life” (p. 27). Those who have created the negative influence must bear its effects, just as those who create a positive influence reap its rewards.

A second point to notice is that the influence is created in the “atmosphere.” It would seem that Maharishi is using this term in the everyday sense according to which we might say “They met in an atmosphere of goodwill” or “The atmosphere was strained.” From this perspective, the idea of accumulation of such an influence in the atmosphere becomes easier to comprehend.

In the later developments of his teaching on this principle, Maharishi has framed his explanation of the societal effects of negative or positive thoughts and actions in terms of the concept of “collective consciousness.” Maharishi (1978) defines the collective consciousness of a social grouping of any size as the sum of the consciousness of the individuals comprising the group: “When we talk of community consciousness, we merely put together the consciousness of all the individuals who make up the community, or the nation” (p. 87).

The effect created by individuals in the atmosphere described above, could be restated as an effect on the quality of collective consciousness. In particular, Maharishi (1986a) speaks of the degree of “coherence” of collective consciousness as a measure of the degree to which the collective thought and action of society is in alliance with the evolutionary value of natural law (p. 162). A higher degree of coherence in collective consciousness is reflected in the rise of positivity in the society; a lower degree of coherence with the rise of negativity.
Maharishi (1967) extends the analysis of the particular historical situation portrayed in the Bhagavad-Gītā to a general principle applicable to all wars, whenever and wherever they have occurred:

Wars in history have resulted from the cumulative effect of aggression on the innocent; individuals continue to oppress others, not knowing that aggression is growing in the atmosphere eventually to break upon them as their own disaster. One reaps the consequences of one’s own actions. (p. 36)

Maharishi seems to single out of various conceivable “evil deeds,” or actions in violation of natural law, those which “oppress others,” which have the quality of aggression, as creating the influence that eventually breaks out as war.

Maharishi (1967) also describes the limit of individual action in a society unbalanced by the negative thoughts and actions of its members:

When the collective karma (action) threatens national destruction, it is beyond the power of the individual to check it; this is even more true when it has reached the ultimate limit and is about to break into catastrophe. (p. 44)

This growing inability to contain the results of collective negative action relates to Maharishi’s description of nature’s flexibility, as cited above. Maharishi indicates that at a certain point it is beyond the power of any one individual to neutralize the negative influence in the environment due to the collective violation of natural law by the greater society. Once the breaking point of negativity in collective consciousness is reached, the only possible outcome is the outbreak of some catastrophe, such as war.

Although at this extreme point it may be beyond the power of any one individual, no matter how well motivated, to neutralize the collective negativity of society, it is important to place this principle in the context of another great theme in the theory and practice of Maharishi’s Vedic Science and Technology. In the past two decades research has repeatedly demonstrated that extreme negativity in collective consciousness can be reversed by groups of individuals creating a strong enough countervailing influence (Orme-Johnson, Dillbeck, Bousquet, & Alexander, 1989; Orme-Johnson, Alexander, Davies, Chandler, & Larimore, 1988). This positive influence is created by individuals who, through
practicing the Transcendental Meditation and TM-Sidhi program in groups twice daily:

This will produce that influence of coherence and harmony in the nation which will keep all its cultural values fully alert and enlivened. The quality of national consciousness will be so very coherent, so wide awake and infused with unbounded awareness, that the nation will radiate love, affluence, and friendliness. It will radiate no destructive influences at all. Therefore, no enemies will be created. The chance of conflict escalating to the breaking point will never arise. (1996, p. 61–62)

By enlivening the total potential of natural law through the group practice of Maharishi’s Transcendental Meditation and TM-Sidhi program, coherence creating groups have averted war in areas where it is about to erupt, and diminished or even eliminated war in areas where it is already in progress (Orme-Johnson et al., 1988; Orme-Johnson et al., 1989).

In his Vedic Science, Maharishi has thus introduced powerful technologies for collective action at the level of the unified field of natural law to neutralize negativity in society. Nevertheless, in his Gita commentary Maharishi (1967) derives from his analysis of dharma highly practical and timely advice concerning the prevention of war at its basis:

Therefore it is wise for people of every generation to be cautious and not to tolerate an increase of wrong-doing in their surroundings, but to nip it in the bud. For it is the cumulative influence of these small wrongs done by individuals in their own little spheres of activity that produces national and international tensions and leads to catastrophe. (p. 44)

We may notice here Maharishi’s phrasing: “small wrongs done by individuals in their own little spheres of activity.” To use the language of the modern social sciences, the macrosocial is rooted in the microsocial, through the collective, cumulative influence created in the whole social and physical environment by every individual action, however small.

As to the nature of those individual acts, those “small wrongs,” we have seen their basis: Actions that violate the evolutionary value of natural law, Maharishi (1967) points out, are those that are not in accord with dharma. Wherever such actions occur, a negative influence is created in the environment. For example, we saw, deviating from one’s own dharma produces “a struggle which is experienced as sorrow and
suffering and which gives rise to all problems on the path of evolution” (p. 66). Even more damaging is the loss of family dharmas, since, as we have seen, these dharmas are the basic structural unit of the society:

If the family traditions are broken, people living together do not know how to live in such a manner that their way of life naturally helps each of them to evolve. The result is the loss of the path of evolution and the increase of disorder and chaos in the family. Life in such a family is a life in hell, and those fallen into such a degenerate pattern of life remain off the path of evolution and continue to mould their destinies in wretchedness. (pp. 68–69)

Speaking generally, Maharishi makes it clear that any action which is “wrong”—that is, not in accord with laws of nature that uphold the path of evolution—must create a negative influence in the society and ultimately lay the basis for war or other social calamities.

More recently, Maharishi (1986a) has analyzed this phenomenon in greater detail. He points out that violation of natural law need not be—indeed, usually is not—a voluntary act:

Thoughts and action arise spontaneously. No one wants to suffer. No one wants to be disharmonious. No one wants to do harm to anyone. But somehow, one finds oneself in that difficult situation where one can’t avoid doing wrong. (p. 98)

Maharishi teaches, in other words, that when one’s awareness is not grounded in the total potential of natural law—the field of dharma, inevitably and spontaneously thoughts and actions violate some law of nature that structures evolution and hence create a negative influence in society. The only solution is to open one’s awareness to the experience of pure consciousness, to the level of the total potential of natural law, and think and act from that level. Thought from this level, Maharishi (1986a) teaches, spontaneously takes into account and nourishes all aspects of life (p. 98).

It is the system of education in the society, Maharishi (1986a) points out, that bears the responsibility for making this state of life normal for everyone:

That is why the best education will cultivate a habit of working from that totality of Natural Law, that field which is our own transcendental consciousness, our own unbounded awareness. When we are developing
a habit of spontaneously functioning according to Natural Law, then we are naturally getting out of that old habit where some negativity could arise. All difficulties, suffering and failures in life belong to violation of the laws of nature. Life according to Natural Law will always be orderly, evolutionary, and nourishing to everyone. (p. 98)

The field of pure consciousness is described here as “transcendental consciousness” in that it lies beyond the thinking process, and as “unbounded awareness” in that it is beyond and is indeed, the source of space and time.

Although it hardly needs to be emphasized, one may note that the true reality of war is clearly recognized by Maharishi. In his commentary on I.47, Maharishi (1967) remarks:

Arjuna, as a great archer, was aware of the pathetic records of blood-stained conquests in history. He could foresee great damage to the civilization of his time. He could picture in his mind ruins of war everywhere; he could hear within himself the cries of children and lamentations of women, tales of calamity and oppression. Arjuna, a hero with a good human heart, would do anything to hold back from the situation that seems imminent. (p. 82)

There is nothing here of the glory of war. It is seen in its stark reality for what it has always been: a catastrophe for human life in every generation. From the universal perspective, as Maharishi (1967) teaches, war may have its place in the path of evolution: “The event of war is a natural phenomenon. It is a process of restoring the balance between the negative and positive forces of nature” (p. 108). It remains, nevertheless, a path of disaster for those on whom it falls. Hence there is wisdom in following the advice given by Maharishi to prevent the growth of the influence of negativity at its source—to “nip it in the bud.” The greatness of the knowledge given by Lord Krishna in the Bhagavad-Gītā, Maharishi emphasizes, is that it provides a simple and practical means to effect such prevention, while simultaneously promoting all that is good in society in the direction of its ideal.

**Fulfillment of Society**

It is abundantly clear from Maharishi’s analysis of the absolute principles of society that the key to the prevention of national and international
calamities, the preservation of social harmony, and the maintenance
of social progress is life according to dharma—life in full accord with the
total evolutionary potential of natural law. Indeed, these attributes of
society, it may be inferred, are intimately connected to each other. They
are different facets of the same one thing: the degree to which the life
of the society as a whole is in accord with the total potential of natural
law, expressed in the force of dharma. When dharma flourishes in the
lives of the people, Maharishi explains, society flourishes and suffering
disappears; when its opposite, adharma—violation of natural law—is
the rule, social disasters, and ultimately war, are the inevitable result.

Moreover, we have seen that Maharishi (1967) places the responsibil-
ity for the state of the society squarely on the individuals that comprise
it: Their “small wrongs” accumulate in the environment and eventually
lead to “catastrophe” (p. 44). Thus government, administration, leader-
ship, policy, and planning, in the final analysis, all take second place in
importance to the kind of lives the people of the society are living. In
his subsequent teaching, Maharishi (1976) has extended this principle
in the domain of government as his Absolute Theory of Government:

National consciousness governs the activity of every nation in the same
way that the consciousness of the individual governs the activity of the
individual. Since national consciousness is the collective consciousness
of all the individuals of the nation, it is ultimately the consciousness of
the individual which is the prime mover of the nation and shapes its
destiny. Every decision of government is the expression of national con-
sciousness. Government is the pure and innocent mirror of the nation,
faithfully reflecting whatever is presented to it. (p. 122)

Here Maharishi presents a principle that many governmental lead-
ers have experienced: Governmental decisions and actions reflect the
coherence or incoherence of national consciousness, which is simply
the collective value of the consciousness, thoughts and actions of each
individual in society.

The formula for creating an ideal society, Maharishi (1967, 1976)
teaches, must therefore be one which creates ideal individuals. This, he
further points out, is precisely the purpose of the Bhagavad-Gītā:

The whole discourse of Lord Krishna in the Bhagavad-Gītā is designed
to give the wisdom of life and the technique of living which enable man
to live all the good qualities of life with full coordination of heart and
mind. By this wisdom and this technique the individual is raised to a high level of consciousness where he gains eternal contentment within himself. He lives a life in fulfillment, useful to himself and society. Such a life supports surrounding nature; all becomes harmonious, resulting in ideal relationships with others. (1967, pp. 49–50)

This marvelously concentrated statement is worthy of detailed attention. Here, in a single paragraph, Maharishi provides the fundamentals for perfection of individual and collective life. We note that Lord Krishna’s discourse provides “the wisdom of life.” The knowledge given in the Bhagavad-Gītā, Maharishi explains, is complete knowledge, knowledge of the totality of life, manifest and unmanifest. “Wisdom” refers in this context to intellectual knowledge, to understanding the fundamental principles that govern life, both individual and collective, everywhere. Such understanding alone is not enough, however; it must be supplemented by “the technique of living”: the practical method of making this knowledge a natural reality of daily life. This technique is Maharishi’s Transcendental Meditation program. Maharishi (1967) explains:

The technique may be defined as turning the attention inwards towards the subtler levels of a thought until the mind transcends the experience of the subtlest state of the thought and arrives at the source of thought. This expands the conscious mind and at the same time brings it in contact with the creative intelligence that gives rise to every thought. (p. 470)

What is described here as “creative intelligence,” Maharishi (1967, 1972) has explained, is the field of pure intelligence: pure consciousness or transcendental consciousness, the total potential of natural law. More recently, in the context of his Vedic Science, Maharishi (1986a) has emphasized that at this level, awareness is open not to any objects of perception, but only to itself.

When consciousness is flowing out into the field of thoughts and activity, it identifies itself with many things, and this is how experience takes place. Consciousness coming back onto itself gains an integrated state, because consciousness in itself is completely integrated. This is pure consciousness, or transcendental consciousness. (p. 25)

Maharishi has always emphasized the simplicity and naturalness of the Transcendental Meditation technique in systematically bringing
about this experience, in contrast to other forms of meditation that have been taught from time to time:

It should be noted that Transcendental Meditation is neither a matter of contemplation nor of concentration. The process of contemplation and concentration both hold the mind on the conscious thinking level, whereas Transcendental Meditation systematically takes the mind to the source of thought, the pure field of creative intelligence. (Maharishi Mahesh Yogi, 1967, p. 471)

The significance of this experience, Maharishi (1967) teaches, is that the individual conscious mind now has direct access to the field of pure consciousness, which is the total potential of natural law. In higher states of consciousness, when thought and action are spontaneously grounded at this level, no violation of natural law is possible, and no mistakes are made. The invincible evolutionary power of natural law is available to the individual, leading to all success and accomplishment in life:

When the mind comes out from the field of Being, the plane of cosmic law, into the relative field of activity, which is under the influence of innumerable laws of nature, it automatically enjoys the support of the cosmic law, and this makes possible the accomplishment of any aspiration and the ultimate fulfillment of life. This is how the life of a man who has risen to cosmic consciousness is eternally established on the level of cosmic law and receives spontaneous support from all the laws of nature. (p. 472)

When the wisdom of life and the technique of living—understanding and experience of the nature of pure consciousness—come together, Maharishi goes on, they give rise to an ideal quality of individual life. One is enabled “to live all the good qualities of life”; giving support in one’s life, in other words, to values of life that structure evolution. This is life according to natural law. One naturally lives “full coordination of heart and mind” since the source of both and the source of the laws of nature that structure their coordination—the field of pure consciousness—is being enlivened in one’s awareness.

Scientific research on the Transcendental Meditation program over the past two decades has amply confirmed this description. The regular practice of the Transcendental Meditation technique has been associated with, among other things, greater creativity (Travis, 1979),
improved memory (Dillbeck, 1982), and better problem-solving ability (Dillbeck, Orme-Johnson, & Wallace, 1981; Dillbeck, 1982). Field independence, a measure of greater cognitive integration, consistently increases (Pelletier, 1974). Intelligence itself systematically expands, even in people in age-groups that habitually see it decline (Shecter, 1978; Tjoa, 1975). Systematic growth of higher moral reasoning (Nidich, 1975), and balance and integration of personality (Nidich, Seeman & Dreskin, 1973; Alexander, Rainforth, & Gelderloos, 1991) have also been documented. These effects are underpinned by profound effects on physiological functioning, including a deep level of physiological rest during the practice (Wallace, Benson, & Wilson, 1971; Dillbeck & Orme-Johnson, 1987); reduced levels of physiological stress, as indicated by reduced hypertension (Wallace, Silver, Mills, Dillbeck, & Wagoner, 1983; Cooper & Aygen, 1979) and greater immunity to stress (Orme-Johnson, 1973; Brooks & Scarano, 1985); and better levels of health, as indicated by more healthy behavior and lifestyle (Monahan, 1977; Shafi, Lavely, & Jaffe, 1975) and as reflected in lower rates of hospitalization and medical treatment (Orme-Johnson, 1987). In consequence, practitioners of Transcendental Meditation have been shown to interact better with those around them, for instance in the workplace, with better relationships with supervisors and co-workers (Frew, 1974), and in the family (Aron & Aron, 1982; Suarez, 1976).

Taken together these findings indicate, coming back to the language of Maharishi’s commentary that an individual who practices the Transcendental Meditation technique begins to live “a high level of consciousness.” A life of higher states of consciousness is characterized by “eternal contentment”: It is “life in fulfillment.” It is, moreover, life that is “useful to himself and society,” just by virtue of its existence: Such a life enlivens all life from its foundations, nourishing “surrounding nature,” the creation at large. As all things are enlivened from their source, they are integrated and become “harmonious.” This is particularly true of the social environment, the harmony of which is reflected in “ideal relationships with others.” On this basis alone, Maharishi teaches, society is able to advance to its ideal, an ideal which is relevant to all cultures and historical periods, however varied they may appear to be on the surface.
The intrinsic interconnectedness of all members of a society on the level of consciousness is emphasized by Maharishi (1967) in his commentary on the notion of fame (II.34): “The underlying principle of good fame in society is that when a man constantly does good he becomes a center of harmonious vibrations which, enjoyed by the people around him, naturally create warmth and love in their hearts” (p. 111). We may note the word “constantly”; the implication here is that the level of consciousness being lived is such that good actions are natural to the individual. The “harmonious vibrations” are thus those produced by the awareness being to some degree open to the field of pure consciousness. In the case of someone practicing Maharishi’s Transcendental Meditation technique, where the conscious mind is identified with this field regularly and systematically, the effect is correspondingly greater: “The contentment and serenity gained through this action of meditation produce harmonious and life-supporting influences for the whole world” (p. 214).

In the state of enlightenment, Maharishi teaches, as we have seen, the experience of pure consciousness is an all-time reality. The universal nourishing effect produced by the enlightened from the level of the unified field of natural law is continuous and unrestricted. Maharishi (1967) characterizes enlightenment as the experience of Unity, which supports everything in the environment:

No diversity of life is able to detract from this state of supreme Unity. One who has reached It is the supporter of all and everything, for he is life eternal. (p. 449)

More recently, as we have noted, Maharishi (1978, 1986a) has emphasized that even a small group of individuals practicing the Transcendental Meditation and TM-Sidhi program can produce a powerful, nourishing effect and influence the whole society in an evolutionary direction. Scientific research has repeatedly demonstrated that as little as 1% of a society practicing the Transcendental Meditation program, or the square root of 1% practicing the Transcendental Meditation-Sidhi program in a group, creates this effect, which is known as the Maharishi Effect (please refer to Orme-Johnson & Dillbeck, 1987). The Maharishi Effect is expressed in the total quality of life of the society, as measured by such parameters as declines in crime rates, accident rates, sickness, and violence, and the increasing strength of the economy and comprehensive quality of life indices (Orme-Johnson &
Dillbeck, 1987; Cavanaugh, King, & Titus, 1990). Maharishi (1978) explains:

Whenever one per cent of the people in any community practise Transcendental Meditation, balance in nature increases, accidents become less, and all the collective values, which we call social values of society, become more positive.

Individuals become incapable of thinking wrong things. Their thinking changes in favour of society. (p. 163)

Most significantly, research has demonstrated the ability of the Maharishi Effect to reduce violence even in war, and to eliminate, for example, the tensions that formerly existed between the superpowers (Orme-Johnson & Dillbeck, 1987).

Maharishi has described the mechanisms underlying the Maharishi Effect in some detail, and in terms that are entirely recognizable from the earlier perspective of his commentary on the Bhagavad-Gītā. The function of his Transcendental Meditation and TM-Sidhi program, Maharishi (1986a) explains, is to radiate the evolutionary power of natural law throughout the environment. He explains:

How do these radiations go far and wide in the universe? How do they travel? They travel through the same channels used by the evolutionary power of nature. From the most quiet, transcendental level, nature performs, and it performs within itself.

He concludes:

This transcendental level of nature’s functioning is the level of infinite correlation. When the group awareness is brought in attunement with that level, then a very intensified influence of coherence radiates and a great richness is created. (p. 75)

The ultimate state of the society in which the individuals have attained higher states of consciousness, Maharishi explains (e.g. 1976, 1978), is a completely different order of life than that to which we are accustomed. The term “ideal” indicates perfection of life on both the individual and the collective level. In his commentary on the Bhagavad-Gītā, Maharishi (1967) refers to this state of life as “the Kingdom of God on earth” (p. 70). The field of pure consciousness is the level from which creation arises, is maintained and governed; when, through the
practice of Maharishi’s Transcendental Meditation and TM-Sidhi program, this field becomes available in the daily life of the people, the transcendental, absolute value of life and the concrete, relative value of life have come together. All human life, on every level—individual, family, community, nation, and world—is in accord with its dharma, in accord with the total potential of natural law, flourishing in its own right and integrated with every other level. Therefore, creating an ideal society is an co-operative enterprise:

All men have to play their part in it, and this can be done only when family and caste dharms are properly maintained by the individuals firmly established in their individual dharma. (p. 70)

Maharishi notes that in the hierarchy of dharms the individual has the priority and the responsibility: It is only through individuals that the greatest possibilities of social life are realized. He emphasizes, however, that the process is a cooperative one: Every individual is necessarily involved in it, since every individual thought and action contributes, for better or worse, to the quality of the collective consciousness of the society. The highest goal is reached only when the people of a society collectively recognize their responsibility to practice the Transcendental Meditation technique and gain higher states of consciousness. In such a situation every individual benefits from the growing higher states of consciousness of every other individual in the society. The result, Maharishi (1972) teaches, is a wholeness that is more than the sum of the parts:

Existence, life, thrives in growth, in progress. So the purpose of existing together is evolving together, progressing together, and the goal of this growth is fulfillment. Therefore growing together is for enjoying fulfillment together. One man’s fulfillment is one’s own fulfillment, but the fulfillment of two men together is more than the fulfillment of each. Something more gets created. For that something, togetherness is important. There is a saying, “A house is more than a collection of bricks.” Keep on putting bricks together and what comes out is a house. A fulfilled society is something more than a collection of fulfilled individuals. And gaining that greater fulfillment is an inspiration to be together. (p. Lesson 11, p. 4)
This greater fulfillment, Maharishi teaches, is the possibility that his Vedic Science and Technology opens to the world. Every society, no matter of what culture, of what political or economic system, can develop a state of ideal civilization, which Maharishi (1991) terms Heaven on Earth:

What awaits the world from Vedic Science is a profound civilization, a civilization where all aspects of life will be ideally lived. Governments will be ideal, industry will be ideal, the economy will be ideal, and the behavior of the people will be ideal. By ideal we mean good for the individual, good for his environment, good for his country, and good for his world. By ideal we mean good today, tomorrow, the next day, the next year, and the next century. The future of life on earth will be ideal, and that means good for everyone. (Maharishi Mahesh Yogi, 1986a, pp. 22–25)

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Vālmīki Rāmāyaṇ:  
The Eternal Record of Perfection in Government  

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Abstract

The purpose of this paper is to illustrate how key principles of Maharishi’s Absolute Theory of Government are expressed in the Vālmiki Rāmāyaṇa, a principle text of the Vedic Tradition of knowledge. To this end it will examine select themes that are fundamental to the creation of ideal government, such as: how nature’s government can be engaged to establish problem-free, prevention-oriented government; the role of the Transcendental Meditation and TM-Sidhi programs including Yogic Flying in creating ideal government; higher states of consciousness as a prerequisite for government leaders; the role of collective consciousness in guiding government; the requirement of support of nature for more effective administration; and the qualities of ideal leadership and governance. By demonstrating how these themes of Maharishi’s Absolute Theory of Government are located in the Rāmāyaṇa, we will see that Maharishi’s thoroughly modern and empirically verified political theory has its roots in the ancient Vedic tradition of knowledge.

Introduction

Despite access to vast resources and the employment of highly intelligent, well-educated, and dedicated men and women, governments today are overwhelmed by complex and often unprecedented economic, social, and political problems. Even the remarkable technological advances of the last 100 years, which have significantly improved the quality of life throughout the world, have been unable to provide solutions to many of society’s fundamental dilemmas. As a result, most governments by necessity focus on day-to-day problems that often threaten the fabric of national life, and rarely consider the broader social and philosophical goals lying at the core of their constitutions.

To many, problems are a fact of life, and an effective government is one that most competently deals with them. Indeed, politicians often claim success by pointing to modest improvements in a few troublesome areas, while the elimination of poverty or the significant reduction of educational deficiencies remain unattainable ideals. Few political theorists even consider the possibility of eliminating problems altogether.

Underlying this view are fundamental assumptions invariably overlooked in political philosophies. These include the apparent limitations
of human life—“to err is human” most appropriately expresses this sentiment—and the disconnectedness between man-made institutions and nature’s government. These assumptions have become so fundamental to the modern socio-political paradigm that they seldom, if ever, arise in political discussions.

The political philosophy of His Holiness Maharishi Mahesh Yogi, however, directly challenges these assumptions, and answers the call for more effective administration by promising to unfold the unlimited potential of every individual and every society. In doing so, Maharishi does not advocate a new type of governmental structure, nor does he address the needs of one type of government over another; rather he offers practical programs appropriate to every government—communistic, capitalistic, democratic, or monarchist alike—that promise fulfillment to the nation and its citizenry (1995a).

Maharishi has outlined his political philosophy in a recently published work entitled Maharishi’s *Absolute Theory of Government: Automation in Administration*. In this publication Maharishi notes that the principles of his theory can be located in the Vālmiki Rāmāyaṇa, an aspect of the Vedic literature of ancient India. Maharishi explains that “the Rāmāyaṇa1 presents the eternal record of perfection in every area of life,” adding that “here, in the context of government, the *Absolute Theory of Government* locates perfect administration in Rāmāyaṇa” (p. 41). The purpose of this paper is to locate the fundamental principles of Maharishi’s *Absolute Theory of Government* in the Rāmāyaṇa, and illustrate how Maharishi’s thoroughly modern message is expressed in the language of this ancient text. It will not attempt to examine every theme of Maharishi’s book, but will select a few of the most significant topics as illustration.

**Absolute, Supreme Government**

Political theorists ordinarily define government as a set of formal institutions with supreme or sovereign authority over a wide range of political, social, and economic activities. These promote economic and social wellbeing, protect the nation from domestic and international turmoil,

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1 We have adopted the convention of transliteration used by Maharishi in his *Absolute Theory of Government: Automation in Administration*, which enables those without formal Sanskrit training to more accurately pronounce the Sanskrit expressions.
and, in keeping with the ideal of social contract theory, legislate behavior to maintain the coherence and organization of society.

While a government may aspire to fulfill its citizens’ highest aspirations, it is more often overburdened with resolving fundamental community issues; many governments today have been reduced to crisis management, with little time and few resources to consider the higher aspirations of their constituencies. Consequently, contemporary political theorists generally don’t consider the possibility of a perfect governmental system, as much from historical experience as from their perception of the limitations of human nature.

Maharishi, however, has developed a political philosophy that he not only considers perfect, but which can be easily implemented in any nation without disruption of its prevailing administrative system. This theory is based upon the understanding that the most fundamental level of nature’s government—the total potential of natural law—can be engaged to bring prevention-oriented, problem-free administration to any nation.

Maharishi (1995a) opens his book with a remarkable description of nature’s government as a fundamental field of pure intelligence that is transcendental to the world of sensory experience:

My Philosophy of Government locates the Absolute Government, Supreme Government, at the unmanifest basis of creation, where the field of pure intelligence, the Absolute, fully awake in its pure singularity, ever remaining self-referral, administers itself through its infinite organizing power through the Principle of Least Action. (p. 2)

Maharishi (1963) describes this absolute level of life as pure intelligence, the omnipresent constituent of all creation, lying beyond the phenomenal world of time and space (p. 26). He further explains that “all fields of creation are the diverse projections of self-referral consciousness,” indicating that while pure intelligence is the transcendental basis of creation, eternally self-sufficient within itself, it creates and governs life at every level through its own self-interacting dynamics (1995a, p. 5-7).

Maharishi often refers to pure intelligence as self-referral consciousness, for it is fully awake and has no reference outside itself; though it is the ultimate source of all forms and phenomenon throughout the universe, it is nonetheless an eternal and silent ocean of intelligence, remain-
ing ever awake within itself. And since it creates and administers every aspect of the universe, it is also, in Maharishi’s account, the home of all the laws of nature\(^2\) that maintain the orderliness of every level of life.

In this introductory paragraph, Maharishi extends political theory beyond the boundaries of day-to-day governance to include the administration of the entire universe. Such an introduction might suggest a purely philosophical approach, with perhaps little practical application, but as we will later see, Maharishi’s theory of government includes a scientifically verified technology for engaging this field of intelligence to solve the day-to-day problems that confront modern governments.

Before examining the practical application of Maharishi’s system of government, let us briefly introduce the Rāmāyaṇa, and then consider how this field of pure intelligence at the unmanifest basis of creation is described in this ancient text.

**The Vālmiki Rāmāyaṇa**

Maharishi’s *Absolute Theory of Government* locates its source in the eternal Vedic\(^3\) tradition of India. During his more than fifty years of teaching around the world, Maharishi brought to light the essential principles of the Vedic tradition, correcting long-standing misunderstandings and providing a complete science of human intelligence that can be applied to enhance any modern discipline or profession.

Among the most significant aspects of the Vedic literature is the Vālmiki Rāmāyaṇa,\(^4\) a magnificent epic describing the adventures of an ancient king named Rām. Along with his wife Sitā and brother Lakshmana, Rām traveled in exile for fourteen years before encountering and destroying a great demon (Rāvañ), who had brought suffering throughout the land. After subduing Rāvañ, Rām returned to Ayodhyā, the city of his birth, and ruled for eleven thousands years, ushering in an age of unprecedented prosperity, peace, and enlightenment.

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\(^2\) “Laws of nature” refers to the collection of the laws defined by the various sciences, which maintain order throughout the universe. These include the principles that structure life on the individual and social levels (Nader, 1998, p. 1).

\(^3\) Vedic is derived from Veda, which literally means “knowledge.” In its most profound sense, Veda refers to the self-interacting dynamics of pure intelligence, which we will be discussing shortly.

\(^4\) There are a number of versions of the Rāmāya, but all references in this paper are to the Vālmiki Rāmāyaṇa, unless otherwise noted.
The Rāmāyaṇa has delighted and inspired the people of India for millennia, and has been a principle text underlying Indian ethics and morality. Maharishi, however, describes the Rāmāyaṇa’s deeper significance as the display of the fully awake, self-referral intelligence at the unmanifest basis of creation—it is the account of how the silent field of pure intelligence, known in modern scientific terms as the unified field of all the laws of nature and in the Vedic Language as Yoga, operates within itself and assumes the role of dynamism; and how the balanced state of silence and dynamism, which has administered all of creation since the dawn of time, can be unfolded in individual and collective life to bring perfection to every level of society (Maharishi Mahesh Yogi, personal communication, November 2001). Thus in Maharishi’s view the narrative not only recounts the delightful story of Rām and Sītā and their adventures, but more significantly it portrays through their behavior the dynamic structure of fully awake self-referral consciousness, and provides a vision of its application to all fields of life. And as discussed above, it is this field of pure intelligence that lies at the basis of Maharishi’s theory of government.

Maharishi’s *Absolute Theory of Government* thus provides a conceptual framework that enables us to examine the Rāmāyaṇa from a fresh and profound perspective. Contemporary theories of textual analysis rely on interdisciplinary approaches that explore cultural, historical, sociological, philosophical, and philological influences in a work. Maharishi, however, describes the Vedic literature as the eternal, absolute expression of self-referral consciousness, and therefore not subject to the analyses developed for man-made literary works. He explains that in the dynamic process of unfolding the universe, self-referral consciousness moves within itself, and through its own dynamics brings forth the diversified forms and phenomena in creation. In this process it expresses its own structure in terms of unmanifest sound, *Shruti*, which Maharishi (1995a) describes as intelligence in the form of sound produced by the self-interacting dynamics of consciousness (p. 352). These sounds, Maharishi explains, are the laws of nature that create and administer the universe. Significantly, they are available as the forty
branches of the Vedic literature, whose phonetic structure embodies the most fundamental impulses of nature’s activity.\(^5\)

Maharishi’s perspective places the primary significance of the Rāmāyaṇa beyond a relative, cultural, or historical context; it is rather the description of universal principles—laws of nature—available to every individual, every society, and every culture. This, of course, questions the utility of employing modern text-critical approaches for its interpretation, and for this reason we will not rely upon the Critical Edition of Bhaṭṭ and Shah, which presumes the Vālmiki Rāmāyaṇa to be of human origin and therefore attempts to reconstruct the text using the devices developed for man-made works. It is the opinion here that only one whose awareness is fully established in self-referral consciousness, and who is thus able to experience directly the fundamental impulses of intelligence that comprise the Vedic Texts, is competent to eliminate interpolated verses or errors of sequence that have arisen in a text’s transmission.\(^6\) Undoubtedly no version of the Rāmāyaṇa has remained fully intact throughout its long history of transmission, but the southern recension is generally considered the most authentic, and we have therefore decided to use a standard version of it (R. Narayanaswami Aiyar, 1958) for this paper.

**Rām as the Total Potential of Natural Law**

Since the work of Hermann Jacobi (1893) most modern scholars have posited Rām as a traditional epic hero—thoroughly human, but endowed with superhuman capabilities (Goldman, 1984). It is their opinion that he was subsequently accorded a more lofty status during the text’s transmission (Bulcke, 1960, pp. 36–66). As we have seen, however, Maharishi presents a perspective of the Vedic literature that challenges the notion of the Rāmāyaṇa as “poetry” and thus of Rām as epic hero. In Maharishi’s view, Rām embodies the full blossom of

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\(^5\) Maharishi’s analysis provides a concise criterion for the definition of Vedic literature. While the term is used differently in various academic contexts, Maharishi includes only those branches that he considers to have their source in the dynamics of self-referral consciousness. He includes, therefore, branches such as Rk Veda, Sāma Veda, Yajur Veda, Atharva Veda, as well as the six Vedānga, the six Darshan, Itihāsa, Smṛiti, Purāṇa, Upaveda, Brāhmaṇa, and Prātishākhya, but does not include commentaries, as they are man-made works that attempt to elucidate upon the principle texts. For more discussion, see Nader, 1998.

total intelligence, the fully awake self-referral consciousness previously described. Quoting Tulsidas’s Rám Charit Manas, he (1991) notes that

राम ब्रह्म परमारथ रूपा

Rām Brahm Paramārathā Rūpā

(Rām Charit Mānasa, Ayodhya Kāṇḍ, 92.5)

Rām is Totality, Rām is Brahm. The knowledge of Rām is the knowledge of Brahm.

Brahm is Totality, absolute, unbounded self-referral consciousness, fully awake to its infinitely dynamic structure—it is the intelligence that administers the universe.

Thus, in Maharishi’s account Rām represents the source and essential constituent of the entire creation, governing and sustaining it from the transcendental level; he is the embodiment of absolute government, the managing intelligence of creation, which silently administers the ever-expanding universe, and thus his actions throughout the story depict the characteristics and dynamics of the unified field itself.

In the Sundar Kāṇḍ, the great hero Hanumān depicts Rām in language remarkably similar to Maharishi’s description of fully awake self-referral consciousness:

सर्वाँल्लोकानुसंधत्य सभूतान्सचराचरान् पुनरेव तथा स्त्रृं शक्तो रामो महायशा:

Sarvāṃ lokān susamhṛtya sabhūtān sacharācharān punar eva tathā srashtuṃ shakto Rāmo mahāyashāḥ

(Sundar Kāṇḍ 51.39)

Withdrawning all the worlds together with all beings both moving and unmoving, the mighty Rām is capable of creating them again.

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7 The Vālmīki Rāmāyaṇ is divided into seven chapters, or Kāṇḍas—Bāl, Ayodhya, Aranya, Kishkindhā, Sundar, Yuddha, and Uttar.
The Availability of Nature’s Government to Human Awareness; The Transcendental Meditation Program in Rāmāyaṇa

According to Maharishi’s *Absolute Theory of Government*, self-referral consciousness is not only the source of creation, but also the silent level of human awareness, Ātmā, the source of thought from which our creativity and intelligence arise. This is the practical application of Maharishi’s *Absolute Theory of Government*, for in this account the government of the universe is available to every individual at the deepest level of his or her own consciousness.

Maharishi explains that pure intelligence can be experienced through the principle technology of his Vedic Science, the Transcendental Meditation technique, which he describes as “a simple, natural, effortless procedure whereby the mind easily and naturally arrives at the source of thought, the settled state of mind—Transcendental Consciousness—pure consciousness, self-referral consciousness, which is the source of all creative processes” (1995a, p. 280). Thus, the most fundamental level of nature’s functioning can be located when the conscious mind identifies itself with Ātmā, its own simplest state.

We previously discussed Rām as the embodiment of fully awake self-referral consciousness, but to adequately establish this correlation we must also locate descriptions of him as Ātmā, the inner Self of every individual. Such descriptions are readily available, and in the Yuddha Kāṇḍ we find his brother Lakshmana describing him as Ātmā, inquiring,

किमः अत्मानं महात्मानात्मानं नावुद्धयसे

*Kim Ātmānāṁ mahātmanāṁ Ātmānam nāvabudhyase*  
(Yuddha Kāṇḍ, 83.43)

*How is it that you do not recognize that you are Ātmā, the great Self?*

By equating Rām with both Ātmā and “great Self,” Lakshmana effectively identifies Rām with both the simplest form of human awareness (Ātmā) as well as fully awake self-referral consciousness (Mahātma), the Self of the entire creation.
The sage Nārada further reveals Rām’s identity with the source of individual life by noting metaphorically that

सर्वदाभिगतः सद्विसमुद्विसिद्धविषमिः
Sarvadābhigataḥ sadbhīṣ samudra iva sindhubhiḥ
(Bāl Kāṇḍ, 1.16)

He (Rām) is always approached by the wise as is the ocean by the rivers.

We could justifiably take this verse as a tribute to Rām’s wisdom, as the wise naturally seek a great king’s advice. But the metaphor of the ocean and the rivers flowing into it suggests a more profound interpretation. Self-referral consciousness is the unified source of individual life, and one could envision its individual expressions emerging from it like so many streams from an ocean. However, this verse depicts rivers approaching the ocean, reminiscent of individuals practicing the Transcendental Meditation technique, who return to Ātmā, the unified source of their lives. The verse further indicates that it is the wise who approach the ocean (Rām), for it is the wise who understand the true goal of life and seek to discover it; and by implication, wise government leaders should aspire to unfold this level of life to lead with greater effectiveness.

While “Transcendental Meditation” reflects the modern terminology, the principles upon which this technology is founded are eternal, based on the natural tendency of the mind. Thus while we may not locate “Transcendental Meditation” in the Rāmāyaṇa, we nonetheless find clear examples of its practice. These do not outline the technique—it is traditionally taught privately to ensure proper practice—but are clear descriptions of the process of transcending. For example, in the Kishkindhā Kāṇḍ Lakshman asks Rām,

किमत्र योगेन निवर्तते न
Kim atra yogena nivartate na
(Kishkindhā Kāṇḍ, 30.16)

Can you not transcend by means of Yoga?
“Transcend” comes from *nivartate* (निवर्तते), which is derived from the root *nivrit* (निवृत), “to turn back” or “retire.” Maharishi (1995a, p. 53) identifies its imperative form (*निवर्तिष्वम् nivartadhvämaḥ*) as the Vedic Expression for transcending, noting that “retire” indicates retiring from waking state of consciousness to Transcendental Consciousness and from Transcendental Consciousness back to waking.

*Yoga* appears throughout the Vedic literature, with a dual reference to both *Samādhi* (self-referral consciousness) as well as the path to *Samādhi*—the means of experiencing self-referral consciousness. Maharishi (1969) equates the later use of *Yoga* with his Transcendental Meditation program, which naturally allows an individual to experience the Self within (p. 117). Thus, in this context “by means of *Yoga*” (योगेन) refers to the technique employed for transcending.

**Higher States of Consciousness**

Maharishi (1963) emphasizes that the significance of contacting self-referral consciousness lies in its lasting value, and that as one continues practicing the Transcendental Meditation technique one enlivens self-referral consciousness in the awareness outside the practice:

Through constantly going into the transcendent and back out into the field of relativity, familiarity with the essential nature of Being [self-referral consciousness] deepens, and the mind gradually becomes more aware of its own essential nature. (p. 53)

Maharishi’s point here is noteworthy, for he explains that self-referral consciousness is the simplest form of human awareness and not a separate entity—the mind experiences it and then becomes increasingly aware of it as its own essential nature:

With more and more practice, the ability of the mind to maintain its essential nature while experiencing objects through the senses increases. When this happens the mind and its essential nature, the state of Transcendental Being, become one, and the mind is then capable of retaining its essential nature—Being—while engaged in thought, speech, or action. (p. 53)

This is the essence of Maharishi’s description of higher states of consciousness: the ability to spontaneously maintain one’s inner nature—eternal, unbounded, pure intelligence—even while actively
participating in the activities of one’s life. In this state, the entirety of nature’s administration is fully available to human thought and action, providing the most effective basis for achieving anything that one wishes to accomplish.

There are descriptions of higher states of consciousness throughout the Rāmāyaṇa, but without Maharishi’s precise teaching a reader may find them obscure. In one example, Sītā comments that

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\text{धन्या: क्षलू महात्मानो मुनय: सत्यसम्मताः:}
\text{जितात्मानो महाभागा येषां न रस: प्रियाप्रिये}
\]

\[
Dhanyāḥ khalu mahātmāno munayāḥ satyasammatāḥ
jitātmāno mahābhāgā yeshāṃ na stāḥ priyāpriye
\]

\text{(Sundar Kāṇḍ, 26.47)}

Fortunate indeed are the great-souled, renowned, and illustrious sages, who have conquered the Self, and for whom there is nothing dear or unpleasant.

\text{Jitātmā—one who has conquered the Self—is the key expression here, for it identifies this verse as a description of higher states of consciousness. Maharishi (1969) comments that conquering the Self refers to the individual self becoming identified with its cosmic nature, the higher Self:}

The acquisition by the mind (the self in its relative aspect) of the state of Self-realization, or transcendental consciousness, is described here as a conquest: the lower self has conquered the higher Self. Through this conquest, the individual mind has gained the status of cosmic mind, or pure consciousness. (p. 397)

The result of this conquest is a balanced state of mind, in which cosmic intelligence becomes the basis of practical life. In addition, one feels eternally peaceful, being immersed in the eternal bliss of self-referral consciousness:
In this state the whole of life, with all its pairs of opposites, is permeated with the glory of the transcendent Being. This state of eternal peace in bliss-consciousness cannot be shaken by anything. (p. 399)

This quote also provides the commentary for the verse’s final expression: येषां न स्तः प्रियाप्रिये yeshāṁ na staḥ priyāpriye. Priya and apriya have been translated “dear or unpleasant” and represent the pairs of opposites, such as heat and cold, pleasure and pain, honor and disgrace, etc. Hence, “for whom there is nothing dear or unpleasant” refers to one who has conquered the Self, and who lives the glory of transcendental consciousness in every phase of life—the pairs of opposites no longer overshadow the bliss inherent within self-referral consciousness. Such an individual maintains a balanced state of mind throughout all experience in the field of diversity (p. 400).

In the context of our analysis of ideal government, higher states of consciousness are integral to the effectiveness of an administrator of society—whether a president or prime minister, a state or provincial governor, a city mayor or a village head. Such individuals are consistently called upon to mediate or balance conflicting points of view, to help allocate scarce resources, and to balance the effects of different ideological perspectives. When the administrator’s awareness is established in self-referral consciousness, the home of all the laws of nature, then he or she is able to recognize the unity within diverse situations and perspectives, and accommodate various values.

**Yogic Flying**

As we have seen, the Transcendental Meditation technique is a procedure for directly experiencing self-referral consciousness as the source of thought. The TM-Sidhi program is an advanced technology that trains an individual to think and act from the level of self-referral consciousness, thus enhancing the unfoldment of higher states of consciousness.

Maharishi (1980) explains that Sidhi performance involves the introduction of specific mental formulae, and then the return of the awareness to the Self.

Specific mental formulae are introduced as gentle impulses of thought during the experience of unbounded awareness. The mind then lets go of this gentle impulse and returns to the state of unbounded awareness.
The result is then experienced as the specific effect of the particular TM-Sidhi technique. (p. 39)

This procedure of introducing the formulae and then coming back to the Self is known as Sanyama, and through its practice one is able to fulfill any desire by taking advantage of the infinite organizing power of natural law inherent within Ātmā, the Self. The TM-Sidhi practice furthermore enhances mind-body co-ordination and develops the ability to enliven natural law to support all areas of life (Maharishi, 1995a, p. 308); it “takes our conscious mind and makes it conversant with that level of intelligence from where all the laws of nature function” (Gelderloos & van den Berg, 1989, p. 375).

The TM-Sidhi program is highly significant in Maharishi’s Absolute Theory of Government, for it not only enhances individual growth to higher states of consciousness but also creates a powerful influence of order and coherence in the environment (Maharishi 1995b, p. 188). This is especially true of Yogic Flying, an advanced aspect of the TM-Sidhi program. The Rāmāyaṇa contains an expression that clearly describes the mechanics of coming back to the Self as a prerequisite for the creation of a desired object. During a brief sub-story, the sage Vasishta commanded Kāmadhuk—the wish-yielding cow capable of producing anything by mere intention—to produce vast armies in order to defeat an adversary (the sage Vishwamitra, who wished to take Kāmadhuk from Vasishta). Significantly, in his command Vasishta explained the mechanics of her creative ability:

वसिष्ठश्रोदयामास कामधुक्सृज योगतः

Vasishtbash chodayāmāsa Kāmadhuk sṛija yogataḥ

(Bāl Kāṇḍ, 54.1)

Vasishta commanded Kāmadhuk: “Create from Yoga.”

Yoga, as we have seen, is self-referral consciousness, the total potential of nature’s functioning—the field of all possibilities from which every aspect of creation emerges, and thus from which anything can be created. Vasishta thus commanded Kāmadhuk to create from within this infinite field.
Yogic Flying is an important feature of the Rāmāyaṇ narrative, for it becomes the principle means for Sītā’s discovery. In the Sundar Kāṇḍ Hanumān journeyed throughout India attempting to locate Sītā, and eventually traveled through the air to Lankā, finally discovering her as a captive in Rāvan’s garden. Most translators, unaware of the mechanics underlying TM-Sidhi practice, view Hanumān’s feat as the leap of a mythically powerful being. But as we will see, the text demonstrates otherwise.

Aside from the considerations of Sanskrit translation, even a casual reading of the first sarga of Sundar Kāṇḍ exposes the error of interpreting Hanumān’s flight as a gigantic leap. In jumping from one location to another, no matter how great the distance, there are invariant characteristics: one goes up, forward, and then lands at the destination. A journey in which the only method of propulsion is leg strength must follow a parabolic path according to the Principle of Least Action; if there is an obstruction it would be necessary, if possible, to leap again. The description of Hanumān’s journey to Lankā in Sundar Kāṇḍ, however, is quite different. Hanumān began from the peak of Mount Mahendra (Sundar Kāṇḍ 1.43), and we soon find him moving through the waves of the ocean (69). Several verses later Hanumān was “moving through the sky” leaving a wake of clouds behind him (81). Shortly thereafter, he crashed into the mountain Mainaka (108), carried on an extended conversation (110–132), and then touched Mainaka out of respect (132). Following this interlude, Hanumān soared upward (134) to continue his journey “leaving the mountains and the ocean far below” (134). Hanumān next confronted Surasā, a sea creature, and then the Rāksha Simhikā, in each case interacting with them before proceeding.

Clearly this is not the description of a leap predicated upon physical strength; rather it was a flight through the air, in which Hanumān changed direction and altitude by mere intention. Significantly, after each obstruction to his progress the text states that Hanumān departed (जगाम) after “coming back to the Self” (आकाशामाविश्व अकाशम आविश्या). “Self” is from Ākāś (आकाश), and though frequently translated “sky” or “air,” Maharishi notes that it often refers to the Ākāś of consciousness—Chidākāś, the transcendental field. Vishya (विश्य) means “entering”; the upasarga “अ” (अ) gives vishya the sense of reversing direction, of coming back. Thus, in this interpretation Hanumān
“entered” pure consciousness by bringing his awareness back to the Self, away from diversity, and then departed.

Interestingly, research on the TM-Sidhi program has demonstrated that the greatest degree of brainwave coherence and the most significant indications of improved mind-body coordination occur at the moment of “lift-off” during Yogic Flying (Orme-Johnson, Clements, Haynes, & Badaoui, 1977). Research also indicates that EEG coherence in frontal brain areas during Yogic Flying is correlated with enhanced intelligence, creativity, moral reasoning, and emotional stability (Dillbeck, Orme-Johnson & Wallace, 1981; Orme-Johnson & Haynes, 1981). These findings are highly significant in the context of political theory, for they provide hope for leaders to improve their clarity of mind, intellectual capacity, and even their ability to engage in more profound moral reasoning.

**Collective Consciousness**

According to Maharishi’s *Absolute Theory of Government*, the effectiveness of Yogic Flying for enhancing governmental performance relies on the phenomenon of collective consciousness. *Collective consciousness* refers to the wholeness of consciousness produced by any group: “When we talk of community consciousness, we merely put together the consciousness of all the individuals comprising the community or the nation” (Maharishi, 1978a, p. 87). Community refers to any specific group, and while there are innumerable divisions and organizations of collective consciousness, Maharishi describes seven principal levels: family consciousness, community consciousness, city consciousness, state or provincial consciousness, national consciousness, world consciousness, and universal consciousness, each created by the individuals who make up the group (World Government News, Issue 10, October, 1978, p. 3).

Maharishi describes a reciprocal relationship between individual and collective consciousness such that “as individual consciousness grows, collective consciousness rises; and as collective consciousness rises, individual consciousness grows” (1976, p. 124). Thus, an individual influences all levels of collective consciousness in which he or she participates simply by unfolding the perfect order and harmony inherent within self-referral consciousness. This increased orderliness
in turn effects every individual participating in that level of collective consciousness (p. 124).

Clearly this understanding has profound implications for the study of human behavior, for it defines a unique relationship between individual and community. One principle that emerges is that behavior is strongly influenced by a greater wholeness, supporting the notion that, for example, a criminal environment adversely influences behavior while a harmonious and nourishing environment upholds more favorable conduct. In addition, the relationship between individual and collective consciousness suggests that every individual bears responsibility for the effects of his or her actions on every level of society, no matter how seemingly isolated an action may appear to be. This is not to suggest that collective consciousness is the sole determinant of individual behavior, but rather that it provides a significant and empirically verifiable influence.

The influence of increased coherence and harmony in collective consciousness as a result of the practice of the Transcendental Meditation and TM-Sidhi programs is termed the Maharishi Effect, in honor of Maharishi who first foresaw the influence, and predicted it in 1962 (Maharishi Vedic University, 1986, p. 430). In 1976, after introducing the advanced TM-Sidhi program, including Yogic Flying, Maharishi predicted that only the square root of one percent of a population practicing this more powerful technology in a group was necessary to create world peace.8 The introduction of this program has provided greater opportunities for empirically verifying Maharishi’s prediction, for experts in the Transcendental Meditation and TM-Sidhi programs have periodically assembled in large groups to create the extended Maharishi Effect. The results of their collective practice have been documented on every level of society (Maharishi International University, 1990).

The Shiva Samhita, an aspect of the Vedic literature, describes the beneficial effects of Yogic Flying for collective life:

योगिः पद्धारस्न्योऽपि भूमुत्सृज्य वर्तति
वायुसिद्धिस्तदा ज्ञेयाः संसार्ध्वान्तनाशि नी

8 The square root of one percent was based on the observation that other coherent systems (such as laser beams and superconductors) rely on the coherence of the square root of one percent of their constituent elements (electrons in the case of a laser beam or superconductor).
Yogi padmāsanastho pi bhuvam utsṛijya vartate
vāyuṣiddhis tadā gṛyā sansāradhvāntanāshini

(Shiva Saṃhitā III.42)

When the Yogi, sitting in the lotus position, rises into the air and departs, then the Vāyu-siddhi (Yogic Flying) is known as the destroyer of the darkness of the world.

“Darkness of the world” refers to any negative aspect of the quality of life, and indeed research has demonstrated a profound relationship between the group practice of Yogic Flying and the reduction of crime, violence, war, and terrorism (see, for example, Reeks, D., 1990; Burgmans, W., et. al, 1983; Lanford, A.G., 1984; Dillbeck, M.C., et. al, 1987). These are findings that government leaders should consider with the greatest urgency.

In the Aranya Kanda we find an example of the fundamental principle of the Maharishi Effect in the influence of sage Agastya upon the forest in which he dwelt:

यदाप्रभृति चाक्रान्ता दिगियं पुरायकर्मेण,
तदाप्रभृति निर्वारं प्रशान्तं रजनीचरा:

Yadāprabhitī chākrāntā dig iyam punyakarmanā
tadāprabhitī nirvairāḥ prashāntā rajanīcharāḥ

(Aranya Kanda, 11.83)

From the moment that this virtuous sage arrived in this area, the evil creatures became peaceful and free of hostility.

Agastya’s effect on the forest dwellers came neither from his good intentions nor his actions; rather he pacified the evil creatures by his mere presence. His coherent consciousness gave the sinful no choice but to change their behavior or depart. A subsequent verse further indicates that the sage was of such a nature that “a liar, a cruel person, a thief, or a sinner cannot live in this area” (11.90).
This passage suggests that when individuals such as Agastya are fully established in self-referral consciousness, they naturally create greater harmony and orderliness around them. But as Maharishi explains, this same outcome can be created by many individuals experiencing self-referral consciousness in their daily practice of the Transcendental Meditation technique and the collective practice of the TM-Sidhi program.

Rām’s father, King Dasharatha, provides a further illustration of this principle in his description of Rām’s ability to create a calming influence among his subjects:

\[
\text{सान्तव्यन्त्वर्षभूतानि रामः शुद्धन चेतसा}
\]

\[
\text{Sāntwayan sarvabhūtāni Rāmāḥ shuddhena chetasā}
\]

\[
\text{(Ayodhyā Kāṇḍ 12.28)}
\]

\[
\text{Rām, soothing all men by means of his purified consciousness, ...}
\]

This expression corroborates Maharishi’s point that the best defense against incoherence is to bring a calming influence to the environment. Rām’s ability to bring a peaceful influence to those around him does not emanate from peaceful intentions, but from the reality of his own being—he is, as we saw earlier, the fully awake self-referral consciousness that ultimately generates the effect.

**Life Spontaneously in Accord with Natural Law**

For centuries philosophers have sought an understanding of moral behavior. While many theories have evolved, none has been fully satisfying, and all have been exposed to serious and generally incapacitating objections (Rachels, 1993, p. 180). Maharishi’s philosophy of action presents a fresh perspective that includes the understanding of life in accord with natural law, but is unique in its ability to address the most critical objection to natural law theories—the recognition that cultural diversity often produces different behavior and varied understandings of right and wrong. And unlike previous theories of moral philosophy, Maharishi’s includes practical and empirically verifiable technologies for improving the quality of human behavior. For example, studies
on the Transcendental Meditation program show improved behavior (Schilling, 1977) and improved moral reasoning among practitioners (Nidich, 1975), as well as improvements in many other measures of personality growth. These studies have been performed in a variety of cultural and social settings, lending support to the universal applicability of Maharishi’s programs.

Maharishi (1995b) cites the difficulty of basing behavior solely on intellectual decision by pointing out that there are many laws of nature, and it is impossible to account for the minute effect of every action on every part of the creation (pp. 94–95). Indeed, even action that appears appropriate in a particular context may have unforeseen and inappropriate consequences elsewhere, simply because everything in creation is so intimately connected (1963, pp. 69–73); and while most theories of moral philosophy absolve the actor of fault from unknown consequences, Maharishi points out that an individual is always responsible for every aspect of his or her action (pp. 41–44).

The ability to avoid unforeseen consequences is, however, inherent within every individual. Through the regular practice of the Transcendental Meditation and TM-Sidhi programs, one establishes the awareness in the most fundamental level of nature’s administration. As this level of life becomes increasingly familiar, Maharishi (1986) explains, one spontaneously begins to act in accord with every law of nature:

The functioning of transcendental pure consciousness is the functioning of Natural Law in its most settled state. The conscious human mind, identifying itself with this level of Nature’s functioning, gains the ability to perform in the style with which Nature performs its activity at its most fundamental level. (p. 31)

Thus, as an individual unfolds the total potential of natural law in the awareness, he or she gains the ability to act without violating laws of nature—to act in such a way that no unforeseen consequence is damaging to either one’s self or society, or any part of the universe.

The Sanskrit term for natural law is Dharma, which Maharishi (1995a, p. 36) describes both as the total potential of natural law as well as the different laws of nature that keep the stream of life moving in an evolutionary direction (1969, p. 64). The Rāmāyaṇa often considers the relative merits of different actions, but it also describes natural law and life in accord with natural law consistently with Maharishi’s explana-
Sitā (Āranya Kāṇḍ, 9.30), for example, identifies Dharma as “the essential constituent of creation” (धर्मसारस्मिदं जागतः), and while she did not in this context describe it as a field of consciousness—indeed, she didn’t provide any characteristics of its nature—Rām later noted that it is Ātmā, the Self of all beings:

सूक्ष्म: परमदुर्ज्ज्ञः सतां धर्मं प्लवंगम हृदिस्थः सर्वभूतानामात्मा वेद शुभाशुभम्

Suksmaḥ paramadurgeyerah satam Dharmaḥ plavangama hridisthah sarvabhūtānām Ātmā veda shubhāshubham

(Kishkindhā Kāṇḍ, 18.15)

The Dharma of the righteous is subtle and extremely difficult to know, O Monkey; established in the heart it is the Self of all creatures. It (Dharma) knows what is righteous and unrighteous.

This verse not only identifies Dharma with Ātmā, the Self, but also describes its primacy in matters of right, or moral, behavior. The expression veda shubhāshubham (“it [Dharma] knows what is righteous and unrighteous”) suggests that the ultimate arbiter of right or wrong action is natural law.

We also find that Dharma plays a significant role in the restoration of Ayodhyā to ideal life. During Rām’s reign (Yuddha Kāṇḍ, 128.99), Ayodhyā was characterized by happiness, health, and balance in the environment, and most significantly by spontaneous life in accord with Dharma (सर्वं मुदितमेवासीत्वं धर्मसंपरकमवतं sarvam muditam evāsit sarvo Dharmaparo ’bhavat). In this society there was no crime (निर्दर्श्युर्धम्बल्लोकों nirdasyur abhaval loko) and no one suffered any harm (नानयं कष्टद्वृत्ति नानरथमकस्थिता nānartham kaschid asprishat). These findings indicate that the citizens of Ayodhyā spontaneously acted in a more life-supporting manner after Rām’s return. The presence of fulfillment and the absence of crime suggests spontaneity, for we read that the members of the four levels of Ayodhyā’s social structure were not greedy,
and were fulfilled with their own activity, their own Dharma (Yuddha Kāṇḍ, 131.104).

Thus it is clear that coercion or restrictive legislation were not evident in the structuring of Ayodhyā’s society—the citizens spontaneously lived happy, prosperous lives in accord with natural law. We will see later the degree of perfection attributed to life in Ayodhyā.

**Support of Nature**

Maharishi’s *Absolute Theory of Government* holds that when life is lived in accord with all the laws of nature, every thought and action becomes fully supported by the organizing power of natural law (Maharishi, 1995a, pp. 360–361), leading to a concept Maharishi terms “support of Nature.” In practice, this means that as an individual grows increasingly in harmony with natural law, one finds a growing tendency for the environment to spontaneously fulfill needs and desires. Even though support of nature may appear to come from outside oneself, ultimately it is a phenomenon of one’s own self-referral consciousness:

This is commonly known as ‘support of Nature,’ because not knowing the principle of success through one’s action, one thinks that one is supported by powers outside oneself, but in fact the phenomenon of support of Nature is the phenomenon of one’s own pure consciousness—self-referral consciousness. (p. 360)

Sumitrā brings out the principle of support of nature by observing that the different aspects of nature would render Rām’s exile in the forest more bearable:

Vyaktaṃ Rāmasya vīgyāya shaucham māhātmyam uttamam na gātram amśhubbhiḥ Sūryaḥ saṃtāpayitum arhati

(Ayodhyā Kāṇḍ, 18.15)

*Discerning Rām’s well-known purity, in addition to his supreme greatness, Sūrya (the Sun) ought not scorch him with his rays.*
Similarly, other aspects of nature, such as a pleasant breeze (44.9) or the cool moon (44.10), would care for Rām.

Critical to this prediction, however, is the basis of Rām’s support of nature. Sumitrā (Ayodhyā Kāṇḍ, 18.15) attributes his impending comfort to his “purity” (शौच shaucha)—his “sinless” or “faultless” (अनंग anagha) nature—qualities associated with higher consciousness. Without these qualities, Rām might not have received the blessings of nature, but as Sumitrā insightfully remarks, “even the Earth must obey his commands” (44.13).

Sumitrā reveals the mechanics of support of nature in a later verse, where she states that:

सूर्यस्वापि भवेत्सूर्यो द्यैगमेःस्मि: प्रभोः प्रभुः
श्रिया: श्रीश्च भवेदस्या कीर्त्या: कीर्ति: चमाच्चमा

Sūryasyāpi bhavet Sūryo hyauger Agniḥ prabhoh prabhuḥ
shriyāḥ shrishccha bhaved agnyā kirtiyāḥ kirtiḥ kshamākshamā

(Āranya Kāṇḍ, 44.15)

Indeed he is the Sūrya (Sun) within Sūrya (Sun), the Agni (fire) within Agni (fire), the ruler within the ruler, the prosperity of prosperity, the origin of fame, the essence of the Earth.

When viewed in the light of Maharishi’s political philosophy, this passage represents a natural extension of the theme presented in the earlier verses, which describe support of nature in terms of specific aspects of natural law. Verse fifteen demonstrates that the fundamental basis of these impulses is Rām, the embodiment of self-referral consciousness—he is the inner essence within each element of creation. Since Rām is the simplest form of human awareness, this same relationship applies to anyone established in the Self: functioning from that level one is the total potential of natural law, and thus is the fundamental essence of every law of nature.
Qualities of an Ideal Head of State

Throughout the Rāmāyāṇa we find two levels of the hero Rām’s significance. On one hand, Rām is the embodiment of Brahm, Totality, and in this context his actions represent the activity of natural law, organizing and administering the universe. The significance of this level of interpretation, as we have seen, is that when an individual unfolds pure intelligence in the awareness, he or she gains the ability to function on the level of natural law itself, spontaneously utilizing its infinite organizing power.

On a different level, however, we can view Rām as an individual, the hero of the epic Rāmāyāṇa. In this context we can examine his behavior and traits as examples of ideal leadership, and the story as the description of perfect government. Indeed, the Rāmāyāṇa upholds Rām as the perfect monarch, an example for the head of state of every land regardless of its governmental structure. Maharishi seldom comments on specific styles of government, for his desire has been to create perfection in every government regardless of type, and for this reason the discussion here will focus on general principles of government and leadership, and how the Rāmāyāṇa displays these principles.

In the context of management, Maharishi (1995b) depicts an ideal leader as the father of his company, revealing a principle that can be applied to the head of any level of government:

The manager is the father of the company in the same way as the President is the father of the country. He is responsible to nourish everyone and help everyone to evolve to greater levels of success, not only in the life of the company, but in the life of every individual involved in the company. (p. 105)

Maharishi here is also defining the leadership role of a head of state, who must uphold the life and evolution of every individual in the nation. To lead toward such a goal requires extraordinary ability, and therefore a leader must be a parent, a teacher, and a guiding light, and must lead everyone toward life’s supreme fulfillment. Maharishi’s vision of a successful leader is clearly founded upon his conception of the ultimate goal of society: life in unlimited progress and fulfillment (p. 105). The ability to lead toward a goal inconsistent with these objectives carries no weight in Maharishi’s account.
Rām not only fulfills this ideal of leadership, but is one among few leaders of society who could claim such success. The descriptions of ideal life during Rām’s reign portray a perfect civilization in which every individual enjoyed unlimited success and happiness. There is no denying Rām’s responsibility for bringing ideal life to Ayodhyā, for he both eliminated the obstacles to fulfillment (embodied by Rāvaṇa and the Rākshasas), and provided a government competent to administer, evidenced by its ability to satisfy all citizens and bring them lasting happiness, wealth, and perfect health (Bāl Kāṇḍ, 33.20).

Indeed, Rām was the ideal leader: He was a man of great wisdom (बुद्ध्याः बृहस्पतेस्तुत्य buddhya Bṛhaspates tuḥ—Ayodhyā Kāṇḍ, 2.30), who lived in accord with natural law (धर्मशील sense harmashila—Arāṇya Kāṇḍ, 33.20); he was a knower of right action (धर्मं धर- 

मादया Dharmagyā—Ayodhyā Kāṇḍ, 22.31), free of censoriousness (अनसूयक anasūyaka—22.31), and even Ayodhyā’s citizens understood that with Rām as king the entire universe would be protected (तृतीयमपि नाथेन चेन र्यानाथवचरमृ trailokyam api nāthena yena syān nāvattaram—2.13).

Significantly, Rām was not only deeply concerned with his subjects’ welfare (पौराणिकवजनविग्रहों कुशल परिपृष्ठति paurāṇi kṣaṇānvāna niyam kushalam pariprīchati—Aranyaka Kāṇḍ, 37.79), but was devoted to the welfare of all beings (हि भूतानां सर्वभूतानां रतं hi bhūtānāṃ sarvabhūtabite rataḥ). Rām himself noted (Yuddha Kāṇḍ, 18.3) that he would afford protection to anyone who requested it, mentioning that “Anyone who has approached me in friendship may not be rejected, even if there is fault in him.”

Maharishi (1973) mentions two additional characteristics intrinsic to leadership: “Foresight is needed to avoid obstacles; insight into the steps of progress is needed so that one is comfortable while progressing on the way.” These characteristics appear in a conversation between Shūrpaṇakhā and Rāvaṇa, in which Shūrpaṇakhā observes that
The king who is undeluded, who knows Totality, whose senses are controlled, and who acts in accord with Natural Law, rules for a long time.

“Undeluded” (अप्रमत्त apramatta) refers to the ability to think clearly, and clear thinking in its most profound sense is the ability to think fully in accord with natural law; “all knowing” (सर्वज्ञ sarvagya) pertains to one who knows Totality, Brahms, certainly fulfilling the requirement of foresight as well as insight. The expression “one whose senses are controlled” (विजेतन्त्रय vijitendriya) describes an individual fully established in the Self. In his commentary on the Bhagavad-Gītā, Maharishi (1969) notes that the senses are always under the command of the mind—the eyes will see only if and when an individual wishes to see—but that “having the senses under control” has a deeper sense:

With the infusion of Being into the mind, the senses of perception, while engaged in the process of experiencing, do not register deep impressions of experiences. The impressions they receive are just sufficient to enable them to experience, but are not deep enough to form the seed of future desires. (p. 341)

As an individual continues to establish the awareness in self-referral consciousness, the tendency for the infinite value of pure Being to be lost in favor of sensory experience significantly diminishes:

A real conquest is that where the enemy ceases to be an enemy; he is left free to do as he likes, but is not in a position to attack or do any harm. The conquest of the senses is so fully accomplished through the mastery of the Self that the senses are left free to function and, notwithstanding all the experiences of the relative field, life is firmly established in the eternal freedom of divine consciousness. (p. 341)

Thus jitendriya, or vijitendriya, in its most profound sense refers to one who is fully established in higher states of consciousness.

Sītā also remarked upon the need for a king to live in higher states of consciousness. In a conversation with Rāvān she noted the following:
“Not established in the Self” comes from *akṛitātmā*—“one whose Self is not complete.” This verse indicates that a king must act spontaneously in accord with natural law, but it is also consistent with Maharishi’s point that a government’s leader is the mirror of collective consciousness—a leader not established in self-referral consciousness will reflect lesser values of collective consciousness, and thus make life-damaging mistakes in the administration of the nation.

As we have seen, in Maharishi’s view the head of state must maintain a parental role towards his nation’s citizens, a role Rām clearly upholds. Sumantra, a minister of Rām’s father Dasharatha, extolled Rām’s glory noting that

> As cattle without a shepherd, as an army without a general, as the night without the moon, as cows without a bull, so will be a kingdom where there is no king.
A shepherd is generally a benevolent guide, who carefully protects and guides his charges; a general organizes his army and renders them a coherent and efficient force; the moon illumines all and makes the night manageable; while a bull protects the cows as his dependents. In the same way, an ideal king leads the citizens to fulfillment by nourishing, guiding, protecting, and organizing them, just as the government of nature guides, protects, and nourishes the entire creation through the infinite organizing power of natural law.

Two Levels of Administration
Maharishi’s (1995a) political theory requires that the government of any nation maintain, in effect, two levels of administration: the unseen transcendental administration through alliance with natural law, and the specifics of administration, such as the legislative, executive, judicial branches, etc. (p. 22ff.). Dasharatha brings out this critical point of ideal administration by enjoining Rām to rule “both invisibly as well as visibly” (परोक्षच्या वर्तमानो चृत्या प्रत्यध्यया तथा parokshayā vartamāno vrīttayā pratyakshā tathā). This expression is generally interpreted as a requirement for implementing covert and overt activities, but here it refers to the direct and indirect levels of rule that Maharishi has spoken of. Dasharatha’s invisible rule (परोक्ष paroksha) represents the unseen administration of natural law—the hidden power of coherence and harmony generated from the total potential of natural law—whereas the visible rule (प्रत्यध्य pratyaksha) refers to administrative duties that attend to the kingdom’s day-to-day affairs. Together they form an ideal system of administration.

The Rule of Bharat
Rām’s brother Bharat, by insisting that only Rām was capable of governing Ayodhyā, provides a compelling account of ideal administration. In the narrative Bharat pleaded with Rām to return to rule Ayodhyā, but Rām declined, preferring to obey his father and remain in exile. As a result, Bharat returned to Ayodhyā with Rām’s sandals, which he placed on the throne, indicating that Rām was the true ruler and Bharat merely the administrator. Significantly, Maharishi (1995a) holds Bharat’s rule in Rām’s absence to be the ideal example of perfect government, for Bharat simultaneously upheld both levels of administration.

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In order to maintain perfect administration, Bharat held Rām in his consciousness, and served the country with the awareness of the RULER RĀM in his heart; his awareness upheld the eternal ruler Brahm, the infinite organizing power of Natural Law, which eternally rules the universe with perfect order and without a noise. (p. 37)

Here Maharishi explains that Bharat ruled with his awareness established in Rām—in the total potential of natural law—ensuring administration with the same efficiency and effortlessness as the administration of the universe. We find this principle clearly expressed in the following verse from the Ayodhyā Kāṇḍ:

\[
\text{जगाम मनसा रामं धर्मज्ञो धर्मकांश्यa}
\]

\[
\text{Jagāma manasā Rāmaṇḍ Dharmagyō Dharmakānkshayā}
\]

(Ayodhya Kāṇḍ, 82.9)

Bharat, a knower of Dharma, brought his awareness to Rām because of his desire for Dharma.

This expression exemplifies Maharishi’s ideal that “I administer, and He rules” (p. 44), which means simply that in an ideal administration, self referral consciousness—the total potential of natural law—is a nation’s true ruler (hence the capital “He”), even though an individual may be the leader or head of state.

Maharishi emphasizes that this principle may be applied in any circumstance: “A ruler of a territory may be anyone in time, but if he aligns his awareness with Purushottam,\(^\text{10}\) his administration will inherit the qualities of order, freedom, bliss, and the ability to nourish all” (p. 43). As we have seen, aligning one’s awareness is not based on attitude or belief, but is possible only when the awareness is established in the total potential of natural law.

\(^{10}\) Purushottam is Totality, Brahm, the supreme ruling intelligence of the universe. See Maharishi, 1995a, footnote beginning on p. 24.
**Heaven on Earth**

The practical outcome of Maharishi’s *Absolute Theory of Government* is the unfoldment of “Heaven on Earth,” which Maharishi describes as perfection in all areas of individual and collective life (Maharishi Vedic University, 1991, p. 4). Heaven on Earth is the result of an entire society living fully in accord with natural law, resulting in perfect health, long life in bliss, and the ability to fulfill desires (1988, p. 3); it describes a society that enjoys positivity, harmony, and peace on all levels of collective life—family, community, nation, and the world (p. 3). Maharishi further explains that Heaven on Earth means

- perfect health, a perfect way of thinking, a perfect way of doing. A perfect way of thinking means every thought will be appropriate for the thinker and his surroundings, and appropriate thought results in appropriate action and appropriate behavior. (p. 1)

Maharishi presents a beautiful vision of ideal life that is well supported by the empirical research on his programs. Indeed, practitioners of his technologies experience improved health, unfoldment of mental potential, and improved social behavior; and the above-mentioned research on the Maharishi Effect provides strong support for Maharishi’s plan to eliminate negative trends and establish an ideal society.

It is significant that we find a remarkably similar description of *Rām Rāj*, the rule of Rām. In this context we again look to the interpretation of Rām as an ideal king, whose citizens enjoyed an ideal life, free from sickness and sorrow, abounding in wealth and food, with no crime or accident to dampen the quality of life. For example:

\[ Nākāle mriyate kashchīn na vyādhi prāṣīnaṁ tathā nānartho vidyate kashcid Rāme rājyaṁ prashāsatī \]

*(Uttara Kāṇḍ, 99.14)*

*During the reign of Rāma, no one died prematurely, no one suffered from disease, and there were no calamities.*
During the reign of Rāma, the citizens were free of disease and sorrow.

Even the environment was in perfect balance, resulting in favorable weather conditions and an abundance of crops:

The rains came on time, and the skies were clear; the city and provinces were in abundance of food, and filled with happy, fulfilled citizens.

Perhaps the most significant point of comparison between Maharishi’s theory and the Rāmāyaṇa text is the element of life in accord with natural law. Maharishi (1988) notes that “when thinking is always spontaneously evolutionary then there is Heaven for everyone” (p. 1), while in the Rāmāyaṇa everyone was described as happy and fulfilled, living in accord with Dharma:
Ideal Government in the Vālmīki Rāmāyaṇ

*Prabṛṣṭamudito lokas tushtah pushtah sudharmikah nirāmaya byarogash cha durbhikshabhayavarjitah*  
*(During the Reign of Rām) the people will be exceedingly happy, content, fulfilled, and will easily live in accord with Dharma; they will be free of sickness, free from disease, and bereft of famine and fear.*

(Bāl Kāṇḍ, 1.1.90)

These descriptions of life in Ayodhyā provide us with a thorough and beautiful documentation of a heavenly, fulfilling life for every citizen, a civilization worthy of being called “Heaven on Earth.” It is difficult to imagine such an exalted state of life, for suffering and weakness have plagued the world throughout recorded history. Accordingly, scholars generally discount the descriptions of Rām Rāj as the flights of fancy of an ancient poet; the notion of a perfect civilization seems farfetched, in part because of the seemingly impossible task of satisfying every citizen’s needs and desires, as well as from the apparent weaknesses of human life. However, Maharishi’s monumental contribution of his *Absolute Theory of Government* provides an empirically verified framework for bringing about such an age in a relatively short time. By assembling groups of Yogic Flyers numbering the square root of one percent of its population, any nation can enjoy a prevention-oriented, problem-free government, which will secure prosperity and progress for every citizen for all time.

**Summary and Conclusion**

This paper has examined several key principles of Maharishi’s *Absolute Theory of Government*, and illustrated how they are expressed in the text of the Vālmīki Rāmāyaṇ. It has shown how Maharishi’s depiction of nature’s administration—fully awake self-referral consciousness—corresponds with the descriptions of the Rāmāyaṇ’s central hero, Rām. It has further demonstrated how the Rāmāyaṇ portrays Rām as the Self of everyone, the embodiment of bliss, established beyond time and space, upholding and nourishing everyone and everything.

We have also seen that the Rāmāyaṇ shows how nature’s government is available to human awareness, and how through the Vedic technolo-
gies of consciousness one can enliven the total potential of natural law in one’s life, so that individual and collective life can function in full accord with all the laws of nature; and we have seen how such diverse principles as support of nature, and the relationship between a nation’s collective consciousness and its government, are brought to light in the Rāmāyaṇa. And finally, we have seen the marvelous correspondence between Maharishi’s vision of Heaven on Earth and the descriptions of Rām Rāj, the rule of Rām in Ayodhya.

The similarity between Maharishi’s *Absolute Theory of Government* and the text of the Vālmīki Rāmāyaṇa is remarkable, and in conjunction with the voluminous scientific research supporting the principles of Maharishi’s political theory, we must consider the Rāmāyaṇa in a new light—the theories that hold the Rāmāyaṇa to be a mythical flight of fancy of a poet in ancient India must be replaced with a new understanding of the Rāmāyaṇa as the textbook of administration for every government in any time. But more significantly, this comparison provides additional evidence of the validity and efficacy of Maharishi’s programs. While the scientific research certainly bears out the value of Maharishi’s political philosophy, locating these same principles in mankind’s most ancient literature provides additional support for Maharishi’s description of the Vedic Tradition’s teaching as the most natural and systematic way of unfolding the total potential of human life.

It is fortunate that Maharishi’s gift of ideal administration—Vedic Administration—is available for every government in the world, so that each may raise its nation’s quality of life to an ideal level, a supreme level. Maharishi has offered the world a time-tested and scientifically validated technology that can create a civilization on par with ancient Ayodhya. Maharishi Vedic Science, modern science, and the texts of the ancient Vedic literature have all located a similar conclusion: a perfect life in accord with natural law—Heaven on Earth—is indeed possible for every individual and every society.
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CONSCIOUSNESS-BASED EDUCATION AND GOVERNMENT


Section Three

Solutions to Challenges Facing Governments
Harnessing the Laws of Nature
to Bring Maximum Success
to Every Area of Government

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ABOUT THE AUTHOR

John Hagelin received his Ph.D. in physics from Harvard University in 1981 and is currently Professor of Physics, Director of the Institute of Science, Technology and Public Policy, and honorary chair of the Board of Trustees at Maharishi University of Management. He is a world-renowned quantum physicist, educator, author, and public policy expert.

Dr. Hagelin has conducted pioneering research at CERN (the European Center for Particle Physics) and SLAC (the Stanford Linear Accelerator Center) and among these physicists is responsible for the development of a highly successful grand unified field theory based on the superstring. Author of more than 70 papers published in journals such as *Physics Letters*, *Nuclear Physics*, and *The Physical Review*, his scientific contributions in the fields of electroweak unification, grand unification, supersymmetry and cosmology include some of the most cited references in the physical sciences. In addition, Dr. Hagelin has spent much of the past quarter century leading a scientific investigation into the foundations of human consciousness. In his book, *Manual for a Perfect Government*, Dr. Hagelin shows how, through educational programs that develop human consciousness, and through policies and programs that effectively harness the laws of nature, it is possible to solve acute social problems and enhance governmental effectiveness.

In recognition of his achievements, Dr. Hagelin was named winner of the prestigious Kilby Award, which recognizes scientists who have made “major contributions to society through their applied research in the fields of science and technology.” The award recognized Dr. Hagelin as “a scientist in the tradition of Einstein, Jeans, Bohr and Eddington.”
ABSTRACT

This article explains the practical application of natural law to specific areas of governmental responsibility. It shows that all problems of national health, crime, the economy, defense, and education are caused by violations of natural law, or by the failure to apply natural laws effectively. It discusses the implementation of specific policies and programs which would prevent the violation of natural law and which would harness the laws of nature to bring maximum success to governmental administration.

1. Health

A well-formulated national health care policy, by effectively harnessing the laws of nature that uphold health, is capable of creating a disease-free society. By bringing national life into accord with natural law, and by shifting the current emphasis on disease care to the prevention of illness and the promotion of health, it is possible to ensure a long and healthy life for every citizen. As the national health improves, the massive financial burden of disease care will be lifted, freeing the nation’s precious resources for greater progress and prosperity.

The Problem

Too many citizens suffer from poor health. In the United States, 100 million citizens—40% of the population—suffer from chronic diseases—diseases for which modern medicine has no cure (Huffman, Rice, & Sung, 1996). Fifty million Americans suffer from high blood pressure; 7 million are afflicted with heart disease; and 23 million more suffer from cognitive, emotional, or behavioral disorders.

Despite vast medical expenditures, the modern medical approach has had surprisingly little impact on disease. According to research (U.S. Department of Health and Human Services, 1991), most illness is due to behavioral and environmental factors over which modern medicine has no control. Whereas nearly half of premature of deaths among Americans could be avoided by changes in individual behaviors and another 17% by reducing environmental risks, only 11% of such deaths could be prevented by improved access to modern medical treatment.
In addition, modern medicine, with its pervasive and dangerous side effects, is increasingly recognized as a serious health hazard. In the last 20 years, over 7,000 articles have appeared in leading medical journals citing serious unanticipated consequences of modern medical treatment. Latrogenic illness—disease produced as a result of modern medicine—leads to an estimated 180,000 deaths per year (Leape, 1994; Bates et al., 1995), with an estimated annual cost of $76 billion (Johnson and Bootman, 1995), in the U.S. alone. Today, 36% of patients entering hospitals fall prey to iatrogenic illnesses (Schimmel, 1964), 25% of which are serious or fatal.\(^1\)

The modern medical approach has had other unforeseen side effects. The overuse of antibiotics has produced resistant strains of microorganisms, and hence the potential for epidemics that cannot be contained.\(^2\) The dependence upon high technology in diagnosis and treatment has become a major source of injury due to machine failure and misapplication of technology.\(^3\) And, according to the editor of British Medical Journal (Smith, 1991), only 15% of Pharmaceuticals and medical procedures used today are scientifically efficacious, and less than 1% of the scientific articles published in support of new drugs, surgical methods, and other medical procedures are scientifically sound.

Unfortunately, government policy tends to perpetuate this ineffective and expensive disease-care approach. At present, only 1% of the U.S. health sector budget is used to prevent disease; 99% is spent on treating illness after it occurs. In some countries, governments actually subsidize unhealthy behaviors. For example, even though tobacco consumption is the single largest cause of premature death, the U.S. government subsidizes the tobacco industry. The U.S. government similarly provides support for genetic engineering, despite serious health risks, and supports the nonlabeling of genetically engineered foods.

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1 Many allopathic drugs have serious, disease-producing side effects. For example, according to a Harvard Medical School study (Avorn et al., 1995), anti-depressants and anti-psychotic medications are responsible for 37% of Parkinson’s disease among elderly patients. The majority of cardiac arrests in teaching hospitals are likewise caused by the inappropriate use of drugs (Bedell, Deitz, Leeman, & Delbanco, 1991). An estimated 15% of all hospital days are devoted to the treatment of drug side effects (Harrison’s Principles of Internal Medicine, 1994).

2 One example is the emergence of tuberculosis that is resistant to presently available drugs (Levy, 1998).

3 Thirty-six percent of iatrogenic problems in intensive care units are associated with equipment malfunction (Titler, 1993).
Despite spiraling medical costs and the impending bankruptcy of Medicare, Medicaid, and other government health programs, there is little hope for fundamental reform in the near term. Recent discussion in the Congress about major health care reform has degenerated into a politically charged debate over “who will pay for whose disease.” No reform bills debated by Congress have focused on improving health; they have dealt only with issues of disease care financing and delivery of disease care services. More fundamental change has been systematically blocked by the U.S. medical establishment, which has contributed ten of millions of dollars in campaign contributions to key members of Congressional health committees through over 1,000 medical PACS (political action committees).

Clearly a new approach to health care is needed that is comprehensive, cost-effective, and scientifically proven.

The Solution
According to U.S. government statistics, at least 50% of deaths (McGinnis & Foege, 1993) and 70% of diseases (U.S. Department of Health and Human Services, 1991) are self-inflicted—caused by a behavioral epidemic of unhealthy habits—habits that violate the laws of nature upholding physiological and psychological health. Moreover, stress has been implicated as a causal factor in at least 90% of disease (Sapolsky, 1992; Weiner, 1992). This pervasive stress also results from the violation of natural law, either through actions that strain the physiology directly, or from the frustration that results from the failure to fulfill one’s desires through the skillful application of natural law.

In other words, according to research, most illness is directly or indirectly caused by the violation of natural law. It follows that the single, most important solution to the global health crisis is life in accord with natural law: i.e., putting an end to the health-afflicting behaviors responsible for stress and the vast majority of disease.

The second most important solution is to replace the shortsighted and scientifically unjustifiable dependence on allopathic disease care with natural, preventative health care systems that effectively harness the laws of nature that uphold physiological and psychological health. The third solution is to abandon antiquated and counterproductive
health care financing policies that promote the inefficient and ineffective use of medical services.

Since, according to research, the vast majority of disease is self-inflicted and preventable, it is obviously essential to reduce the behavioral risk factors responsible for disease and for rising stress levels throughout society. For instance, cigarette smoking alone claims 400,000 lives per year (McGinnis & Foege, 1993), including 3,000 from passive smoking. During the past 20 years, the U.S. government’s anti-smoking campaign, which includes mandatory labeling of cigarette packaging materials, has reduced smoking-related illness and associated health costs well in excess of the cost of these initiatives, and thus provides one example of cost-effective prevention.

On the whole, however, such educational initiatives have met with limited success. Such “behavioral modification” programs have been handicapped by the fact that they do not directly address the underlying stress that compels individuals towards health-damaging behavior. As a consequence, compliance levels in such programs are traditionally low. In contrast, behavioral modification programs that incorporate methodologies to reduce physiological and psychological stress have proven far more effective (Haritani & Hemmi, 1990; Royer, 1994; Taub, Steiner, Weingarten, & Walton, 1994).

Most effective, according to research, is Transcendental Meditation, which, in addition to reducing stress, connects individual awareness to the source of natural law in pure consciousness. When, with regular practice, the individual mind and physiology become closely attuned to natural law, even the taste for life-damaging behaviors, such as cigarette, drug, and excessive alcohol consumption, disappears. This consciousness-based approach to dissolving stress and bringing life into accord with natural law has been by far the most effective, scientifically documented treatment program for substance abuse and drug dependency (Alexander, Robinson, & Rainforth, 1994; Gelderloos, Walton, Orme-Johnson, & Alexander, 1991). Recent research has also found this approach to be the most effective and cost-effective for the prevention and treatment of high blood pressure (Schneider et al., 1995) and many other pervasive chronic and degenerative diseases.4

4 A study of health insurance statistics on over 2,000 people practicing the Transcendental Meditation program over a 5-year period found that the TM meditators consistently had more than 50% less hospitalizations than controls. The TM meditators had fewer incidents of illness
This consciousness-based approach to the prevention of disease and the promotion of health, which raises life to be in accord with natural law, elevates the definition of health to an entirely new level: from the mere absence of disease to the development of the individual’s full physical and mental potential.

As a simple but highly-effective public health initiative, we have seen that the group practice of the Transcendental Meditation and TM-Sidhi program, reduces stress levels throughout society and, through the aforementioned field effects of consciousness, raises national life to be in accord with natural law. The root cause of most diseases, the violation of natural law and resulting stress, can be reduced and ultimately eliminated simply by the establishment of a coherence-creating group. Published research results during large coherence-creating assemblies include reduced incidence of infectious diseases, fewer hospital admissions, and fewer psychiatric emergencies (Orme-Johnson & Gelderloos, 1988; Goodman, R., Orme-Johnson, Rainforth, & Goodman, D., 1997).

One comprehensive system of natural health care combines Transcendental Meditation with traditional Ayur Vedic medicine. Ayur Veda, the most ancient and complete system of natural health care, remains the principal treatment modality in India today. The modern systematic, scientific formulation of this approach, known as Maharishi Vedic Approach to Health, incorporates the development of consciousness through Transcendental Meditation along with numerous other aspects of traditional Ayur Vedic medicine that have been lost over time or recently unavailable (Maharishi Mahesh Yogi, 1996; Sharma, 1997). This comprehensive system of natural medicine has been found to be particularly efficacious and cost-effective (Herron, Hillis, Mandarino, Orme-Johnson, & Walton, 1996; Orme-Johnson & Herron, 1997), and is stimulating a broad resurgence of interest within the medical community worldwide (The Economist, 1997).

Natural medicine takes natural advantage of the laws of nature that uphold human health. We have previously seen the remarkable extent to which natural law pervades the human physiology. Over millions of years, innumerable laws of nature have evolved to uphold physiological balance, maintain homeostasis, and preserve physiological and psy-

in all 17 medical treatment categories, including 87% less hospitalization for heart disease and 55% less for cancer (Orme-Johnson, 1987).
Psychological health. Natural medicine enlivens this inner intelligence of the body, strengthens the immune system against disease, and awakens the body’s natural healing mechanisms. In contrast, modern medicine’s highly fragmented and invasive approach, which targets specific cells and organisms within the body, neither acknowledges nor accesses this natural, holistic intelligence of the body. The incorporation of Maharishi Vedic Approach to Health and other proven natural approaches within the national health care system thus provides an example of a government policy that effectively harnesses the laws of nature within the field of health care.

For a government, the incorporation of such a preventive approach is easy. Any scientifically proven program that offers improved quality health care and reduced medical expenditures will garner broad-based political support from both liberals (generally concerned with providing the highest quality coverage) and conservatives (generally concerned with saving taxpayer money). Taxpayers familiar with the cost-effectiveness of prevention will demand its incorporation into government health care—and will soon refuse to subsidize the poor health habits, and resulting high medical costs, of subscribers who fail to take advantage of such programs.

The following language, which extends national medical coverage to verifiably cost-effective preventive health care, is now gaining broad support within the U.S. Congress:

Prevention-oriented health programs (including but not limited to stress management, nutrition, exercise, smoking cessation, and health education classes) are covered if they are shown to be efficacious and cost-effective.

“Efficacious programs” are defined as “programs for which research published in peer-reviewed academic journals has demonstrated efficacy for the particular risk factor involved;” for high blood pressure, for example, research must show that the program reduces high blood pressure.

“Cost-effective programs” are defined as “programs with one or more studies published in peer-reviewed academic journals showing lower health care utilization leading to lower net health care costs as a result of said program.”

Such language provides the necessary support for proven, cost-effective preventive therapies while denying coverage to programs that are unproven or that are not cost-effective. Also, by invoking a scientific
criterion for inclusion of coverage (namely, publication in peer-reviewed scientific journals), it keeps the debate over treatment modalities out of the political realm, and away from lobbyists’ pressures, and within the scientific, medical realm where such debate belongs.

Moreover, by promising coverage for cost-effective preventive and other nonallopathic treatment modalities, such legislation will stimulate a broad investment in medical research on prevention-oriented programs, in contrast to the current exclusive research focus on programs that are disease-care oriented.

The application of effective prevention and alternative treatment modalities is only cost-effective to the extent that citizens take advantage of such programs. Such public participation can be ensured by:

(a) Education. The public must be informed of the great health benefits, increased longevity, and improved quality of life made possible through such programs.

(b) Reimbursement. To ensure that such preventative, herbal, and other natural treatment modalities are within reach of all citizens, coverage for such programs should be provided within the government health care programs. We have shown that legislation can easily be drafted to ensure that such coverage leads to improved health and reduced medical costs. The government’s leadership in this vital area will quickly lead to the adoption of similar preventive provisions within the private sector.

(c) Incentives. In many countries, health-care financing policies encourage overuse, and discourage efficient use, of health-care services. Specifically, by providing blanket coverage for medical procedures, these policies encourage doctors, hospitals, and other medical providers to prescribe tests and procedures that are medically unwarranted and which expose patients to unnecessary risks and side-effects. In contrast, certain financial mechanisms, including “medical savings accounts” and “vouchers,” provide significant medical savings by offering financial rewards for good health and for efficient use of medical services. Medical savings accounts allow subscribers to retain some of the savings that result from reduced use of medical services—thereby encouraging more prudent use of such services and incentivizing subscribers to take advantage of programs that can improve their health. Vouchers enable Medicare, Medicaid, and similar public sector sub-
scribers to choose from competing insurance plans and/or providers, thereby promoting competitive costs and higher quality care among medical providers. These educational and financial policies and incentives will help to ensure that citizens take full advantage of the cost-effective, natural health-care services described above.

These comprehensive, natural health-care programs, combined with the above educational and financial policies and incentives, will ensure that the national health programs of any government take maximum advantage of the laws of nature responsible for upholding health.

In light of the growing medical crisis caused by the widespread violation of natural law and the global reliance on allopathic medicine, it is especially crucial that governments shift their health care approach away from a “disease care” system towards a “health care” system, which focuses on the prevention of disease and the promotion of health. Only an approach that raises life to be in accord with natural law, and that fully harnesses the pervasive intelligence within the human body, can put an end to the current epidemic of chronic and acute diseases. Only such an approach will lift the burden of spiraling health costs, which are now the single largest financial drain on governments.

2. Education

The solution to all problems lies in proper education. Education should bestow the fruit of all knowledge on every student—a life free from mistakes and problems, fully aligned with the evolutionary power of natural law. Education should unfold full creativity and higher states of consciousness, and produce ideal citizens capable of fulfilling their highest aspirations while contributing maximum to the progress of society. By harnessing the nation’s greatest resource—the unlimited creativity of its citizens—effective education can ensure national prosperity, international competitiveness, and a leadership role in the family of nations.

The Problem

Despite higher educational expenditures, test scores are falling in many countries (The Economist, 1997). The drop-out rate remains high, and those who do graduate are often ill-equipped to compete in today’s high-tech job market. In the U.S., drugs and alcohol pervade the
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Schools, while juvenile crime is rising—especially gang and school violence using guns (Puente, 1998).

These problems are symptomatic of a deeper educational crisis. Education is failing in the most basic sense: It does not deliver the fruit of knowledge—life in accord with natural law—which brings freedom from problems and the ability to fulfill one’s desires easily through the skillful application of natural law.

The reasons for this fundamental failing were identified in Chapter II:

1. The content of education is out-of-date. The most crucial, paradigm-changing knowledge of natural law is not taught.
2. The intellectual approach to knowledge, by itself, is not fully satisfying. The absence of a holistic basis to knowledge can leave students with a growing sense of the unknown—especially at the most advanced levels of education, where students are typically forced to learn more and more about less and less (see Hagelin, 1998, Chapter II).
3. Intellectual understanding of natural law is not enough to guarantee life in accord with natural law.5
4. Current educational methods do not develop even a fraction of a student’s full mental potential. In light of the above, it is no surprise that the drop-out rate is high, and that modern education is widely perceived as unsatisfying and irrelevant to the life of the student.

The Solution

The most crucial solution to the current educational shortcomings is to incorporate new educational technologies that raise life spontaneously to be in accord with natural law, and that directly unfold the full creativity and intelligence of the student.

We have previously seen that it is possible today to supplement and enrich the intellectual study of natural law with the direct experience of natural law in consciousness. Modern educational technologies, in particular the Transcendental Meditation program, take maximum advantage of the rich inner laboratory of natural law that exists within the

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5 This is because (a) since much of natural law remains unknown, what constitutes “action in accord with natural law” is often not clear; (b) the scope of natural law is so unfathomably complex, that even armed with complete knowledge of the laws of nature, the full ramifications of our actions are beyond calculation; (c) even in cases where the consequences of actions are clear, due to stress and other factors, such intellectual understanding is not enough to guarantee life-supporting behavior.
human mind and body. These technologies of inner exploration bestow intimate familiarity with the functioning of natural law within the mind and physiology, and provide direct experience of the unified field of natural law in the simplest form of human awareness, or pure consciousness. The consequences of such an experiential approach are many-fold:

• Academic study becomes deeply satisfying and relevant to the student when the laws of nature are directly experienced within the student’s own mind and physiology. Moreover, through this experiential approach, students gain a familiarity and direct facility with the laws of nature that cannot be achieved on the basis of book-learning alone.

• Pure consciousness is the unified source of all mental activity—mind, intellect, ego, and emotions. It is therefore the source of all language, literature, mathematical logic, artistic expression—indeed the whole field of human inquiry. By becoming intimately familiar with the source of all knowledge, and the origin of all academic disciplines, in pure consciousness, students feel increasingly at home with all knowledge and with every field of study. In addition, they are never overwhelmed by the sense of incomplete knowledge, or growing ignorance, because they are experientially grounded in the wholeness of knowledge, the totality of natural law, within (Jones, 1989).

• According to research, these educational technologies directly develop the student’s innate mental potential. Longitudinal studies have cited growth of I.Q. (Cranson et al., 1991; Aron, Orme-Johnson, & Brubaker, 1981; Dillbeck, Assimakis, Raimondi, Orme-Johnson, & Rowe, 1986), memory (Dillbeck, Orme-Johnson, & Wallace, 1981; Abrams, 1972), creativity (Travis, 1979; Jedrczak, Beresford, & Clements, 1985), alertness (Appelle & Oswald, 1974; Williams & West, 1975), brainwave coherence (Travis & Orme-Johnson, 1990; Jevning, Wallace, & Beidebach, 1992), ego development (Alexander, Rainforth, & Gelderloos, 1991; Alexander et al, 1990; Seeman, Nidich, & Banta, 1972), moral reasoning (Nidich, 1975; Nidich, Ryncarz, Abrams, Orme-Johnson, & Wallace, 1983), self-esteem (Shecter, 1977), and other key cognitive and developmental measures. Some of the latest and most advanced psychological research also reports the growth of integrated states of neurophysiological functioning or “higher states of consciousness” rarely achieved in a conventional educational setting.
As we have seen, the most crucial result of these educational technologies is life in accord with natural law. As one gains a growing familiarity with natural law within, one develops a natural sense of what is healthy for the body and useful for the mind and surroundings. Also, as the physiology and neurophysiology become integrated and balanced, the stress and dissatisfaction that can compel one knowingly towards harmful behavior is absent. As a consequence, one’s behavior becomes spontaneously more life supporting.

The incorporation of such developmental technologies within education is generally known as “consciousness-based education” (Jones, 1989). Until now, education has focused mainly on the “known” or content of knowledge. It has thus ignored the most fundamental component of learning, the “knower”—the quality and clarity of the student’s consciousness. Traditionally, education provides no knowledge of consciousness and no scientifically proven means to develop it. This is the primary source of the failure of education today.

Even recent proposals to improve education tend to focus on academic content, or on information technologies, such as computer access to the Internet, which offer access to larger and larger volumes of data. However, without a means to develop more than 5%–10% of a student’s innate potential, no amount of information will ever produce truly educated, truly dynamic, or successful citizens. This is why consciousness-based education is so essential.

In addition to the above experiential technologies, powerful new teaching methods and instructional materials have been developed to take maximum advantage of the discovery of the unified field of natural law—pure consciousness—at the basis of every discipline. For example, large wall charts, known as Unified Field Charts, graphically display the sequential emergence of an entire discipline from its unified source in the unified field—i.e., the superstring in the context of modern physics, the universe of sets in the language of mathematics, the DNA molecule in the context of physiology, or the pure consciousness of the artist. (See Figures 1 for the physics chart) These charts relate the parts of knowledge (e.g., specific aspects of the discipline or the lesson of the day) to the

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6 For example, drug abuse among students decreases at two- to ten-times the rate of standard treatment and prevention programs explicitly designed to treat such problems (Alexander, Robinson, & Rainforth, 1994).
Consciousness

Transcendental Meditation allows the conscious mind to identify itself with the Unified Field in Pure Consciousness.

Pure Consciousness

Unified Field

Of All the Laws of Nature
wholeness of knowledge (the entire discipline), and the entire discipline to its unified source in the unified field. They further relate the unified field to the Self—the simplest form of awareness, or pure consciousness, of every student. They prevent the student from feeling lost in the details of knowledge, and also remind the student that the content of knowledge is in no sense foreign, but is directly related to his or her own self.

This modern teaching device thereby takes full advantage of the most up-to-date scientific knowledge of natural law, the discovery of the unified field, to organize the entire field of learning and to make the study of every discipline as relevant to the student’s own life as possible.7

In addition to the above, the following curriculum initiatives, which have enjoyed various levels of success, are also worthy of consideration:

• Lengthen the school year and increase the number of required subjects in schools.
• Increase access to computer-aided education, both for tutorial purposes and to give students access to the most highly skilled, nationally-renowned teachers.
• Create national apprenticeship programs that bring together business, labor, and educational leaders to develop a system that offers training in a valuable skill for students who are not college bound.
• Improve the nutritional value of school lunches—a simple change that has been found to significantly improve educational outcomes in economically disadvantaged neighborhoods.

Finally, in light of the limited success of socialized education in the U.S. and elsewhere, alternative educational financing strategies may be considered. Specifically, greater choice among public, private, and parochial schools could help foster healthy, free market competition among various public and private educational providers. Such competition can only serve to improve the quality of education, encourage more efficient use of educational funds, and accelerate the implementation of successful curriculum innovations and teaching methodologies, including the consciousness-based educational programs discussed above.

Specifically, federally-funded educational vouchers awarded to families with school-aged children would increase parental options for school choice, and thus promote greater competition among schools.

7 These and other unified-field-based, consciousness-based teaching materials are available from Maharishi University of Management Press.
These vouchers could be applied toward any school—public, private, or parochial—provided that school maintains high academic performance on standardized national tests. The free-market competition that this voucher system will engender would provide a much-needed incentive for fundamental educational reform.

The incorporation of consciousness-based education, which combines educational technologies that unfold full human intelligence with the latest unified-field-based curriculum innovations and instructional methodologies, will allow any government to take full advantage of the profound laws of nature governing human development. This truly modern approach promises to fulfill the historic purpose of education envisioned by America’s Founders—life free from mistakes and problems, fully aligned with the evolutionary power of natural law. It will put an end to the widespread problems in education experienced by almost every country, and fully harness the nation’s most precious resource—the full creative potential of its citizens.

3. Crime

An effective criminal justice and criminal rehabilitation system should be capable of producing a crime-free nation—a nation where citizens live fully in accord with natural law and national law, where people freely move on the streets without fear, and where the citizens live and work together harmoniously for their own fulfillment and for the good of the nation.

The Problem

Crime costs Americans an estimated $500 billion annually. The U.S. has the highest violent crime rate of any Western country, despite incarceration rates seven-times higher than the Western European average. The FBI’s most recent crime report concluded that “every American has a realistic chance of being murdered because of the random nature [that] crime has assumed.”

America’s criminal justice system is under constant strain. Courts, police, probation and parole agencies, and prisons are overworked and inadequate to deal with the high level of crime (Donziger, 1996).

8 In a report for the Department of Justice, Mark A. Cohen, Ph.D., an economist at Vanderbilt University, estimated that crime costs the U.S. approximately $500 billion annually (Butternfield, 1996). However, estimates of the annual cost of crime in the U.S. run as high as $700 billion (Gest, 1994).
Clearly, a “get-tough” policy is not enough (Elikann, 1996):

• Building more prisons has not worked. Incarceration acts like a quarantine, preventing a faster acceleration of crime, but fails to eradicate the source of the crime epidemic.

• The threat of punishment is not enough. Most violent crime is “an impulsive response to an immediate stressful situation,” often committed under the influence of drugs or alcohol—not a rational, considered action (Petersila, 1993, p. 9).

• Many experts feel that prisons train inmates to be better criminals (ibid., p. 10; Sampson & Laub, 1993). Most violent crime is committed by hard-core repeat offenders: the majority of prisoners commit new crimes and are arrested within three years of release.

• More police on the street does not lower crime. Published reports indicate that increased police patrols in major U.S. cities have had little effect on crime rates (The Kansas City Preventive Patrol Experiment, 1974; The Newark Foot Patrol Experiment, 1991; Wilson, 1994). Washington, D.C., for example, has the highest police/population ratio in the nation—and one of the highest violent crime rates.

Growing recognition of the need for prevention has led to experimental approaches such as Drug Abuse Resistance Education (DARE) and midnight basketball. Unfortunately, long-term scientific studies have found no significant effects on crime and drug abuse from such programs (Wilson, 1994; Mendel, 1995).

The Solution
1. Reducing social stress
These “band-aid” approaches do not work because they fail to address the root cause of crime—the widespread violation of natural law and the resulting epidemic of stress throughout society.

Numerous studies have shown that social stress is a major contributing factor to crime (Linsky & Straus, 1986; Brenner, 1976, 1980). The State Stress Index of Linsky and Straus—an index of economic, family, and other stressors (including unemployment, bankruptcy, divorce, infant mortality, high-school dropout rate, and new welfare cases)—correlates very highly with rates of homicides, rapes, and aggravated assaults (Linsky & Straus, 1986).
These and other findings on the macrosocial level are consistent with research linking stress and violence on the individual level. For example, high life-events stress is associated with domestic violence and with aggressive behavior, delinquency, and crime among youth—with more intense levels of stress associated with more serious offenses (See Hage- lin, 1998, Chapter IV).

Modern medical research has delineated possible mediating neuroendocrine mechanisms linking stress to aggression, violence, and criminal behavior (Sarne et al., 1995). Animal and human studies have shown that chronic stress disrupts the coordinated regulation of the neurotransmitter serotonin and key hormones, including cortisol, impairing the individual’s ability to respond adaptively, and in many cases causing serious physiological malfunction. Specifically, chronic stress produces abnormally low levels of serotonin as well as abnormally high levels of cortisol, changes which have been directly correlated with aggression, hostility, and impulsive, violent behavior (Cleare & Bond, 1997; Fishbein, Lozovsky, & Jaffe, 1989).

In recent years, individual and social stress has reached epidemic proportions. Today, 44% of Americans suffer from stress-related illness (U.S. Department of Health and Human Services, 1995). The origins of this stress are multidimensional. However, examination shows that most of these origins have their ultimate source in the violation of natural law, and the strain this places on the individual physiology, on the economy (through health and crime-related costs), and on the fabric of society.

Any concerted effort to address these multiple sources of social stress (for instance through drug-abuse prevention and rehabilitation programs, job training, etc.), would be a large scale and costly undertaking—even if only high-risk communities were targeted. Thus it is critically important to identify solutions that (a) address the roots of individual and social stress in the violation of natural law and (b) are practical and cost effective to implement widely.

We have seen that one highly-effective approach to reducing individual and social stress and bringing life into accord with natural law is the Transcendental Meditation and TM-Sidhi program. TM practice is associated with a distinctive physiological state of restful alertness, indicated by decreased respiration rates and basal skin conductance, and increased coherence and integration of brain functioning (Jevning,
Wallace, & Beidebach, 1992). This profound rest promotes regulation of cortisol and other hormones in the opposite direction to chronic stress, including: reduced baseline levels of cortisol and a more robust cortisol response to stress; healthier regulation of serotonin; and decreased plasma cortisol and aggressive behavior in hyperaggressive patients (MacLean et al., 1994; Walton & Levitsky, 1994). Statistical meta-analyses and random assignment studies have found TM practice more effective than other treatments in decreasing trait anxiety and anger, enhancing emotional balance, and reducing substance abuse and post-traumatic stress disorder (Eppley, Abrams, & Shear, 1989; Alexander, Robinson, & Rainforth, 1994).

Such individual benefits can profoundly impact crime, as indicated by research conducted on maximum security prisoners. Inmates who practice Transcendental Meditation display reduced psychopathology, hostility, and rule infractions, as well as significantly reduced recidivism (Bleck & Abrams, 1987; Dillbeck & Abrams, 1987).9

Consistent with these effects at the individual level, we have seen that collective practice of the Transcendental Meditation and TM-Sidhi program reduces social stress and produces positive changes in society as a whole. During the past 20 years, over 40 studies employing increasingly rigorous statistical methodologies have reported significant reductions in crime and other indicators of social stress resulting from such collective practice.

Growing interest among sociologists and criminologists worldwide generated by these research findings led to the 1993 National Demonstration Project to Reduce Violent Crime and Enhance Governmental Effectiveness in Washington, D.C. (Hagelin et al., 1993). This highly public demonstration project, which involved 4,000 subjects over a period of two months, was one of the most rigorously designed sociological experiments in history. As predicted in advance, violent crime fell by more than 23%. Time series transfer function analysis also indicated that over time, the long-term, steady-state effect of the group would have

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9 In 1987–1988, the African nation of Senegal applied this rehabilitation strategy nationwide. Over 11,000 Senegalese prisoners and over 900 prison officers were instructed in the TM technique. Recidivism dropped dramatically, the prison population halved, prison violence declined, and several prisons closed while many others operated at well below capacity. See New Horizons in Criminology and Penitentiary Science: The Maharishi Unified Field Based Integrated System of Rehabilitation in Senegalese Prisons (Dacca: 12–13 February, 1988).
been a reduction of violent crime by more than 40%, with an annual cost savings to the District government of nearly half a billion dollars.

Also, as discussed in Chapter IV (Hagelin, 1998), by effectively reducing social stress, this approach breaks the vicious cycle in which the violation of natural law leads to stress, and in which stress leads to further violations of natural law. It therefore provides governments a practical means to reverse the current dangerous slide in collective consciousness, with its associated crime, domestic violence, family disintegration, and social decay.

By forming coherence-creating groups in major cities, or one or more national coherence-creating groups, any government can stem the tide of crime, and save the nation billions of dollars in crime-related costs.

2. Effective Prison Rehabilitation
One of the most cost-effective prevention strategies is to target those individuals who are at highest risk for crime. At highest risk is the current prison inmate population. Approximately, 90% of inmates are released from prison; of these approximately two-thirds are convicted of further crimes within the following three years (Wilson, 1994). To date, the most effective prison rehabilitation program is Transcendental Meditation. A five-year Harvard study found that inmates in a maximum security prison who learned the practice decreased significantly in stress, aggression, and mental disorders (Alexander, 1982). Violence throughout the prison decreased, and the rate of return to prison among participating inmates was 30–35% less than for four other treatment groups. Similar studies in 28 other maximum security prisons have shown equally impressive results (Bleich & Abrams, 1987; Dillbeck & Abrams, 1987). Many rehabilitation strategies fail because they try to re-educate and reform inmates without first changing inmates from within—without ridding them of the stress that makes them uninterested in education and incapable of being reformed.

3. Urban Revitalization
Today’s overcrowded, decaying urban centers contribute significantly to the rise of stress and crime. Any comprehensive program to reduce crime must involve a plan to revitalize the inner cities. This plan should include the following:
1. the development of nonpolluting automobiles and public transportation;
2. human-scale housing that discourages crime and supports neighborhoods in which families can grow and prosper;
3. construction materials and designs that are in harmony with natural law, and do not cause “sick-building syndrome”;
4. the development of more parks and green spaces.

4. Drug and Alcohol Rehabilitation
A high proportion of crimes are committed under the influence of alcohol and drugs. It is therefore important to identify and promote drug promotion and rehabilitation programs proven to reduce drug abuse and drug dependency. Due to its profound ability to reduce stress, restore physiological balance, and to raise life to be spontaneously in accord with natural law, the Transcendental Meditation program has been found to be two to ten-times more effective than the standard treatment and prevention programs explicitly designed to treat drug

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10 The latest government statistics show that an alarmingly high percentage of our homes and office buildings are “sick buildings,” buildings that actually pose a significant health risk to the tenants. Buildings can, and should, be designed which have a positive, healthy influence upon its occupants, and which are maximally conducive to the purposes for which the building was designed. 

Maharishi Sthapatya Veda is the modern reformulation of the ancient science of building in harmony with natural law. Its principles include Vastu Vidya—the proper orientation and design of buildings to eliminate strain caused by inefficient and inappropriate design, and to maximize success and support of natural law from one’s living environment.

Modern medical science already recognizes the powerful effect of buildings and their orientation upon the physiology. For instance, the body is photosensitive—sensitive to both the quantity and quality of sunlight. The quantity and quality of sunlight depends on the time of day, the season, latitude, and the orientation of buildings. New research has also found that the brain is sensitive to extremely weak environmental electromagnetic fields, and that it is sensitive to orientation—i.e., to the earth’s magnetic field lines, which are oriented from north to south. It is not surprising, therefore, that different orientations of the home, and arrangement of rooms within a home, create different influences on the occupants. Some rooms are more suitable to activity, others to digestion, to rest, and so forth.

While modern science confirms the potentially large physiological effects from sunlight, orientation, etc., it would take years of experimentation by medical and architectural science to determine which effects are good, which are healthy and which are unhealthy, and how to make use of them. Maharishi Sthapatya Veda architecture, which has been time-tested for thousands of years, has already cataloged the effects of different designs and orientations of buildings. It takes architecture out of the field of experimentation, and saves the population from being the subjects of a protracted experiment. It thereby helps to ensure that our living environment has a maximally productive and positive effect on our lives and health, and prevents the negative, stress-promoting influence of modern urban dwellings and their inevitable contribution to crime.

5. Preventing Youth Crime
School drop-outs are at highest risk for crime and drug abuse. More effective educational programs are therefore needed to keep children in school, off the streets, and out of the reach of crime. The consciousness-based educational programs discussed above have been shown to reduce school attrition, to develop full creativity and intelligence, and to promote ideal citizenship by raising life to be in accord with natural law and national law. Proper education is the true, long-term solution to the problem of crime (see Education section of this paper).

In response to the public outcry against crime, many politicians have publicly adopted a “get tough” approach based on stiffer penalties, more prisons, and more police. In reality, the above preventive approach is the most hard-headed and hard-hitting, since it focuses on scientifically proven programs that actually work. This comprehensive, preventive approach will not only save the billions of dollars in national resources, but will prevent immeasurable pain and suffering in the lives of millions of citizens who are the victims of crime each year.

4. Defense
Through alliance with the invincible power of natural law, any nation, regardless of size, can rise to invincibility. When national consciousness is integrated and strong, and fully in accord with natural law, then the nation has a powerful, positive influence in the family of nations. This profound, nourishing influence can transform enmity into friendship and thus prevent the birth of an enemy. The availability of a proven technology to generate such a powerful, positive influence provides an unprecedented opportunity, combined with the end of the Cold-War, to create a stable and lasting global peace, in which every nation enjoys friendship with every other nation.

The Problem
There is no viable defense against today’s high-tech weaponry. Once a single MIRVed ICBM is launched, there is no missile defense system in place that can prevent the wide-scale destruction of cities.
Even after substantial reductions in global arsenals, thousands of nuclear weapons remain. At least 46 weapons are believed to be missing from the former Soviet arsenal, and recent nuclear tests in China have stirred fears in the international community of runaway nuclear proliferation.

Regional and ethnic conflicts in the Middle East and Eastern Europe have recently shown that no nation is safe: even small nations can imperil world peace and stability, and hold other nations hostage through terrorism, ecological warfare, and weapons of mass destruction (Belts, 1998; Preston, 1998).

In light of the wholesale destruction threatened by nuclear and other weapons of mass destruction, diplomacy and other means to prevent the outbreak of war have become especially crucial. Unfortunately, history shows that neither treaties nor threat of arms can ensure peace and security. When, due to widespread violation of natural law, stress builds up in collective consciousness, it inevitably erupts as violence, conflict, and war among nations. Over the past 3000 years, there have been more than 5000 peace treaties, each of which has lasted an average of at most nine years. History thus shows that paper agreements among nations is not a foundation for lasting peace.

The stockpiling of arms has proven similarly ineffective. The buildup of armaments in the long-run only increases tensions among nations, and at best serves to postpone confrontation. Moreover, such stockpiling of arms offers little security against high-tech weapons in the hands of terrorists and other aggressors. Indeed, the proliferation of weapons worldwide is now widely considered to be a major destabilizing influence and threat to peace (Blair, Feiveson, & Von Hippel, 1997; Hall, 1998).

Unfortunately, the U.S. is one of the world’s biggest arms suppliers. This global arms peddling has tarnished America’s reputation as a promoter of peace, fostered deep-seated international ill-will, and led to an increasingly dangerous world in which American soldiers are forced to confront their own weapons on the battle field. Heavy lobbying by the defense industry, including large financial contributions to congressional campaigns, has perpetuated America’s enormous peace-time military budget, which exceeds the combined military expenditures of every other nation in the world.
Finally, military personnel face major health risks, including problems with stress, alcohol, and a higher rate of cigarette smoking than the civilian population. Post-traumatic stress disorder is virtually ignored due to lack of solutions, and Gulf War syndrome has underscored the dangers of modern chemical and biological weapons on our primary-level military personnel. Clearly, these circumstances call for a more effective and humane approach to defense.

The Solution
Because there is no viable defense against weapons of mass destruction, it is now more critical than at any time in history to prevent the outbreak of war. We have seen, however, that diplomacy alone provides no stable foundation for security among nations. We have also seen that the amassing of arms as a deterrent to war merely heightens global tensions, is destabilizing in the long-run, and leads to a precarious peace, at best. While some historians will argue that the strategy of deterrence based on mutually assured destruction (MAD)—the guarantee of unacceptable losses to both sides—averted nuclear confrontation, such deterrence came at great expense to civilization. Mankind lived under constant threat of annihilation, where even a miscalculation (e.g., during the Cuban missile crisis) could spell nuclear conflagration. In addition, billions of dollars of national resources were wasted on weapons that, at very best, would never be used.

A far more humane and prudent approach to averting war is to prevent the buildup of enmity, and thus prevent the birth of an enemy. War breaks out when the escalation of tensions among rival nations leads to a catastrophic breakdown in negotiations. Until recently, there has been no reliable means to diffuse such escalation of negativity and to avert such a diplomatic breakdown.

This situation has changed dramatically. During the last 20 years, diffusing social stress and resolving international conflict through collective practice of the Transcendental Meditation and TM-Sidhi program has amassed more scientific evidence than any previous approach in the history of the social sciences. This approach has repeatedly proven its ability to quell violence and to stop open warfare, even in areas where deep seated tensions and historic animosities have persisted for generations. For example, seven consecutive interventions by such coherence-
creating groups during the peak of the Lebanon conflict each brought highly significant reductions in war deaths, war-related injuries, and the level of conflict, and brought significant progress towards peace (Davies & Alexander, 1988). War deaths fell an average of 78% ($p < 10^{-10}$) during the seven interventions, and the decreased tension and significantly improved atmosphere allowed diplomatic initiatives to succeed where previously they had failed (see Hagelin, 1998, Chapter IV).

The remarkable effectiveness of this consciousness-based approach to conflict resolution is not surprising considering the profound and fundamental level of natural law at which these technologies operate—a level which is actually orders of magnitude deeper than nuclear technologies.

Nuclear technologies were rapidly developed and deployed because of their ability to overwhelm conventional chemical and electronic technologies of defense. Nuclear technologies operate at a level of natural law that is a million times smaller, and hence a million times more powerful (see Hagelin, 1998, Chapter I). The above technologies of consciousness operate at a level of natural law that is even deeper than the nuclear level, where the characteristic energies are correspondingly greater. As we saw in Chapter III the experience of pure consciousness corresponds to the direct subjective experience of the unified field of all the laws of nature at the foundation of the physical universe. The influence of positivity and coherence generated by such group practice thus represents an actual physical influence of peace that is orders of magnitude more powerful than any previous defensive technology, and which can easily overwhelm any incoherence and negativity among rival nations produced on the ordinary mental level. If, according to the UNESCO Charter, “War begins in the minds of men,” then it can easily end in the far more fundamental experience of pure consciousness, which underlies and unites us all.

There are important differences between the subjective application of the unified field and conventional defensive technologies. First, defensive technologies are traditionally objective. In contrast, only a subjective technology of consciousness can reach the level of the unified field, which is far beyond the most energetic particle accelerators.\(^\text{11}\) Second, whereas objective technologies operate at fragmented levels of natural

\(^{11}\text{Indeed, the objective approach of modern science, which is founded upon the separation between the observer and the observed, is inherently incapable of investigating the completely indivisible, unified structure of natural law at the superunified scale.}\)
law where the fundamental particle symmetries are broken, the Transcendental Meditation and TM-Sidhi program functions on a deeper level where the laws of nature are completely unified, and is therefore profoundly unifying, harmonizing, and life supporting in its effects—in contrast to conventional weapons technology. Third, because the level of the unified field is by far the most powerful level of nature’s dynamics, it has the capacity to overwhelm even deeply entrenched animosity, and to transform enmity into cooperation and friendship within a matter of days.

The most straight-forward, practical implementation of this approach is to establish a “prevention wing of the military,” comprising one or several groups of 5,000 to 10,000 troops (one to several percent of military personnel) trained in the peace creating technologies of the Transcendental Meditation and TM-Sidhi program. According to extensive research (see Hagelin, 1998, Chapter IV), such a group is fully capable of preventing the outbreak of war, which is the only viable defense strategy given today’s high-tech weaponry.

The establishment of such groups within the military is particularly apt. Servicemen are already employed by the federal government to defend their country. Outside of war-time, these troops are often underutilized, and could be called upon to create national coherence, and thereby help to preserve the peace. In addition, soldiers called upon to defend their country need to draw upon their full mental and physical capabilities, which Transcendental Meditation enables them to do. Finally, soldiers in combat are exposed to acute stress, which has both immediate and long-term consequences. By developing the strength and resilience of the nervous system, Transcendental Meditation can effectively inoculate soldiers against the ravages of combat stress (Jevning, Wallace, & Beidebach, 1992; Maclean et al, 1994), and to effectively treat post-traumatic stress disorder in soldiers who have been previously exposed (Brooks & Scarano, 1985).

To help keep peace internationally, an international corps of peace-keeping troops trained in these powerful peace-promoting technologies could be formed under the auspices of the U.N. or another international agency. They could be dispatched to trouble spots throughout the world to prevent the escalation of tensions and the outbreak of armed conflict.
The establishment of a coherence-creating group (e.g., a prevention wing of the military) also removes another principal historic cause of war: weakness in collective consciousness. Vulnerability invites attack. When the national consciousness is incoherent, and the strength and coherence of the government is correspondingly weak, it is tempting for neighboring countries to take advantage of the nation—economically, militarily, and in other ways. Most military invasions have occurred when the target country is in a state of decline or otherwise debilitated. However, when national consciousness is integrated and strong, and the government speaks with the backing and authority of a unified nation, then a country cannot easily be bullied by rival nations.

Group practice of the Transcendental Meditation and TM-Sidhi program by a national coherence-creating group enlivens fundamental qualities of the unified field in the national consciousness which are vital for defense: invincibility, dynamism, vigilance (“fully awake within itself), self-sufficiency, harmonizing, freedom, and omnipotence (see Hagelin, 1998, p. 98, figure 4g).

When a nation projects an influence that is purely life supporting and nourishing to its neighbors, it is unlikely that a neighboring country would be inclined towards aggression. Such aggression would be counter-productive when directed against a neighbor that is a source of strength and support. It is therefore important for national security that a country grows in its ability to nourish every other nation. This nourishing ability can be developed through a coherence-creating group, and through the economic and other policies presented in this Chapter.

Finally, it is important that arms producing nations desist from their dangerous arms trade. Peddling in arms may serve the short-term interests of the defense industry, but has created a dangerous and unstable world. Such export of arms can prove suicidal for a nation. Alliances shift, and inevitably, nations are forced to confront their own weapons on the battlefield. It is equally inadvisable for recipient nations to depend on arms producing nations for their systems of defense. Such supplies can dry up with changing alliances, and supply lines can be interrupted with the outbreak of hostilities.

In particular, America, which is the principal proponent of democracy in the world, should not tarnish its reputation by providing massive amounts of offensive weapons to democratic and non-democratic coun-
tries. This practice has led to deep seated resentment, and has made America the principal target of terrorism in the world. Instead, the U.S. should be a lighthouse of coherence and a life-supporting influence for the whole world. Rather than weapons, it should export its invaluable, cutting edge knowledge in the fields of business, education, sustainable agriculture, and emerging environmental technologies.

Without the powerful peace-creating technologies described in this section, it would be premature to recommend a significant downsizing of military forces, given today’s dangerous and unstable global environment. However, armed with these proven, peace-creating technologies, any country can responsibly cut its military expenditures, and achieve a significant “peace dividend” by redirecting its national creativity and resources towards more productive and life-supporting programs.

5. Economy

By fully harnessing a nation’s human resource—the full creativity and intelligence of its citizens—and by eliminating the massive financial burden caused by pervasive social problems, the enormous creativity and resources of the nation will be freed to create unprecedented economic progress and prosperity.

The Problem

The violation of natural law places a severe burden on every national economy. Spiraling health costs fueled by epidemic stress levels throughout society cost the U.S. economy over $1 trillion ($1,000,000,000,000) in 1996. Another $500 billion was lost to crime. These two problems alone cost the average wage earner (or his employer) nearly $15,000 annually in taxes and direct cash outlays.

These staggering costs, and the resulting high level of taxes, sap the life and growth potential out of the economy. They siphon precious resources away from education, research and development, savings and investment, and spending on goods and services that raise the quality of life and stimulate broad economic growth. Excessive taxes in every country have led to anemic growth rates, which in turn have contrib-

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12 In a report for the Department of Justice, Mark A. Cohen, Ph.D., an economist at Vanderbilt University, estimated that crime costs the U.S. approximately $500 billion annually (see “Prison: Where the Money Is,” New York Times, June 1, 1996). However, estimates of the annual cost of crime in the U.S. run as high as $700 billion (Gest, 1994).
uted to unemployment, decreased job security, and reduced real earnings and quality-of-life in most countries, including the U.S., over the past 20 years. Large national debts in many countries contribute further to this tax burden.

In many countries, the tax system is so complex and riddled with loopholes due to pressure by corporate lobbyists that the legal and accounting costs of tax compliance are staggering. In the U.S., even the Internal Revenue Service cannot decipher the seven-million-word tax code, and businesses pay, on average, four times as much on tax compliance and tax avoidance as they pay in taxes.

In addition to the enormous drain on national resources due to the violation of natural law, lack of creativity is the second major contributor to poor economic performance. In most countries, education has been unable to equip students with the necessary skills to compete in today’s high-tech job market. More important, current educational methods do little to develop the full creativity and intelligence of students. Most students utilize as little as 5%–10% of their full mental potential upon graduation, and then suffer a further, gradual decline in intelligence after the age of 25. Although a nation may have been able to survive these deplorable educational outcomes in simpler economic times, today they constitute an intolerable waste of human resources and a severe bottleneck to economic performance and national competitiveness.

Finally, both businesses and citizens are victims of business cycles of inflation and unemployment—macroeconomic conditions over which they have little control. Such boom-and-bust cycles are symptoms of economic instability, caused by accumulated national and global stress. Such stress makes the collective consciousness susceptible to swings in the national mood and increases the threat of international conflict, both of which have a destabilizing effect on markets and economic conditions.

The Solution

1. End the massive economic drain caused by violations of natural law
In this chapter, we have seen how all significant national problems—problems of health, education, crime, defense, and the economy—have their origin in the violation of natural law by the whole population. We have also seen that these problems constitute an enormous drain on the financial resources of nations. Solving these problems at their
basis through life in accord with natural law is the only solution to these massive expenditures. A government cannot simply slash its medical outlays without first improving the health of the nation; to do so would have disastrous consequences.

In this book, we presented proven programs to bring the whole of national consciousness into accord with natural law, and thus to eliminate problems at their basis. We have also laid out specific policies in the fields of health, education, crime, etc., to effectively harness the laws of nature, and thereby accelerate the reduction of problems and bring maximum success to governmental administration.

The effectiveness of these programs has been established by hundreds of published scientific studies conducted at more than 200 independent universities and research institutes throughout the world. Their implementation is known to dramatically reduce societal problems, together with their associated costs. Such implementation will free the nation’s financial resources for constructive purposes (investment, research and development, and job training), creating strong economic growth and a higher quality of life for every citizen.

2. Boost national creativity
The nation’s most precious resource is its human resource—the unlimited creative potential of its citizens. According to the latest econometric research (Gilder, 1989; Mokyr, 1990), in today’s information-based economy, intelligence and creativity (more than capital, labor, and natural resources) drive economic growth. In light of current poor educational outcomes, one of the most crucial economic strategies that governments can adopt is to develop this largely untapped human resource. We have previously presented proven educational programs that develop full human intelligence, maximum creativity, broad comprehension, strong leadership, and the inner stability and adaptability to compete in a changing job market. Only such educational outcomes will ensure national competitiveness and a leadership role in the family of nations.

3. Create macroeconomic stability
We have seen that the creation of a coherence-creating group (e.g., a prevention wing of the military) dissolves social stress, reduces the threat of national and international conflict, and thus provides a more positive
and stable environment for economic growth and prosperity. Research conducted on such coherence-creating groups has shown significant improvements in the Okun Misery Index (i.e., decreased inflation and unemployment), greater strength and stability of the national currency, and improvements in other key economic indicators (Cavanaugh, 1987; Cavanaugh, King, & Titus, 1989; Orme-Johnson & Gelderloos, 1988).

Large businesses and private-sector corporations can also create such groups among their employees. Most corporate analysts are aware of how their businesses are negatively impacted by adverse macroeconomic factors. Through the establishment of a coherence-creating group, businesses are now in a position to change macroeconomic trends in a positive direction for the benefit of their organization and society as whole. In addition, businesses that have incorporated the use of Transcendental Meditation have seen marked savings in corporate health costs (Herron et al., 1996; Alexander et al., 1993). Health benefits have now become the third largest expense (after raw materials and straight-time pay) for manufacturers, and the second largest expense for most service businesses. Experience has shown that such corporate health costs can be cut in half or more, simply by incorporating the Transcendental Meditation program into their employee benefits package.

4. Lower taxes
The most powerful fiscal action a government can take to stimulate the economy is to lower taxes. It is now possible, through the programs and policies presented in this book, to cut taxes deeply and responsibly—without adding to the national deficit and without cutting essential services. During elections, many politicians promise lower taxes but are unable to fulfill these promises due to the depth and complexity of problems faced by government. However, the cost-effective solutions to crime, spiraling health costs, etc., presented in this book will save governments billions of dollars annually. This provides a realistic basis for significant tax reductions, while protecting the integrity of important social programs.

The significant reduction of taxes also affords governments an opportunity to reform tax policies that are counter-productive or that violate
economic laws of nature: i.e., systems that are unfair, overly burdensome or complex, or that penalize productivity.

For example, raising marginal tax rates on the wealthy beyond a certain level does little to increase government tax revenues\(^\text{13}\) and discourages further economic activity on the part of those most capable of starting new enterprises and creating new jobs. Also tax codes that are rife with corporate loopholes favoring certain industries over others lead to higher overall taxes, create economic imbalance, and increase the complexity of the tax system and the cost of compliance.

One simple way to implement across-the-board tax cuts is through a low flat tax, with a generous exemption for poor and lower-income families. This simple solution, which is gaining support in many countries, would eliminate tax loopholes and “corporate welfare,” while satisfying the fundamental requirements of fairness, simplicity, neutrality, visibility, and stability (The National Commission on Economic Growth and Tax Reform, January 1996).

5. Enterprise zones.
The lack of available capital for start-up companies due to decades of slow growth and excessive taxes has taken an especially severe toll on the inner cities. Federally guaranteed loans earmarked for start-up businesses in economically deprived urban areas (termed “enterprise zones”) can stimulate economic growth where it is most needed, create new jobs and a stronger sense of community, and can thereby accelerate the revitalization of our inner cities.

By lifting the burden of pervasive problems from the national economy, by fully harnessing the nation’s human resource, and by bringing the life of the nation and its economic policies into accord with natural law, any country can enjoy unprecedented economic growth and fulfilling prosperity.

\(^{13}\) In the U.S., the most comprehensive studies on the effects of marginal tax rates have concluded that raising such rates beyond a certain level actually reduces tax revenues. This is partly because raising taxes pulls money away from private sector investment used for start-ups, corporate R&D, and for raising productivity (e.g., by investment in job training, computers, automation, etc.), and thus slows economic growth, decreases corporate profits, and reduces tax revenues.
Conclusion

The life of a government leader is not an enviable one. The rise to power can be long and bitter. Then, once his position of authority is finally secured, he is surprised to discover how powerless he is to implement his policy agenda and to pursue the basic role of government in promoting the progress and happiness of his people. President Clinton, within weeks of his inauguration into what is ostensibly the most powerful position in the world, expressed public exasperation at “how difficult it was to accomplish anything in Washington.”

This powerlessness is because, until now, governments in actuality could not lead. Governments were ruled by collective consciousness, and the collective destiny, of the people. Governments have been historically unable to implement new policies and initiatives that were beyond the comprehension, and the deservability, of the people. And governments have been unable to bestow on their people what they do not deserve—abundant wealth that they have not earned, or vibrant health that they do not merit. Government is not a treasure-chest of health or wealth. The art of governing is, therefore, to raise the deservability, and hence the destiny, of the people.

Now, for the first time, governments can lead. Through the educational programs set forth in this book, they can directly expand the comprehension, or consciousness, of the people. And by establishing a national coherence-creating group, they can bring national life into accord with natural law, eliminate problems at their source, and thereby directly improve the destiny of the nation.

The availability of a powerful, proven technology to bring about this national transformation constitutes a scientific breakthrough of the first magnitude. It’s practical implementation through a prevention wing of the military (or similar coherence creating group) is well within the capacity of any government.

In addition to this overall approach, which brings the whole of national life into accord with natural law, the policies and programs presented in this chapter are designed to bring specific areas of national administration into greater harmony with natural law. These policies will accelerate the elimination of problems and help bring maximum success to every area of government. According to the research presented in this book, the resulting achievements in the fields of health,
education, crime, defense, economy, and in every field of governmental responsibility, will be historically unprecedented.

For the sake of those in every country who suffer from disease, who are victims of crime, or who are in the grip of poverty, I urge government leaders to act immediately to implement the scientific knowledge and practical programs presented in this book.

Those governments that act first will be the most fortunate—the first to enjoy freedom from problems and the full support of the governed. Others, who are slow to take advantage of these solutions, will ultimately be replaced by those that will.

Now is the time to reap the fruit of knowledge—to base government policy on the most profound discoveries of twentieth century science and the most advanced technologies for the full development of human consciousness. Now, governments can gain alliance with the invincible, evolutionary power of natural law, and thus bring national self-sufficiency, invincibility, freedom from crime and disease, and unprecedented prosperity and fulfilling progress to the nation.

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Transforming Political Institutions through Individual and Collective Consciousness: The Maharishi Effect and Government

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ABSTRACT
This study empirically tested the effects of large groups of individuals practicing the Transcendental Meditation (TM) and Transcendental Meditation-Sidhi programs on success and support for government. It assessed the impact of a National Demonstration Project (NDP) held in Washington, D.C. in 1993, on success and support for President Clinton and on improved quality of life in Washington. Predictions of the NDP were lodged in advance of the research with an independent review board comprised of criminologists, sociologists, and political scientists from six universities, as well as civic leaders and representatives from the police department, who participated in the research design and implementation.

Seven variables investigated these predictions using time series structural break analysis. All seven variables showed a significantly changed trend in the predicted direction toward greater positivity after the start of the NDP: Clinton’s approval ratings (p = 5.29 x 10^{-8}), media positivity toward the President (p = .01), and five indicators of social stress in D.C.: emergency psychiatric calls (p = .009), hospital trauma cases (p = .02), complaints against the police (p = .01), accidental deaths (p = .05) and a social stress index of the four (p = 3.22 x 10^{-5}).

These short-term results of the NDP on presidential approval ratings and other variables support the hypotheses that stress can be reduced in society and coherence enhanced in government by large groups practicing the Transcendental Meditation and TM-Sidhi programs together, replicating more than 40 previous studies on this phenomenon, which is known as the Extended Maharishi Effect.

Introduction
The theme of this conference “new institutions for a new century” evokes a sense of all possibilities, of evolution toward a broader, more advanced perspective. This study explores a new paradigm that is emerging across many disciplines. This paradigm is often expressed in terms of consciousness and the language of quantum physics. The previous paradigm can be likened to Newtonian classical mechanics, in which isolated physical entities interact in a mechanistic world, “in which the world consists of large, solid objects with empty space between them” (Ray, 1993, p. 2). In the context of the Newtonian viewpoint, social interactions are understood solely in terms of behav-
ioral and sensory interactions among individuals who are otherwise not connected. In contrast, according to the new paradigm, everything in nature, including individuals in society, are fundamentally interconnected by, and are expressions of unbounded universal quantum fields. Hagelin (1992) explains that the history of the last 30 years of physics has been the progressive unification of the four fundamental forces of nature: electro-magnetism, the weak force, the strong force and gravity via electroweak unification, grand unification, and finally super-unification, in which individual objects, including people are not fundamentally distinct, but are “various modes of vibration of a single, underlying unified field” (p. 50).

How does this quantum mechanical paradigm interface with human awareness? Hagelin (1992) enumerates the remarkable parallels between the attributes of the unified field discovered in quantum physics and the qualities of consciousness specified by ancient Vedic Science recently brought to light by Maharishi Mahesh Yogi, the foremost Vedic scholar. This view that the nature of nature and the nature of mind are essentially the same reality at fundamental levels has a long history in both the East and West, ancient and modern. A founder of modern psychology, William James (1892), described a state of consciousness which is transcendent to thinking activity, but which provides the basis for thought and action. Max Planck, one of the fathers of quantum theory remarked “I regard consciousness as fundamental. I regard matter as derivative from consciousness” (quoted in Klein, 1984). Quantum physicist Bernard D’Espagnat (1979) wrote in a Scientific American article that “The doctrine that the world is made up of objects whose existence is independent of human consciousness turns out to be in conflict with quantum mechanics and with the facts established by experiment”(p. 158).

What makes Maharishi’s formulation of this view most interesting to political science is that it provides a theoretical understanding of the significance of the unified field of consciousness for government that is empirically testable. The theory, known as “Maharishi’s Absolute Theory of Government” (1995), holds that the transcendental field of pure consciousness, identical with the unified field glimpsed by modern physics, is a field of ‘infinite correlation’ that underlies and connects all human activities and institutions.
Considering this phenomenon [infinite correlation] in the light of the Unified Field Theories of modern Physics and Quantum Cosmology, we understand that the scale of Super Unification at the level of the Unified Field is associated with a fundamental phase transition in the structure of Natural Law from a diversified state to a completely unified state. The defining characteristic of such a phase transition is that the ‘correlation length’, which is a measure of the connectedness or correlation of different components of a system, expands to finally become infinite. (Maharishi, 1995, p. 515)

This means that everyone is influencing everyone else on the level of the unified field, a concept that is expressed in the ancient Vedic texts as “the world is my family” (Maha Upanishad, 6.71).

Maharishi’s theory of government further posits that there are levels of collective consciousness corresponding to every level of social organization, family, community, city, state, nation, and world. There is a family consciousness that we feel when we enter a home, whether it is stressed or happy. Similarly, we feel a city’s consciousness when we enter the city, and we feel the differences in two national consciousnesses when we cross the border from one country to the next. This idea is not new, although it has not been an ordinary part of everyday parlance or mainstream social science. The concepts of zeitgeist (‘spirit of the time’) and ‘spirit of the nation’ are familiar. In his third inaugural address, Franklin D. Roosevelt said: “It is not enough to clothe and feed the body of the Nation, and instruct and inform its mind. For there is also the spirit. And of the three, the greatest is spirit” (Zevin, 1946, p. 269).

According to Maharishi, there is a reciprocal relationship between individual and collective consciousness. Individuals are the units of collective consciousness, collective consciousness is the sum of the influences of the individual members of a population. Reciprocally, collective consciousness influences every individual. The behavioral and mental processes of anyone coming into the purview of a collective consciousness will be wittingly or unwittingly affected by it, as is our experience when we enter a home or city or nation.

In Maharishi’s *Absolute Theory of Government*, the overall outcomes of societies, defined, for example, by their rates of crime, hospital admission, and auto accidents, are not merely the products of the indi-
individuals involved. They are also the products of collective consciousness. If we as individuals are stressed, then we contribute stress to the collective consciousness which exacerbates all the problems of society. On the other side of the coin, if we are coherent, our coherence spreads throughout collective consciousness to contribute to society’s successes and progress.

In Maharishi’s view, government is particularly vulnerable to influences in collective consciousness because it represents the constituency as a whole. “Every decision of government is the expression of national consciousness. National consciousness governs the activity of every nation in the same way that the consciousness of the individual governs the activity of the individual” (1995, p. 61). In particular, the head of state, as the pinnacle of national consciousness, is likened to “an innocent mirror” reflecting the level of collective consciousness of society. As such, whatever his or her personal aspirations and programs for the nation, when a head of state steps into office he or she comes under the sway of the collective consciousness. If the collective consciousness is incoherent and crime ridden, government become chaotic and imbalanced.

On the other hand, if the collective consciousness of a nation is more coherent, government will function smoothly (Maharishi, 1995). In Maharishi’s view of government, national consciousness is the wholeness of all the diverse tendencies arising from different sectors of society. National consciousness is the synthesis of the different economic interests of agriculture, industry, transportation, communications, manufacturing, services, etc. As well, it is the summation of different cultural interests, generation differences, etc. In this view, the ability of the leader to synthesize and fulfill the needs of the diverse constituency of a nation, even with best intentions, best advisors, and best platform, depends to a great extent on the level of social stress, and the level of coherence (or lack of it) in the nation.

Maharishi’s approach to creating coherence in collective consciousness is fundamental. Since the individual is the unit of collective consciousness, creating coherence in the national consciousness must start with creating coherence in the individual (Maharishi, 1977). To do this, he offers the technology of the Transcendental Meditation (TM) program, which he introduced 40 years ago, and TM-Sidhi program,
which he introduced 21 years ago. Transcendental Meditation is said to allow the mind to settle to pure consciousness, the unified field of natural law, and the TM-Sidhi program is said to train the mind to function from that level. This holistic level of natural law is only creative and life supporting.

At any isolated level of creation Natural Law could be used in a creative or a destructive manner, according to one’s ability and desire, but the holistic value of Natural Law at the level of the Unified Field, being the source of all the Laws of Nature, can be used only for creative purposes.

It can never be used for destructive purposes because the quality of destruction is non-existent in the eternal continuum of the self-interacting dynamics of the Unified Field. (Maharishi, 1986b, p. 16, 17)

When the individual learns to function from this fundamental level of nature’s intelligence, all areas of his or her life are said to become more coherent. Over 600 studies conducted in more than 200 universities and research institutions have provided empirical support for the theory, demonstrating improvements in all areas of individual life, physiological, psychological, and social (Orme-Johnson & Farrow, 1977; Chalmers, Clements, Schenkluhn, & Weinless, 1989a, 1989b, 1991; Wallace, Orme-Johnson, & Dillbeck, 1990).

Moreover, over 50 studies and theoretical papers directly demonstrate beneficial effects on society as a whole. As early as 1960 Maharishi proposed that as few as 1% of a population practicing the Transcendental Meditation technique would have a measurable influence of coherence on the entire society. The theoretical rationale for how a few can affect the many is the coherence principle found throughout nature, that coherence is more powerful than incoherence. For example, coherent laser light will shine further than incoherent, incandescent light. In 1974 a group of researchers found that when one percent of a city was practicing the Transcendental Meditation technique, the crime rate dropped significantly compared to controls. This phenomenon became known as the “Maharishi Effect”(1995) in honor of Maharishi who predicted it. Over the last several decades, the initial research has been replicated in a series of increasingly rigorous experiments, through greater sophistication of statistical methodology, investigation of larger sample sizes, comprehensive control for factors
affecting the dependent variables, replication across outcome variables and geographic locations, and employment of prospective research protocols (e.g., Borland and Landrith, 1977; Dillbeck, Banus, Polanzi, & Landrith, 1988; Dillbeck, Landrith, and Orme-Johnson, 1981). For example, Dillbeck et al. (1988) used causal analysis to demonstrate the Maharishi Effect controlling for demographics in a random sample of 160 cities and 80 Standard Statistical Metropolitan Areas, which constituted over half the urban population of the U.S.

An even more powerful influence has been found when individuals practice the more advanced TM-Sidhi program. Researchers discovered that when individuals practice the Transcendental Meditation and TM-Sidhi programs together in a group, only the square root of one percent is necessary to influence the quality of life in society in the direction of greater harmony and coherence, a phenomenon called the Extended Maharishi Effect. Hagelin (1987) connected the Extended Maharishi Effect to coherent systems in physics: “This prediction is based on a field theoretic model utilizing a coherent superposition of amplitudes, in which the intensity of the effect generated is proportional to the square of the number of participants” (p. 65). Borrowing from physics terminology, the Extended Maharishi Effect is also known as Super Radiance and the group of Transcendental Meditation and TM-Sidhi participants as the Super Radiance (SR) group. The studies, which largely utilized time-series methodology, have found that SR groups improve the economy (Cavanaugh, 1987); reduce crime rate (Hagelin, Rainforth, Orme-Johnson, Cavanaugh, Alexander, Shatkin, Davies, Hughes & Ross, 1999; Hatchard, Deans, Cavanaugh & Orme-Johnson, 1996); improve the quality of life in cities and states (Orme-Johnson, Gelderloos, & Dillbeck, 1988; Reeks, 1990; Dillbeck, Cavanaugh, Glenn, and Mittlefeldt, 1987); increase positivity of interactions between heads of state (Gelderloos, Frid, Goddard, Xue, Loliger, 1988); and alleviate international conflicts (Orme-Johnson, Alexander, Davies, Chandler, & Larimore, 1988; Orme-Johnson, Alexander, and Davies, 1990).

The present study was a critical test of the theory in Washington, D.C. (Goodman, 1997). The crime rate of the national capital was very high for many years and the District earned the name “murder capital” of the U.S. According to the present theory, the pervasive influence
of criminal tendencies and stress in D.C. has resulted in divisiveness, infighting, and gridlock in government (Hagelin, et al., 1999). The research examined the Extended Maharishi Effect in the context of a National Demonstration Project (NDP) held in Washington, D.C. during the summer of 1993, in which up to 4,000 Transcendental Meditation and TM-Sidhi participants came to DC for group practice over a two month period (June and July). The study was of the effects of the NDP on presidential approval ratings, media attitude towards the President, and stress in the collective consciousness of Washington D.C., as measured by four quality of life variables: emergency psychiatric calls, complaints against the police, trauma cases seen at the hospital, and accidental deaths, and a composite quality of life index constructed from the arithmetic mean of the z-scores of the four stress-related variables. A previous study on the NDP showed that violent crimes were reduced by 23.3% in the final weeks of the Demonstration (Hagelin, et al., 1999).

Predictions of the NDP were lodged in advance of the project with an independent review board comprised of criminologists, sociologists, and political scientists from six universities, civic leaders and members of the police department, who advised on the research design, oversaw the research process, and gave critical feedback on the research reports. Thus, this was a highly publicized, critical test of the Extended Maharishi Effect in the Nation’s Capital.

National Demonstration Project Study

Method:

Hypotheses

The hypotheses of the current study were that the NDP would increase support for President Clinton as measured by approval ratings and media positivity toward the President, and reduce stress in collective consciousness in Washington, D.C. as measured by the four quality of life variables and the index of the four.

Independent Variable

The independent variable consisted of the numbers of participants in the group practice of the Transcendental Meditation and TM-Sidhi program at the National Demonstration project over the eight-week
period. The numbers rose in a step-wise manner approximately every two weeks for the eight weeks of the Project with an average of approximately 1,000 participants during the first month, 2,500 participants for the next two weeks, and close to 4,000 for the last two weeks (Hagelin, et al., 1999). In the structural break analysis, the independent variable was operationalized as an increasing trend starting at the beginning of the Demonstration Project.

Dependent Variables
All data were received from sources not affiliated with the researcher or the researcher’s institution. Independent researchers gathered the data and, in the case of the media data, coded it. The coders of the data were unaware of the hypotheses of the studies at the time when the data were being coded. After acquiring the data, the data were aggregated by averaging it to the necessary time period. Thus, a strong measure of objectivity was maintained in each of the studies. The dependent variables are as follows:

1) Presidential popularity was measured by Presidential approval ratings from public opinion polls. In the case of the Clinton period, aggregated (averaged) weekly and bi-weekly data-sets were created from public opinion ratings gathered by several polling organizations and compiled by the American Enterprise Institute for Public Policy Research (Bowman, 1995). The first poll data available to the researcher were purchased from the Roper Center, and the analysis of this set was included in an earlier report on the Washington D.C. National Demonstration Project (Hagelin et al., 1999). However, rather than purchase a set for 1994, American Enterprise data were obtained without charge. Certain smaller polling organizations were included in the American Enterprise data-set that had not been in the Roper set. Thus, to allow the final data for 1993-1994 to be consistent with the preliminary data for 1993, only those polling organizations (with the exception of NBC) that had been available from Roper were included in the American Enterprise data-set. NBC was included, as the Roper Center usually used it (although not in the set they originally sent), and it was considered a comparable polling organization to those of ABC and CBS (Bowman, personal communication, 1995). The correlation between the 1993 Roper Center data and the 1993 edited American
Enterprise data was 0.9775. The Roper Center, the American Enterprise Institute and other researchers felt that there would not be much difference between the two sets.

In the initial study of Presidential approval ratings, responses were analyzed on 86 public opinion polls received from the Roper Center for Public Opinion Research (1993) which asked the question: “Do you approve or disapprove of the way Bill Clinton is handling his job as president?” The initial period was from January 20th to December 15th, 1993. The polls were aggregated on a weekly basis with a weekly starting date of Sunday.

To compare the analysis of the American Enterprise data-set with the preliminary Roper Center data, both data-sets were aggregated on a weekly basis, but with a starting date of Saturday, rather than Sunday. This change was considered necessary because changes in the numbers of the participants in the Demonstration Project in Washington, D.C. occurred on Saturdays. The data were then consistent with other data in the Demonstration Project (particularly crime rate).

When the data were aggregated on a weekly basis, the following decision rules were applied: 1) A poll was included in a particular week if the end date of the poll fell within that week; 2) If there was no poll with an end date for a particular week, one poll was used which had a beginning date within that week. (If there was more than one poll with a beginning date for that week, only the first one listed in the AE data was used); 3) If there were no polls with either a beginning or end date within a week, data were averaged using the three previous and three subsequent poll figures (thus creating a number based on the six most proximate polls).

2) The effect of the Super-Radiance Group on the positivity of the media, was examined via data sets from the Center for Media and Public Affairs (Noyes, 1994, 1995). Researchers at the Center coded evening news stories about President Clinton broadcast on ABC, CBS, and NBC evening news programs, as either positive or negative. (Neutral statements were not included in these data). Analysis was made on a statement by statement basis, rather than assessing the valence of the story as a whole. Each statement was coded by actor, topic of statement, and whether the statement was positive or negative. Within one news story, for example, if the news commentator made a positive statement
about Clinton, but also reported that Dole had made a negative comment about Clinton, each was noted separately. For the purposes of analysis described in this study, the data were aggregated on a weekly basis, so that there would be an average percent positive for each weekly period.

The following data, which comprised the “D. C. Quality of Life” variables and index, were acquired by researchers during the Demonstration Project through repeated inquiry to many sources, within the time-frame of the project. The sources noted are those which had data in a form that could be immediately utilized and aggregated for analysis with time-series.

3) Emergency Psychiatric Calls was comprised of calls made to the Emergency Psychiatric Response Division, Commission of Mental Health Services, District of Columbia and the Emergency Psychiatric Service of Saint Elizabeth’s Hospital. The categories of the data were comprised of calls concerning suicides and other crises.

4) Trauma (which was comprised of seven categories including motor vehicle accidents and assaultive wounds) was received from District of Columbia General Hospital.

5) Complaints Against the Police was received from the public records of the Civilian Complaint Review Board, District of Columbia.

6) All Accidental Death and Suicide data were received from the District of Columbia Department of Health and Human Services.

7) An index of D.C. Quality of Life (measuring community stress) was a z-score average of variables three through six. The result was multiplied by –1 to make positive numbers reflect a positive change in society.

Control Periods
Controls were data from either the previous or the following year for each of the variables. For the approval ratings, and media, 1994 data were used because this data was already available and it was essential to use data during the same presidency. For the “D. C. Quality of Life” variables and Index, 1992 data were used, which had already been made available by the data sources in 1993. (The 1992 control data-set was prepared for analysis only through the end of September, 1992 so that it would be 39 data points as was the 1993 data). No large Maharishi Effect
project similar to the Demonstration Project was conducted in North America in either 1992 or 1994. Data for the controls were aggregated and analyzed following the same rules and procedures as for the experimental data.

The hypothesis for the control periods stated that: During the control period (the same time of year as the experimental period, but in other years) the data will not change significantly in the same predicted direction as the direction of the experimental period during the National Demonstration Project.

**Time Series Structural Break Analysis**

In this study, time series structural break analysis was used with Approval Ratings, Media, and with the “D. C. Quality of Life” variables, individually and as an index. It was apparent that a time-series analysis was necessary, as approval ratings and other dependent variables had autocorrelations. Time series was possible because the data could be aggregated on an equal-interval basis.

The time series structural break analysis used in this study can be seen as a special case of interrupted time series analysis in which the null hypothesis is used to determine if the intervention in question has had an impact on the dependent variable (McDowell, McCleary, Meidinger, and Hay 1980). Liu and Hudak (1992) indicate that plotting the data and visually inspecting the data is crucially important: “The first aspect of a time series analysis, and almost all statistical analyses, is to plot the data” (p. 5.3). When the data were examined visually, it was noted that the trend change (consistent across variables) lasted well beyond the experimental period. This was true of crime data as well as the data analyzed in this study. Therefore, it was important that the issue of trend change be addressed. Use of structural break analysis would indicate if the trend during and after the experimental period was statistically different than the baseline trend. In an example of a similar type of inquiry to those in the studies presented in this paper, McDowell, McCleary, Meidinger, and Hay noted that “The impact was visually obvious. Impact assessment analysis nonetheless provided a precise estimate of the form and magnitude of the effect” (p. 74). Structural-break analysis allows one to depict the significance of the trend through the time-frame specified by the equation, in this case,
a change in trend from before the Demonstration Project to after the project. In this method, both the baseline variable, which modeled the trend prior to the experimental period, and the variable modeling the trend during and post the experimental period were sets of ascending numbers.

The SCA program provided the best least-squares fit of the prior and subsequent trends. In addition, significant residual autocorrelations were removed from the model by appropriate autoregressive and moving average components. Thus the final models accounted for the trends prior to and subsequent to the experimental period as well as for any other serial dependencies in the data. As will be seen in the Results section, for most of the dependent variables, the final models using this method accounted for a high percentage of the variance in the data. A limitation of this method is that one cannot by this method alone account for the exact point when the trend decayed. However, as will be seen in the Results, it appeared to last until the end of 1993. The main threat to validity (potential alternative explanation) using this method is the possibility that trend changes at the time of year of the experimental period are a usual occurrence. Therefore, control analysis was performed as described above, using the same time series structural break methodology at the same time of year but with data for different years.

**Statistical Procedure**

Time series data analysis using SCA statistical software (Liu and Hudak, 1992) followed precedents developed by Box & Jenkins (1976) and described in McDowell, McCleary, Meidinger, and Hay, (1980); Liu and Hudak, (1992; and Vandaele (1983). The steps included 1) formulation of the structural-break model; 2) preliminary identification of the model including ascertaining the need for stationarity, 3) specification of the model, and 4) diagnostic checking. These steps are described further:

1) The first step was creation of the time series structural break equation in the time-series context. The equation took the form (for the seven variables) of:

\[ Y_t = b_{\text{baseline trend}} + b_{\text{during and post}} + e_t, \]

where:

- \( Y_t \) = the \( t^{\text{th}} \) observation of a time series;
- \( b_{\text{baseline trend}} \) = the trend throughout the year, assuming no intervention;
- \( b_{\text{during and post}} \) = the series trend as
an impact of the Demonstration project; and $e_t$ = an error term (after McDowell, McCleary, Meidinger, and Hay, 1980, p. 12).

When placing the equation in the SCA syntax for the variables analyzed with time series structural break analysis these terms appeared in the following manner:

Dependent Variable = A Constant (where needed) + Wkno (a series of ascending numbers counting on a weekly basis from the beginning of Clinton’s term in office to the last data-point of the set to represent the baseline) + SRwkno (a data set consisting of zeros prior to the beginning of the Demonstration project, and counting upward “1,2,3” etc. from the beginning of the Demonstration project, as the impact assessment, and continuing to the end of the year, to model the ascending trend over time) + A Noise Model.

2) Stationarity was then determined. This was to account for any trends or drifts in the data, and was determined by the mean, variance and ACF (autocorrelation function) of the process. According to Liu and Hudak (1992) “The ACF paragraph calculates a statistic measuring the correlation present between residual at time t . . . and the residual that occurred . . . [x] time prior to it . . .” (p. 4.17). The ACF will show if there is any significant autocorrelation, and/or the need for differencing.

3) A noise model was then calculated, using the ACF, PACF, and AIC diagnostic tests. One looks at the ACF and PACF of the residuals of the noise model to ascertain the possible auto-correlations or partial auto-correlations to include in the model to reach white noise. According to McCleary and Hay, 1980, “the lag-k PACF, PACF (k) is a measure of correlation between time series observations k units apart after the correlation at intermediate lags has been controlled or ‘partialed out’” (p. 75). Several iterations of the equation, with different parameter values of the AR and MA were attempted, usually starting with lower lags (such as an AR1 or an MA1), and moving to higher order parameters as essential. According to McDowell, McCleary, Meidinger, and Hay, Jr., (1980) this model-building strategy is followed until one arrives at a model that is both “statistically adequate (its residuals are white noise) and parsimonious (it has the fewest parameters and the greatest number of degrees of freedom among all statistically adequate models)” (p. 85).
The minimization of the AIC (the Akaike Information Criterion) is a parameter-estimation procedure used at different stages of the analysis to help determine the most adequate and parsimonious model (Larimore and Mehra, 1985). In this study, the AIC was used to determine preliminary noise models and to determine the most appropriate final model if there was a choice of models among those in which the parameters were significant, and for which all diagnostic tests had been completed satisfactorily.

4) To complete the analysis, a series of diagnostic checks were accomplished:

- ACF and PACF of the residuals indicated whether there were any further parameters needed in the noise model.
- Roots were checked to determine that all were outside the unit circle; this is again to check for stationarity and invertibility in both the autoregressive and moving average polynomials (Vandaele, 1983).
- The LBQ (Ljung–Box Q statistic) of the residuals was calculated, as an additional determination that there were no significant autocorrelations in the residuals. The LBQ statistic is calculated for the ACF of the residuals of a model. If there are still significant parameters in the noise model that should be estimated, the LBQ, which has a chi-square distribution, will be significant (McCleary & Hay, 1980; Liu & Hudak, 1992).
- The p values were determined for each significant intervention (SRwkno) parameter.
• The Effect Size was calculated for the parameter results. This entailed dividing the t value for the independent variable parameter by the square root of the effective number of observations for the model. The effect size provides a statistic which allows comparison across variables.

Results:

National Demonstration Project

Using the structural break analysis, there was a statistically significant change in trend in the predicted direction for all seven variables during the experimental period. Using two-tailed tests during the control years, there were no significant changes, except the Quality of Life Index which changed in the wrong direction (worsening of quality of life). Using one-tailed tests during the control year, media changed in the predicted direction (increased positivity). Thus, with one-tailed tests for the control year, two out of seven variables changed significantly, one in the opposite direction and one in the predicted direction.

Table 1 shows the results of the structural-break analysis with each dependent variable, giving the type of parameters in the model, the Parameter Values, the t value, \( p \) value, and summary statistics, including Effective Number of Observations, \( R^2 \), AIC, Residual Standard Error, and Q statistic at lag 12.

1) The \( t \) statistic indicates the significance of the change in the trend of the variable.
2) The parameter value indicates the change in the trend of the variable.
3) The effective number of observations gives the number of data-points utilized in a particular noise model (and is used to calculate the Q statistic and the “AIC”).
4) The \( R^2 \), or Coefficient of Determination, indicates the percentage of variance accounted for by the model.
5) The \( p \) value indicates the level of significance of the \( t \) statistic: the level of probability that the result was due to chance under the null hypothesis of no intervention effect.
6) The residual standard error is the standard deviation of the residuals, and is used as a measure of model accuracy.

All seven variables showed a significantly changed trend in the predicted direction toward greater positivity after the start of the NDP.
### Table 1. Detailed Summary Statistics from Time Series Structural Break Analysis on Experimental Variables

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Variable</th>
<th>Parameter Values</th>
<th>t</th>
<th>p</th>
<th>Effective No. of Obs.</th>
<th>AIC</th>
<th>Residual Standard Error</th>
<th>LBQ at lag 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approval Ratings (Roper)</td>
<td>Constant Pres. Week</td>
<td>65.587</td>
<td>-1.216</td>
<td>-6.63</td>
<td>3.04x10^-25</td>
<td>4.43x10^-8</td>
<td>2.9x10^-8*</td>
<td>.03</td>
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<td></td>
<td>SR Week</td>
<td>1.5347</td>
<td>0.3137</td>
<td>6.55</td>
<td>3.04x10^-25</td>
<td>4.43x10^-8</td>
<td>2.9x10^-8*</td>
<td>.03</td>
</tr>
<tr>
<td></td>
<td>AR2</td>
<td>22.28</td>
<td>1.5347</td>
<td>6.55</td>
<td>3.04x10^-25</td>
<td>4.43x10^-8</td>
<td>2.9x10^-8*</td>
<td>.03</td>
</tr>
<tr>
<td>Approval Ratings (A.E.)</td>
<td>Constant Pres. Week</td>
<td>66.9082</td>
<td>-1.2836</td>
<td>-6.55</td>
<td>6.7x10^-25</td>
<td>5.79x10^-6</td>
<td>5.29x10^-8*</td>
<td>.02</td>
</tr>
<tr>
<td></td>
<td>SR Week</td>
<td>1.6315</td>
<td>0.3202</td>
<td>6.37</td>
<td>6.7x10^-25</td>
<td>5.79x10^-6</td>
<td>5.29x10^-8*</td>
<td>.02</td>
</tr>
<tr>
<td></td>
<td>AR1</td>
<td>21.84</td>
<td>1.6315</td>
<td>6.37</td>
<td>6.7x10^-25</td>
<td>5.79x10^-6</td>
<td>5.29x10^-8*</td>
<td>.02</td>
</tr>
<tr>
<td>Media Positivity (Media Monitor)</td>
<td>Constant Pres. Week</td>
<td>42.034</td>
<td>-0.723</td>
<td>-1.66</td>
<td>1.29x10^-6</td>
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<td>.01</td>
<td>.007</td>
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<td></td>
<td>SR Week</td>
<td>1.3158</td>
<td>0.3754</td>
<td>2.41</td>
<td>1.29x10^-6</td>
<td>.1</td>
<td>.01</td>
<td>.007</td>
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<td></td>
<td>MA4</td>
<td>0.4444</td>
<td>-0.4314</td>
<td>-2.87</td>
<td>1.29x10^-6</td>
<td>.1</td>
<td>.01</td>
<td>.007</td>
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<td>MA6</td>
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<td>2.41</td>
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<td>.1</td>
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<td>.007</td>
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<td>AR10</td>
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<td>1.29x10^-6</td>
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<td>.01</td>
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<td>EPRD Emergency Psychiatric Calls</td>
<td>Constant Pres. Week</td>
<td>25.688</td>
<td>0.8501</td>
<td>7.09</td>
<td>1.33x10^-18</td>
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<td></td>
<td>SR Week</td>
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<td>9.5x10^-5</td>
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<td>Trauma Cases</td>
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<td></td>
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<td>1.33x10^-18</td>
<td>4.06x10^-8</td>
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</tr>
<tr>
<td></td>
<td>MA2</td>
<td>17.96</td>
<td>4.44</td>
<td>0.6008</td>
<td>1.33x10^-18</td>
<td>4.06x10^-8</td>
<td>.02</td>
<td>9.5x10^-5</td>
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<td>Complaints Against the Police</td>
<td>Constant Pres. Week</td>
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<td>0.1307</td>
<td>1.7</td>
<td>6.99x10^-5</td>
<td>.096</td>
<td>.01</td>
<td>.03</td>
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<td></td>
<td>SR Week</td>
<td>-0.4001</td>
<td>0.3950</td>
<td>2.77</td>
<td>6.99x10^-5</td>
<td>.096</td>
<td>.01</td>
<td>.03</td>
</tr>
<tr>
<td></td>
<td>MA6</td>
<td>5.25</td>
<td>1.7</td>
<td>0.3950</td>
<td>6.99x10^-5</td>
<td>.096</td>
<td>.01</td>
<td>.03</td>
</tr>
<tr>
<td></td>
<td>MA9</td>
<td>5.25</td>
<td>1.7</td>
<td>0.3950</td>
<td>6.99x10^-5</td>
<td>.096</td>
<td>.01</td>
<td>.03</td>
</tr>
<tr>
<td>Accidental Deaths</td>
<td>Constant Pres. Week</td>
<td>9.2478</td>
<td>0.2484</td>
<td>2.20</td>
<td>1.1x10^-5</td>
<td>.4</td>
<td>.04</td>
<td>.01</td>
</tr>
<tr>
<td></td>
<td>SR Week</td>
<td>-0.3164</td>
<td>0.3164</td>
<td>2.16</td>
<td>1.1x10^-5</td>
<td>.4</td>
<td>.04</td>
<td>.01</td>
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<tr>
<td></td>
<td>MA6</td>
<td>5.34</td>
<td>2.20</td>
<td>0.3164</td>
<td>1.1x10^-5</td>
<td>.4</td>
<td>.04</td>
<td>.01</td>
</tr>
<tr>
<td></td>
<td>MA9</td>
<td>5.34</td>
<td>2.20</td>
<td>0.3164</td>
<td>1.1x10^-5</td>
<td>.4</td>
<td>.04</td>
<td>.01</td>
</tr>
<tr>
<td>Index of Vars. 5-8</td>
<td>Constant Pres. Week</td>
<td>-0.8407</td>
<td>0.0603</td>
<td>5.38</td>
<td>2.6x10^-5</td>
<td>2.34x10^-6</td>
<td>3.22x10^5*</td>
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<tr>
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<td>SR Week</td>
<td>-0.1086</td>
<td>0.0603</td>
<td>5.38</td>
<td>2.6x10^-5</td>
<td>2.34x10^-6</td>
<td>3.22x10^5*</td>
<td>.5</td>
</tr>
<tr>
<td></td>
<td>White Noise</td>
<td>-8.2</td>
<td>5.38</td>
<td>0.0603</td>
<td>2.6x10^-5</td>
<td>2.34x10^-6</td>
<td>3.22x10^5*</td>
<td>.5</td>
</tr>
</tbody>
</table>

*p value is one-tailed
Measures included Clinton’s Approval Ratings ($p = 5.29 \times 10^{-8}$), Media Positivity toward the President ($p = .01$), variables utilized as indicators of social stress: Emergency Psychiatric Calls ($p = .009$), Hospital Trauma cases ($p = .02$), Complaints Against the Police ($p = .01$), Accidental Deaths ($p = .05$) and a Quality of Life (social stress) index ($p = 3.22 \times 10^{-5}$). All $p$ values are one-tailed because the hypotheses were directional. These results are shown in Table 1. Further detail on approval ratings, media, and social stress index results are presented below.

**Approval Ratings**

Visual inspection of the aggregated data for approval ratings (AE) showed a trend of decreasing approval for President Clinton prior to the Demonstration Project. However, a reversal in trend toward greater positivity during and after the Demonstration Project was also apparent (see Figure 1). This observation was confirmed by the results of the broken-trend time-series analysis (See Table 1). The parameter value of the presidential week number term for both approval ratings analyses (–1.2162 for Roper and –1.2836 for AE data) indicates that there was a decline in approval ratings of about 1.2% per week prior to the start of the Demonstration Project. The intervention parameter (independent variable) is called Super Radiance (SR) week. The parameter value of the SR week term indicates that there was a significant net change reversal of that trend of 1.5% and 1.6%, respectively, from prior to the beginning of the Demonstration Project. The net change in trend of approximately 1.58% per week of the adult population amounts to approximately 3 million people per week becoming more positive towards the president out of the 190 million adults in the U.S. in 1993 (c.f. Hagelin et al., 1999). The two approval rating results showed the greatest trend change of the seven variables studied, with effect sizes for Roper and AE data of .9554 and .9291 respectively.

**Media**

Visual inspection of the weekly aggregated data for media positivity indicated a trend change similar to that of the approval ratings (See Figure 2). The trend prior to the Demonstration Project indicated growing negativity of the media toward the president, with a parameter value of –.723 ($p = .01$) indicating a decline of .7 percentage points per
week. However, there was again a significant reversal of that trend (p = .01, one-tailed) after the start of the Demonstration Project. The net change on media positivity relative to the previous trend was 1.3% per week, as indicated by the parameter value of the Super Radiance week number of 1.3158.

**D.C. Quality of Life Index**

This index of four variables (emergency psychiatric calls, trauma, complaints against police, accidental deaths) indicated a reversal of the trend of presidential week number with a strongly significant SR week term of $t = –4.52$, $p = 3.22 \times 10^{-5}$, one-tailed (see Figure 3 and Table 1). The significance for the SR week term reached a higher level of significance for the index than for any of the four variables taken individually. The “noise” in the individual variables was reduced by aggregating them, showing the trend more clearly. This indicates an underlying influence of the Maharishi Effect on all quality of life variables, as has been observed in previous research (Orme-Johnson et al., 1988).

Figures 1–3 show charts of the weekly data for approval ratings, media, and the quality of life index with the trend lines ascertained by the time series structural break analysis. The starting and ending weeks of the Demonstration Project are noted as week 21 and week 28 respectively for the first two variables (approval ratings (AE) and the media), and week 23 and week 31 for the index. This difference in week designation for starting and ending dates of the Demonstration Project occurred because the data for the “D.C. Quality of Life” variables and index were independent of any considerations of presidential inauguration date. The starting date of these series was two weeks before the starting date of the approval ratings and media variables, whose beginning data-point coincided with Clinton’s initial week in office.

**Analysis of Control Periods**

Table 2 presents the results of analysis of data for each variable during the control period, noting the parameter terms in the model, parameter values, $t$ value, $p$ values, and model summary statistics, as was presented for the experimental variables. There was only one control variable utilized for the approval ratings data, as only American Enterprise data were obtained for 1994. It can be seen in Table 2 that using two-tailed
Table 2. Detailed Summary Statistics of Time Series Structural Break Analysis of Control Periods

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Variable</th>
<th>Parameter Values</th>
<th>$t$</th>
<th>$p$</th>
<th>Model Summary</th>
<th>Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approval</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ratings (AE)</td>
<td>Constant</td>
<td>55.3267</td>
<td>22.99</td>
<td>8.75x10^{-26}</td>
<td>Effective No. of Obs. $R^2$</td>
<td>47</td>
</tr>
<tr>
<td></td>
<td>Pres. Week</td>
<td>-0.4489</td>
<td>-2.94</td>
<td>0.005</td>
<td>AIC</td>
<td>.677</td>
</tr>
<tr>
<td></td>
<td>SR Week</td>
<td>0.2746</td>
<td>1.39</td>
<td>0.17</td>
<td>Residual Standard Error</td>
<td>103.5740</td>
</tr>
<tr>
<td></td>
<td>AR2</td>
<td>0.2946</td>
<td>2.10</td>
<td>0.04</td>
<td>Error</td>
<td>2.76</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>LBQ at lag 12</td>
<td>9.4</td>
</tr>
<tr>
<td>Media</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positivity (Media</td>
<td>Constant</td>
<td>39.1332</td>
<td>7.74</td>
<td>7.17x10^{-10}</td>
<td>Effective No. of Obs. $R^2$</td>
<td>49</td>
</tr>
<tr>
<td>Monitor)</td>
<td>Pres. Week</td>
<td>-0.5611</td>
<td>-1.64</td>
<td>0.107</td>
<td>AIC</td>
<td>.64</td>
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<tr>
<td></td>
<td>SR Week</td>
<td>0.8686</td>
<td>1.81</td>
<td>0.077**</td>
<td>Residual Standard Error</td>
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<tr>
<td></td>
<td>White Noise</td>
<td></td>
<td></td>
<td></td>
<td>Error</td>
<td>10.74</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>LBQ at lag 12</td>
<td>14.3</td>
</tr>
<tr>
<td>EPRD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1992)</td>
<td>Constant</td>
<td>30.1515</td>
<td>15.10</td>
<td>2.83x10^{-15}</td>
<td>Effective No. of Obs. $R^2$</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td>Pres. Week</td>
<td>-0.0563</td>
<td>-0.44</td>
<td>0.66</td>
<td>AIC</td>
<td>.342</td>
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<tr>
<td></td>
<td>SR Week</td>
<td>0.3834</td>
<td>1.58</td>
<td>0.12</td>
<td>Residual Standard Error</td>
<td>123.5400</td>
</tr>
<tr>
<td></td>
<td>MA3</td>
<td>0.4935</td>
<td>3.55</td>
<td>0.001</td>
<td>Error</td>
<td>5.80</td>
</tr>
<tr>
<td></td>
<td>AR5</td>
<td>-0.3384</td>
<td>-2.17</td>
<td>0.04</td>
<td>LBQ at lag 12</td>
<td>6.4</td>
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<tr>
<td>Trauma</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cases</td>
<td>Constant</td>
<td>29.7487</td>
<td>11.36</td>
<td>1.85x10^{-13}</td>
<td>Effective No. of Obs. $R^2$</td>
<td>39</td>
</tr>
<tr>
<td>(1992)</td>
<td>Pres. Week</td>
<td>0.3355</td>
<td>1.90</td>
<td>0.07</td>
<td>AIC</td>
<td>.194</td>
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<tr>
<td></td>
<td>SR Week</td>
<td>-0.1561</td>
<td>0.43</td>
<td>0.67</td>
<td>Residual Standard Error</td>
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</tr>
<tr>
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<td>White Noise</td>
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<td></td>
<td></td>
<td>Error</td>
<td>6.24</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>LBQ at lag 12</td>
<td>14.4</td>
</tr>
<tr>
<td>Complaints</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Against the</td>
<td>Constant</td>
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<td>12.21</td>
<td>3.61x10^{-13}</td>
<td>Effective No. of Obs. $R^2$</td>
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<td>Police</td>
<td>Pres. Week</td>
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<td>-0.24</td>
<td>0.81</td>
<td>AIC</td>
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<tr>
<td>(1992)</td>
<td>SR Week</td>
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<td>Residual Standard Error</td>
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<tr>
<td></td>
<td>MA2</td>
<td>0.3611</td>
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<td>Error</td>
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<tr>
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<td>AR4</td>
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<td>-2.43</td>
<td>0.02</td>
<td>LBQ at lag 12</td>
<td>8.4</td>
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<tr>
<td>Accidental</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deaths</td>
<td>Constant</td>
<td>11.7034</td>
<td>8.62</td>
<td>2.81x10^{-10}</td>
<td>Effective No. of Obs. $R^2$</td>
<td>39</td>
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<tr>
<td>(1992)</td>
<td>Pres. Week</td>
<td>-0.0326</td>
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<td>0.72</td>
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<td>.155</td>
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<td>SR Week</td>
<td>0.3072</td>
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<td>Residual Standard Error</td>
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<td></td>
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<td></td>
<td></td>
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<td>LBQ at lag 12</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1992)</td>
<td>Constant</td>
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<td>-1.11</td>
<td>0.27</td>
<td>Effective No. of Obs. $R^2$</td>
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<td>0.91</td>
<td>AIC</td>
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<td>Residual Standard Error</td>
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</tr>
<tr>
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<td>0.3959</td>
<td>2.68</td>
<td>0.01</td>
<td>Error</td>
<td>.42</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>LBQ at lag 12</td>
<td>12.4</td>
</tr>
</tbody>
</table>

**$p$ value is two-tailed**
Figure 1. Increased Support for President Clinton During and After the National Demonstration Project

Figure 2. Increased Media Positivity Towards President Clinton During and After the National Demonstration Project
tests, only the D.C. Quality of Life Index changed significantly in the control year, and it changed in the opposite direction to the experimental year. Using one-tailed tests, the Quality of Life Index changed significantly in the control year in the opposite direction to the experimental year. In addition, one-tailed tests showed that the media variable changed significantly in the same direction in the control year as during the experimental year. Analysis of outliers did not change the outcomes.

Table 3 shows the effect size of each variable in order of strength of the trend reversal. As can be seen, all variables in the experimental group showed results in the predicted direction. In contrast, the direction of change for the control data were not consistent, and only 1 out of 8 variables changed significantly, two-tailed, and this was in the opposite direction (toward greater negativity) from the experimental hypothesis. The same information is depicted visually for six of the variables in Figures 4 and 5.

Discussion
As can be seen from the results, the Demonstration Project appeared to impact variables as disparate as presidential approval ratings and emergency psychiatric calls in Washington, D.C. This is consistent with the
Experimental Period
During the Experimental Period, all variables changed in the predicted direction and all were statistically significant.

Control Period
During the Control Period, the direction of change was not consistent and none of the six variable changed significantly.

Figure 4. During the experimental period all the dependent variables showed a significant change in trend in the predicted direction of increased coherence in society.

Figure 5. During the control periods at the same time of year on other years, the dependent variables did not change significantly or consistently in the predicted direction.
variables support the hypotheses that the NDP would influence the variables in the direction of greater positivity. This study is thus the most recent instance of several studies, where quality of life indices have been favorably impacted by the Extended Maharishi Effect (Davies & Alexander, 1983; Dillbeck, 1990; Orme-Johnson, Alexander, Davies, Chandler, & Larimore, 1988; Orme-Johnson, Gelderloos & Dillbeck, 1988). Approval ratings and media data have presented an interesting opportunity to further understand the mechanics of growth of coherence in collective consciousness, due to their sensitivity to public mood and to the various inputs comprising internal and external interactions of government (e.g. political parties within the Congressional branch, and interactions of the head of state with constituents and with other nations).

Table 3. Effect Size for Variables With Time Series Structural Break Analysis

<table>
<thead>
<tr>
<th>Variable Name</th>
<th>Effect Size Experimental</th>
<th>p value for Srwkno Intervention*</th>
<th>Effect Size Control Periods</th>
<th>p value for Srwkno Control**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approval Ratings (Roper)</td>
<td>.9554</td>
<td>2.9x10-8</td>
<td>(no Roper ’94)</td>
<td></td>
</tr>
<tr>
<td>Approval Ratings (A.E.)</td>
<td>.9291</td>
<td>5.29x10-8</td>
<td>.2028</td>
<td>n.s.</td>
</tr>
<tr>
<td>Index of DC Variables</td>
<td>.7237</td>
<td>3.22x10-5</td>
<td>-.3811</td>
<td>.02</td>
</tr>
<tr>
<td>EPRD</td>
<td>.4109</td>
<td>.009</td>
<td>-.2710</td>
<td>n.s.</td>
</tr>
<tr>
<td>Media</td>
<td>.3859</td>
<td>.01</td>
<td>.2586</td>
<td>n.s.***</td>
</tr>
<tr>
<td>Complaints</td>
<td>.3843</td>
<td>.01</td>
<td>-.0118</td>
<td>n.s.</td>
</tr>
<tr>
<td>Trauma</td>
<td>.3452</td>
<td>.02</td>
<td>.068</td>
<td>n.s.</td>
</tr>
<tr>
<td>Accidental Deaths</td>
<td>.3317</td>
<td>.045</td>
<td>-.2626</td>
<td>n.s.</td>
</tr>
</tbody>
</table>

*p value is one-tailed
**p value is one-tailed
***at one-tail, p value is .038
Duration of Trend

Results of the analysis indicated that the trend of positivity for the seven variables analyzed with time series structural break analysis continued past the experimental period. In the case of the approval ratings and media, for which 1994 data was available, visual inspection of charts indicated that the last high point in the data for approval ratings was data-point 50 (week of Dec. 25–31, 1993), and, for the media, point 52 (week of January 8–15, 1994). Thus it appeared that the effect lasted until approximately the end of the year (1993). This is consistent with the study of effects of the Demonstration Project on violent crime (Hagelin et al., 1999). In that analysis, it was found that there was a significant decay parameter that carried the effect until about the end of the year.

Seasonal effects were considered as a possible alternative explanation for the trend change, but although the results of the experimental analysis indicated that the trend change beyond the experimental period was consistent across the variables, analysis of the control periods in other years did not show a consistent significant pattern of positive change at the same time of year, as was illustrated in Figures 4 and 5.

A sustained change in trend is a major component of the theory of the Maharishi Effect. Maharishi has predicted that a “phase transition” toward greater positivity will be seen in society when sufficient coherence is generated in society (1977). Maharishi explains that “The values which are dominating today will be superseded by more complete values of life. Fear will be nonexistent. Suffering will be completely extinct” (1986a, p. 39). Although the National Demonstration Project was not a permanent group, it was nonetheless the largest short-term group of its type in the Nation’s Capital in terms of meditation hours (number of Transcendental Meditation and TM-Sidhi practitioners times the number of days of the Demonstration Project). Thus it may have had a more lasting impact on collective consciousness than previous Super Radiance groups in the D.C. area.

Another consideration is that the Demonstration Project did not exist in isolation as a coherence-generating group. Over two million people in the United States and more than five million people worldwide have been taught the Transcendental Meditation technique in the last 40 years. As well, over 75,000 individuals have been taught the
TM-Sidhi program, and many practice individually as well as those who participate in group practice. There are several research studies indicating that the square root of one percent of a population practicing the Transcendental Meditation and TM-Sidhi program brings greater coherence to society as seen by changes in crime rate (Hatchard, Deans, Cavanaugh, & Orme-Johnson, 1996), accident rate (Dillbeck, Larimore, & Wallace, 1991), and indices of quality of life (Dillbeck, Cavanaugh, Glenn, Orme-Johnson, & Mittlefehldt, 1987; Orme-Johnson, Alexander, Davies, Chandler, and Larimore, 1988; Orme-Johnson, Gelderloos, & Dillbeck, 1988). Thus, according to the theory that informs this research, the numbers of individuals practicing the Transcendental Meditation technique and the TM-Sidhi program throughout the country have contributed to development of coherence in society which could support a more sustained effect of any particular project.

As well, a permanent group of practitioners of the Transcendental Meditation and TM-Sidhi program was established at Maharishi University of Management (formerly known as Maharishi International University) in 1979, and have continued group practice to date. Several previous studies have assessed the influence of that group along with several short courses similar to the Demonstration Project on a number of variables including the economy, U.S.-Soviet relations, and crime rate. The influence of the permanent group on approval ratings and the media are discussed in a longitudinal study (Goodman, 1997).

The sustained effect after the Demonstration Project may have also been partially due to the synergistic interaction between the variables, whereby the Maharishi Effect influences the media, for example, which in turn influences approval ratings. The longitudinal study (Goodman, 1997) examined the implications of this relationship between variables in an interactive system. Because the Maharishi Effect appears to have an impact on the media as well as on the approval ratings perhaps the positivity attained by the media, resulting from the influence of the Maharishi Effect, is passed on at various lags to the approval ratings, thus providing for delayed effects of the Demonstration Project which would contribute to the extended duration of impact.

The major premise of the National Demonstration Project was that alleviating crime would create a more coherent atmosphere within
which government could make more effective decisions (Hagelin, et al., 1999). Results of the crime data analysis indicated that crime rate decreased by 23.3% in the final weeks, and there was a sustained effect in the crime results similar to that seen in the variables studied in the present research (Hagelin et al., 1999). The long decay parameter which was found with the crime analysis points to cumulative effects of the NDP — the effects of one day carrying to the next day over the period of the Demonstration Project, thus building the effect over time. This supports the findings in the current study because according to the prediction, a sustained decrease in the crime rate would contribute to sustained coherence in government. The indicators of social stress studied also pointed toward a decreased trend in stressful outcomes in D.C. during and after the Demonstration Project.

**Trends in the Approval Ratings Data With Other Presidencies**

Unlike previous presidents, Clinton did not enjoy a “honeymoon” period, in which the media and the public suspend judgment for a short period of time. By visually examining the Gallup poll data for previous presidencies (Truman through Bush), provided by Public Opinion (“Closing the book,” 1989), it was possible to note any similarities of Clinton’s first year with the other presidents’ approval ratings. Using approval ratings of those presidents who took office in January, it can be seen that no other president presented an identical pattern of change to that of Clinton. Thus, a trend of diminishing results from the beginning of the presidency with an upsurge in the sixth month can be ruled out as standard for a president.

**Alternative Explanations for Results in the Approval Ratings During 1993**

As has been described in the literature on approval ratings, a number of possible influences on public opinion have been proposed: the impact of the economy, international crises and events (including a possible rally effect), domestic events, and the media as a filter (Brody, 1991; Edwards, 1989; Kernell, 1978; MacKuen, 1983; Ostrom and Simon, 1985; Stim-
son, 1976). War was obviously excluded in this discussion as the United States was not at war during the experimental period in 1993.

The Economy: According to Peffley & Williams (1985), presidential approval ratings are influenced by the public’s perception of the extent to which the president is responsible for economic conditions; however, change in economic conditions do not seem to be able to account for the turn around in President Clinton’s popularity. Jones (1996) comments that Clinton did not get credit for a strong economy even though the respondents to poll questions concerning the economy indicated that they felt that the economy was improving (p. 35). The unemployment rate appears to have decreased gradually from 7.6% in July, 1992, to 6.4% in November 1993 (Survey of Current Business, 1993). This change in rate began prior to the beginning of Clinton’s term and so would probably not be attributed to early policy implementation by the new administration. In a Gallup Poll survey of September 10th–12th 1993, the public was asked: “What do you think is the most important problem facing this country today?” (p. 168). In the poll, respondents continued to feel that the economy was the most important problem.

International Crises: The approval ratings literature describes the impact of international events which may affect presidential approval ratings within the context of a variable called the “rally phenomenon.” The rally phenomenon occurs when Americans appeared to rally in support for the President, and thus create a short-term surge in the approval ratings (Brody, 1991). The three criteria for rally events according to Mueller (1970) were that the event was international, involved the U.S. and particularly the president, and was ”specific, dramatic, and sharply focused” (p. 21). The only international event which might be considered a “rally” point in June (and therefore responsible for a rise in approval of President Clinton in the polls) was the Iraq bombing on June 26. However, the turn-around in the polls occurred earlier in June and therefore the bombing could only account for a surge in the polls in late June, not for the change in trend that began sooner. As well, Edwards, comments about this rally: “. . . Bill Clinton was not able to add new groups to his coalition of supporters through the use of military force. Even more important, the rally dissipated rapidly” (1996, p. 243). Moreover, whereas research and Edward’s commentary indicates that the rally phenomenon accounts primarily for short-term surges in
approval (particularly noted in this case), the Demonstration Project is associated with a change in trend that was sustained over six months.

**Domestic Events:** The impact of domestic crises such as scandals, riots, strikes, and the announcement of presidential policies, are more elusive than their international counterparts. Although there were no major scandals during the first six months of the presidency, in the eyes of the press and the public the whole series of events taken in combination, such as the failed nominations, and the airport haircut reflected poor judgment and lack of thoroughness on the part of the president. What factors contributed to the changes in public perception of the president’s integrity and competence? Did President Clinton become more noticeably effective to the public, and/or did the press find more interesting stories to discuss, as commentators have proposed?

David Gergen’s appointment on May 29th to the position of Communications Director previously held by George Stephanopoulos was at first hailed as a turn-around point in the administration’s relationship with the media. Yet common sense must ask how it would be possible to assume that the press’s cynicism, attributable to events going back as far as Watergate, could be turned around so quickly by only one person? More recently an article in Newsweek indicated that Gergen was not playing the key role that had been originally hoped (Clift, 1994). If Gergen alone was not responsible for the sudden turn-around in the polls, how could the long-standing cynicism be transformed so quickly. It is plausible, therefore to consider that a more profound change in collective consciousness was needed in order to create a climate within which the press could return to a more objective and even-handed level of reporting.

Sally Quinn commented on this change to the press on July 18th:

Well, In case anyone hasn’t noticed, Washington at the moment, is in a lull—at least from the vantage point of the inmates. After months of terrifying, near-death experiences, things have settled down. Put another way, having completed the first eighth of a presidential term . . . the Clinton administration appears to have revived. You know this must be so because columns of newsprint have proclaimed it to be so. Suddenly, all you read about is that David Gergen saved the day, that Clinton ‘captivates Japan,’ that he is being tough with Saddam Hussein, that he is bringing relief to the flood states in the Midwest. Boring human interest stories ramble on. Washington has relaxed. But such a
swift reversal of political fortune is not easy to account for. The inmates may logically wonder whether Clinton really turned things around or if something else is going on . . . almost mysteriously and almost overnight, in the face of government distress, the press seemed to be transformed from a hostile, angry mob to a pack of fawning pussycats . . . [italics added]. (1993, p. C-1)

Maharishi’s theory of collective consciousness suggests that it is stress in the collective consciousness which results in the head of state acting in a less than ideal way, (1995) and lack of coherence in society which leads to a lack of mutual support between the head of state and the constituents. Whereas the perception of President Clinton reflected in the press changed dramatically after the Demonstration period began, this was predicted in advance based on theory and previous research by the organizers of the Demonstration Project who predicted that results of the project would include less government gridlock and more appreciation and success of President Clinton, his administration, and Congress due to the coherence in collective consciousness created by the Project (Hagelin, Orme-Johnson, Rainforth, Cavanaugh, & Alexander, 1994).

Conclusions

From the results across variables in this study it can be concluded that:
1) The Extended Maharishi Effect has a simultaneous, significant impact across many levels of society as demonstrated by the variety of variables presented in these studies, including government-related variables and quality of life variables.
2) The Extended Maharishi Effect, as examined in these studies demonstrated field effects, as the impact was seen in local and national events from groups practicing the Transcendental Meditation and TM-Sidhi program in one area.
3) The results of the Demonstration Project were predicted in advance of the collection and analysis of the data.
4) Measurement bias was controlled for through use of publicly available data from governmental agencies (emergency psychiatric calls, complaints against the police, accidental deaths, trauma cases) and data which was coded by independent researchers and their assistants blind to the hypotheses during the coding of the data (presidential approval ratings, and media attitude towards the president).
5) Rigorous statistical tests were used to assist in disallowing measurement bias: time-series analysis was utilized. An objective decision statistic was used to choose a final model for an equation, in the form of minimizing the AIC, (the Akaike Information Criterion) which indicates the most adequate and parsimonious model (Larimore & Mehra, 1985).

6) The results cannot be attributed to coincidence, due to the consistency of highly significant p values across variables in contrast to the lack of consistent change in the control period at a comparable time of year in another year.

The findings may be viewed as indications of increased coherence in society. Taken together, they indicate the kind of change that could lead to a paradigm shift. The Demonstration Project and other such short projects throughout the 1980’s, and the permanent group of Transcendental Meditation and TM-Sidhi practitioners in Fairfield, Iowa have contributed to coherence in society in a way that can be measured and replicated. The results of these studies indicate that variables representing government success, public approval, and stress in Washington, D.C. are responsive to the field effects of consciousness in the direction of greater positivity. This points toward the possibility of a more effective, successful government with the support of the constituency, if a large group were practicing the Transcendental Meditation and TM-Sidhi program in the nation’s capital on a permanent basis—a Group for a Government.

References


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The Application of
The Transcendental Meditation Program
to Corrections

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ABSTRACT

This paper describes research studies on the application of the Transcendental Meditation (TM) program to corrections and crime prevention. Physiological and psychological laboratory studies of the Transcendental Meditation program that bear on inmate rehabilitation are briefly reviewed, followed by consideration of applied studies. Research projects in eight correctional settings are narratively and quantitatively reviewed. They indicate that regular practice of the Transcendental Meditation program leads to positive changes in health, personality development, and behavior among inmates. Evidence of reduced recidivism among inmates instructed in the Transcendental Meditation program is also indicated. Implications of the research for some correctional issues are also discussed.

Introduction

The need for effective means of criminal rehabilitation and crime prevention has become increasingly acute. The number of individuals incarcerated in prisons in the United States is almost one-half million, a figure which has grown by over 60 per cent since 1977 (U.S. Department of Justice, 1985a). Contributing greatly to this growth is the fact that, as of 1979, 61 percent of inmates have served at least one prior criminal commitment (U.S. Department of Justice, 1985b). At the same time, the crime rate in society has grown rapidly from 1960 to 1981, with some decrease since then. As a result of the increasing demands on the police, the judiciary, and penal institutions, over $24 billion was spent on criminal justice activities in the U.S. in 1981; expenditures by state correctional systems were $7.2 billion in 1984, an increase of 60 percent from 1980 (U.S. Department of Justice, 1985a). In addition to this is the cost in human terms; a figure cannot be placed upon the suffering generated by crime.

It is in the context of the great need in corrections that the importance of the large body of recent research on the successful application of the Transcendental Meditation program in corrections can be appreciated. In this paper, the general effects of the technique are first reviewed, followed by the results of its use in correctional settings.
Background Research on the Transcendental Meditation Program: Implications for Corrections

The Transcendental Meditation program is a simple and effortless technique, which is taught in a systematic and uniform manner world-wide, and is practiced for 15-20 minutes twice daily (Maharishi Mahesh Yogi, 1977; Cox, 1972). As a systematic subjective technique, it requires no change in lifestyle or beliefs. It is important to keep in mind that the technique itself is not a rehabilitative program; rather it is a program for the full development of individual potential (Maharishi Mahesh Yogi, 1977). The positive effects of the technique in rehabilitation settings are attributed to its success in the unfolding of this potential.

According to the theoretical framework of the Transcendental Meditation technique, the basis of developing the ability to act in a spontaneously law-abiding manner is to develop the basis of action and thought which is consciousness. One whose consciousness is more comprehensive will be more able to maintain a broad frame of reference which takes into account the needs of others when acting to fulfill his or her own desires. The quality of consciousness is also directly dependent upon the degree of psychophysiological integration of the individual. The Transcendental Meditation technique is predicted to simultaneously develop the breadth of comprehension of the participant as well as the degree of integration of mind and body. The mechanism for doing so is to alternate with the individual’s usual daily activity the regular twice-daily experience of a state of less excitation of mind and body gained during the Transcendental Meditation technique. The Transcendental Meditation technique allows the mind to experience increasingly refined or silent levels of mental activity until the unique least excited state of awareness is experienced; this least excited state, termed “pure consciousness,” is described as a silent inner state of pure wakefulness without any mental activity of thought or feeling (Maharishi Mahesh Yogi, 1977).

Physiological research has supported the prediction that the Transcendental Meditation technique is associated with a unique state of deep rest and greater alertness. The physiological changes found during the technique include decreased oxygen consumption, increased skin resistance, specific biochemical changes, and increased EEG coherence in frontal brain areas, a measure of orderliness of brain activity.
Within the large body of research on the effects of the Transcendental Meditation program, over 350 studies, there are a number of results which indicate that the practice gives rise to greater physiological and psychological integration outside the period of meditation. Among these effects are changes which have potential relevance to criminal rehabilitation, such as levels of cortisol (a stress hormone), stress tolerance, EEG coherence, moral reasoning, and field independence.

Cortisol is a hormone which is found to be increased during periods of stress; the body responds to acute and chronic stress with increased adrenocortical levels in the circulation (Selye, 1976). During the practice of the Transcendental Meditation technique, in contrast to a period of eyes-closed relaxation, the level of cortisol in the blood is found to significantly decrease (Bevan, 1980; Bevan, Young, Wellby, Nenadovic, & Dickens, 1976; Jevning, Wilson, & Davison, 1978; Jevning, Wilson, VanderLaan, & Levine, 1977).

In addition to reduced cortisol there are other indications of increased resistance to stress among Transcendental Meditation program participants. For example, Transcendental Meditation program participants have been found to have faster habituation to a stressful stimulus than control subjects, as measured by skin resistance response; they have also been found to have fewer spontaneous galvanic skin responses than prospective meditators (Berker, 1977; Orme-Johnson, 1973; Smith, 1977; Wilcox, 1977). The above findings are indications of increased flexibility and stability of the autonomic nervous system, and arousal of the autonomic system is a key feature of stressful physiological reactions. The additional indications of increased resistance to stress include decreased insomnia (Fuson, in press; Miskiman, 1977) and decreased anxiety (Davies, 1977; Dillbeck, 1977). A recent meta-analysis of over 100 studies on the effects of various meditation and relaxation techniques on anxiety has shown that the Transcendental Meditation technique has an effect size that is approximately twice as great as other relaxation or meditation procedures (Eppley, Abrams, & Shear, 1991); effect size is defined as the number of standard deviations of difference between experimental and control groups (Glass, McGaw, & Smith, 1981).
The increased resistance to stress implied by these results has important implications for the stressful environment of correctional facilities; reduced stress would imply both decreased tension among inmates and potentially reduced tension and management problems in the institution as a whole. There are also implications for prevention of incarceration; it has been found that a large sample of inmates in state correctional facilities had experienced increasing frequency of life change events in each year immediately prior to incarceration (Masuda, Cutler, Hein, & Holmes, 1978). Major life change events are conceptualized as being stressful to the individual; this pattern of increasing life change and increasing stress parallels what is found in the onset of illness as a result of stress (Masuda, et al., 1978).

Increased coherence of brain functioning is another effect of the Transcendental Meditation technique with implications for corrections. EEG coherence in frontal brain areas has been found to increase longitudinally among those who learn the Transcendental Meditation technique, and among Transcendental Meditation participants who learn the advanced practice of the TM-Sidhi program, which is described as further accelerating the benefits of the Transcendental Meditation technique (Dillbeck & Bronson, 1981; Levine, 1976; Orme-Johnson, Wallace, Dillbeck, Alexander, & Ball, 1991). Higher EEG coherence in frontal areas of the brain has also been found to correlate significantly with higher (principled) stages of moral reasoning (Nidich, Rynearz, Abrams, Orme-Johnson, & Wallace, 1983). As implied by these results, college students who practice the Transcendental Meditation technique have been found to display higher stages of moral reasoning than their peers (Nidich, 1976).

Increased field independence is also an effect of the Transcendental Meditation program with implications for corrections. Pelletier (1974), using a random assignment design, found longitudinal increases in two measures of field independence in the first three months of practice of the Transcendental Meditation technique. Previous research has shown that those with higher levels of field independence display more structured control of affective responses and motor activities (Witkin, Goodenough, & Oilman, 1977); this self-control might have important consequences among those prone to violence.
In addition to these physiological and cognitive characteristics, the ability to fulfill desires without harming the interests of others also depends upon a foundation of emotional stability and personal fulfillment. Studies on improved mental health among inmates will be reviewed in the next section. In the direction of positive self-development, longitudinal studies have demonstrated increased self-actualization among participants in the Transcendental Meditation technique, in contrast to controls (Dick, 1974; Nidich, Seeman, & Dreskin, 1973; Seeman, Nidich, & Banta, 1972; Sheerer, 1978). In its ultimate development, this unfolding of inner potential is predicted to lead to a state of complete breadth of comprehension, termed enlightenment, in which the individual spontaneously acts in such a manner as not only to fulfill his own desires, but also to contribute to the interests of others (Maharishi Mahesh Yogi, 1977).

The potential applications of these findings in correctional settings will be considered further after a review of the studies on the use of the Transcendental Meditation program in corrections.

**Research on Correctional Settings:**

**Implementing the *Transcendental Meditation* Program**

In the past 15 years, the Transcendental Meditation program has been taught to thousands of prison inmates around the world, including over 2,000 adult inmates in 18 U.S. correctional institutions, and to several hundred incarcerated juveniles in eight U.S. facilities. Many of the major prison projects included a research program to evaluate the effects of the Transcendental Meditation program in these settings. It is common knowledge that prisons are not ideal sites for research; for this reason a quite small body of research is being generated in the nation's correctional facilities. Similarly, each of the research projects to be described was carried out under restricted environmental conditions. In addition, each program was carried out on a small budget by private donations rather than state or federal funding; for this reason, none of the programs were ideal in the sense that they made full use of the potential of the Transcendental Meditation program, because the program had to be implemented around other institutional priorities. In spite of these factors, the results of the program are consistently positive.
Each of the major research projects is reviewed below, and additional statistical details of each study are found in Table 1.

**La Tuna Federal Penitentiary, Anthony, New Mexico**

The first study of the effects of the Transcendental Meditation program in a correctional setting was conducted on pilot samples of narcotic addicted prisoners (Orme-Johnson, Kiehlbauch, Moore, & Bristol, 1977). In this longitudinal study a group of 23 prospective meditators and 17 non-matched controls were pretested. After a two-month period in which follow-up by the teachers of the Transcendental Meditation program was not possible and in which no place was set aside for practice of the technique by the institution, 12 meditators and seven controls were able to be post-tested, and five of the experimental subjects were meditating regularly (the requested twice daily). Regular participants in the Transcendental Meditation program decreased significantly more than irregular meditators and controls on spontaneous galvanic skin resistance (GSR) responses, and the per cent decrease in spontaneous GSR responses was significantly correlated with the number of times the subject had meditated. Higher levels of spontaneous GSR responses are an indication of a less stable autonomic nervous system and thus lower spontaneous GSR implies greater resistance to stress. There was no change in basal GSR levels. The regular Transcendental Meditation meditators also displayed a significant decrease relative to controls on the psychasthenia (obsessive compulsive symptoms) and social introversion sub-scales of the Minnesota Multiphasic Personality Inventory (MMPI).

**Stillwater Prison, Minnesota**

In a study completed in 1973, Ballou (1977) randomly assigned 30 volunteer inmates to learn the Transcendental Meditation technique and 27 inmates to a no-treatment control group who could later learn the technique. A second control group consisted of 16 inmates not interested in learning the Transcendental Meditation program. The volunteers were found to be comparable to the rest of the prison population in terms of age, education, socioeconomic status, race, IQ, crime, and length of sentence. Subjects were measured before the experimental group learned the Transcendental Meditation technique and again at
weekly intervals over an 11-week period on the State-Trait Anxiety Inventory. Twenty-three meditators, 20 random assignment controls, and 14 disinterested controls completed the experiment. A moderately extensive follow-up program was provided to participants so that proper practice of the technique would be ensured and so that they would have a clear intellectual understanding of the mechanics and effects of the technique. Seventy percent of those trained in the program were still practicing the technique regularly one year after instruction.

Results of the study included a significant reduction in both state and trait anxiety among the subjects who learned the Transcendental Meditation program, in contrast to both control groups; the two control groups did not differ significantly from one another. The anxiety reduction among Transcendental Meditation program participants occurred immediately (by the first retesting at three weeks) and was maintained throughout the study. Meditating inmates also showed a reduction in disciplinary reports in comparison to controls, and they doubled the number of educational, recreational, and vocational activities, and tripled the number of hours spent in those activities.

Federal Correctional Institution, Lompoc, California
Cunningham and Koch (1977) replicated Balou’s finding of reduced anxiety using a longitudinal single-group design with 38 inmates. Over a five-month period, inmates instructed in the Transcendental Meditation program had significant reductions in both state and trait anxiety; their pretest anxiety scores did not differ from a sample of 48 inmates not predisposed to learn the Transcendental Meditation technique. Meditating inmates also reported positive changes on self-report Likert-type personality scale items. There was no loss of subjects from the study and 85 percent of the inmates who learned the Transcendental Meditation program continued meditating through the five months. The amount of anxiety reduction was significantly correlated ($r = .89$) with regularity of practice of the Transcendental Meditation program.

Federal Correctional Institution, Milan, Michigan
Ramirez (1990), a private consultant, performed an experimental study with an extensive measurement battery to assess the effects of the Transcendental Meditation program at the Federal Correctional Institution in Milan, Michigan. Eighty volunteers were randomly selected from
two narcotic addiction treatment units at the institution. From the 40 men selected from each unit, 20 were randomly assigned to learn the Transcendental Meditation technique and 20 were assigned to a control group; the experimenter was unaware of the group assignment. AH subjects were pretested and after a 10-week experimental interval 68 men were available for post-testing. Only three of those instructed in the Transcendental Meditation program had not practiced it with any regularity and these subjects were excluded from the data analysis, Control groups from both units received the usual treatments given in those units, as did the Transcendental Meditation program group from one of the units; the Transcendental Meditation program group from the other unit received only the Transcendental Meditation program.

The groups instructed in the Transcendental Meditation program were found to have the following significant changes in comparison to the control groups: increased self-esteem (Rosenberg Self-Esteem Inventory), decreased neuroticism (Eysenck Personality Inventory), decreased psychopathology (MMPI sub-scales of depression, mania, psychasthenia, schizophrenia, and hysteria), decreased aggression (MMPI psychopathic deviance and paranoia scales and Buss-Durkee Hostility Inventory), and increased internal locus of control (modified version of Rotter’s scale). For most variables, regularity of practice of the Transcendental Meditation technique was associated with more positive changes.

Massachusetts Correctional Institution, Walpole, Massachusetts
Several studies on the Transcendental Meditation program have been performed at MCI, Walpole. In the first of these, Ferguson (1990, a) used a single-group longitudinal design in which 38 inmates were pretested and 25 were post-tested after an average of ten weeks of practice of the Transcendental Meditation technique. Results included reductions in state and trait anxiety (State-Trait Anxiety Inventory), hostility (Buss-Durkee Hostility Inventory), improved sleep quality (questionnaire), and reduced disciplinary infractions. There was no reported decrease in tobacco usage during the experimental period. However, in a questionnaire filled out one year later by a larger sample of men at MCI, Walpole, who had begun the Transcendental Meditation program, a
substantial proportion reported decreased use of tobacco as well as decreased drug usage (Ferguson, 1990a and 1990b).

A double-blind cross-sectional and longitudinal study of the long-term effects of the Transcendental Meditation program at MCI, Walpole, was performed as part of a doctoral dissertation at Harvard (Alexander, 1982). In the cross-sectional part of the study, subjects who had previously learned the Transcendental Meditation program at Walpole (an average of 20 months practice) were compared with those interested in learning the program and those not interested in learning. Ego development and 13 other psychological variables were measured, which were reduced by factor analysis to three factor scales—psychopathology, psychological development, and postconceptual experience. The last factor was associated with scales which attempted to measure the development of higher states of consciousness predicted to be associated with regular practice of the Transcendental Meditation program.

The Transcendental Meditation program participants and controls did not differ on pre-incarceration variables such as age, education, intelligence, father’s occupation, family size, race, religion, or crime severity, and the groups who were and were not interested in learning the Transcendental Meditation program did not differ on any of the measures in the test battery. The major finding of the cross-sectional study was that the long-term Transcendental Meditation participants scored significantly lower than other groups on psychopathology and significantly higher on psychological development and postconceptual experience. A separate analysis of the ego development scale, related to a major developmental hypothesis of the study, indicated that Transcendental Meditation program participants had a significantly higher level of ego development. Participation in other prison programs was not significantly associated with the three factor scales when demographic variables were controlled.

In the longitudinal study, the group interested in learning the Transcendental Meditation program was divided into a new Transcendental Meditation program group and a wait-list control group. Following a 13–17 month intervention period, longitudinal results replicated the cross-sectional findings. Both the Transcendental Meditation participation groups (long-term meditators from the cross-sectional study and the group of new participants) displayed a significant increase in ego
development in comparison to the wait-list and disinterested groups, after adjusting for pretest score and demographic covariates. The degree of change in ego development found among the Transcendental Meditation participants is equivalent to that which usually occurs during four years of college; this is quite striking among a group of maximum security inmates during 17 months, after an age (20) when ego development no longer usually changes. Regular Transcendental Meditation program participants, in contrast to non-participants, also showed decreased aggression, psychopathology, and trait anxiety, and increased postconceptual experience. Other programs offered in the correctional facility were also evaluated, and did not show significant positive change on the measures; this indicated that there was no predisposition for positive change among subjects who were volunteers.

The final part of the study (Alexander, 1982) was an archival analysis of recidivism data among Transcendental Meditation participants released from the institution. Up to three years after release, Transcendental Meditation program participants showed a significantly lower recidivism rate (return to prison for six months), fewer new convictions, and more clean records in comparison with samples from the other programs of the correctional facility. This effect was significant after controlling statistically for demographic variables that were significantly related to recidivism outcome.

**Folsom Prison and Other California Institutions**

Abrams and Siegel (1978) performed a cross-validation study of the effects of the Transcendental Meditation program at Folsom Prison in California. Two parallel studies were performed in which, in each, matched subjects were assigned either to learn the Transcendental Meditation program or to be in a waiting control group; subjects were pre- and post-tested separated by a three-month period of practice of the Transcendental Meditation program. Ninety of the 113 men who began the two studies completed the research; transfer from the institution was the primary cause of attrition. Significant reductions in state and trait anxiety (State-Trait Anxiety Inventory), neuroticism (Eysenck Personality Inventory), hostility (Buss-Durkee Hostility Inventory), and insomnia (questionnaire) were found in each study among Transcendental Meditation program participants in contrast to controls.
There were no changes in smoking habits in the first three months, and Abrams and Siegel reported that the decrease in blood pressure and pulse rate among Transcendental Meditation program participants did not reach significance. Rahav (1980) reanalyzed the Abrams and Siegel data and reported that when both samples were combined, increasing statistical power, the decrease in pulse rate among Transcendental Meditation program participants was significant in contrast to controls; blood pressure was only measured in the first study of Abrams and Siegel, and so this procedure could not also be used with that variable. Rahav (1980) also showed that the effect of the Transcendental Meditation program was independent of the age, race, and security housing status of the participants.

Allen (1979) criticized the study of Abrams and Siegel (1978), suggesting that the measured effect might be due to psychological effects of expectation among participants, such as social desirability influencing the patterns of psychometric test responses. Abrams and Siegel (1979) responded with a reanalysis of the data which indicated that participation in the Transcendental Meditation program had actually reduced tendencies towards social desirability influencing responses; it also indicated that there were no relationships between the positive changes found in the study and subjects’ responses to a scale which measures the tendency to project an inaccurate positive image (Lie Scale of Eysenck Personality Inventory). Abrams (in press) also performed a follow-up study which indicated that the psychological effects of the earlier study among Folsom inmates were lasting in nature; he also found that a very high proportion (over 80 percent) of those instructed in the Transcendental Meditation program continued their practice in the year after instruction.

A subsequent study of recidivism among 259 inmates of Folsom Prison and other California correctional institutions (San Quentin Prison and Deuel Vocational Institution) who learned the Transcendental Meditation program while incarcerated was conducted by Bleick and Abrams (1987). In comparison to statewide parolees of the California Department of Corrections, Transcendental Meditation program parolees had significantly more favorable parole outcomes (on an index of four categories—clean record, arrest, parole revocation, new prison term) at six months, one year, and two years. A second comparison
was made with control subjects matched for parole year, offense, prior commitment record, institution, race, age, and drug abuse history. The Transcendental Meditation participant parolees had significantly better outcomes at each year from one to five years after release. In addition, a series of multiple regression analyses were run in which 28 social and criminal history variables were entered into the regression analysis first, followed by the dichotomous variable of Transcendental Meditation program participation. In each case, Transcendental Meditation program participation made a significant contribution (negative correlation) to predicting recidivism.

**Vermont Department of Corrections**

In an extensive project in the Vermont state correctional system, more than 500 inmates and 200 correctional professionals learned the Transcendental Meditation program in a two and one-half year period beginning in early 1982. During the course of this program up to 40 percent of the inmates in the Vermont correctional system, and 20 percent of the staff, were participating. Two studies were performed during the course of the project (Gore, Abrams, & Ellis, 1991). The first study was an experimental study over a two-week period, followed by a partial cross-over. Fifty inmates interested in the Transcendental Meditation program were randomly assigned either to learn the Transcendental Meditation program immediately or to learn it in two weeks. During the two week period, experimental subjects met daily for group practice of the Transcendental Meditation technique and control subjects participated in a relaxation and attention-control meeting each day. After two weeks, all subjects were retested, control subjects learned the Transcendental Meditation program, and subjects were again retested after two more weeks.

Dependent variables in the experiment included a number of psychological and physiological measures. The psychological scales were factor analyzed to produce five composite factor scales, identified as hostility, paranoid anxiety, sleep disturbance, cigarette and caffeine consumption, and locus of control. The overall multivariate effect was significant with univariate effects of the Transcendental Meditation program for reduced paranoid anxiety, reduced sleep disturbance, and increased internal locus of control. A cold-stress test (skin conductance
response to the stressful stimulus of immersion of the hand in ice-cold water) was also administered; the test showed no longitudinal effects over the brief two-week period, but there was a significant decrease in skin conductance during the practice of the Transcendental Meditation technique in contrast to relaxation.

A second study in the Vermont project was a mixed longitudinal and cross-sectional study in which inmates were pretested and post-tested on between one and four occasions up to 14 months after instruction in the Transcendental Meditation program. Inmates tested were from six state facilities. Post-test data were aggregated into three time periods, one to three months, three to six months, and more than six months since pretesting. Variables measured were the same as on the previous study except the addition of an anger control scale and the omission of the cold-stress test and measures of cigarette and caffeine consumption. Linear trends for each factor scale were significant—decreased sleep disturbance, paranoid anxiety, and hostility, and increased anger control and internal locus of control.

**National Prison System, Senegal**

The Transcendental Meditation program was implemented on a national scale in Senegal from August 1987 to February 1989, among both inmates and prison staff. Participants were eleven thousand inmates and nine hundred correctional officers in 31 of the 34 Senegalese prisons. Results were evaluated by case study methods rather than experimental design, and included reduced rule infractions and medical consultations in the one prison where this was evaluated. The primary outcome nationally was reduction of recidivism: following a presidential amnesty in which almost 2400 inmates were released, less than 200 returned to prison, of which only 20 percent had been instructed in the Transcendental Meditation program; in contrast, prison officials reported that previous amnesties had resulted in a return of over 90 percent of the inmates within a few months (New Horizons in Criminology and Penitentiary Science, 1990)

**Federal Prison, Curaçao, Netherlands Antilles**

A program was implemented among 300 inmates of the federal prison in Curaçao from August 1994 to June 1995, in which half of the sub-
jects learned the Transcendental Meditation program and the other half served as controls (Hawkins et al., 2003). The subjects were predominantly of African American descent with an average age of 28. A set of 21 cognitive and psychosocial variables were reduced by principal components analysis into six composite factors. Despite high involuntary attrition and low compliance, significant changes among the group learning the Transcendental Meditation program included reduction of cognitive distortion and improvement on intelligence-related measures, as well as a trend towards significance on the factor of psychological well-being.

Follow-Up Study of Recidivism among California Prison Inmates

This recidivism study by Rainforth et al. (2003) examined re-offending rates for up to 15 years after release among the group of 153 prisoners at Folsom Prison who had learned the Transcendental Meditation program from 1975 to 1982, prior to release. Each subject who had learned the Transcendental Meditation program had a non-meditating control subject matched closely on the basis of parole year, rate, and offense, as well as on prior commitment record, age, and history of drug abuse. The group of Transcendental Meditation subjects had a recidivism rate of 46.7 percent in contrast to 66.7 percent among control subjects, where recidivism was defined as re-arrest leading to felony conviction. Survival analysis statistical models controlled for 22 demographic and criminal background variables. Survival analysis using a Cox regression model found a statistically significant reduction of recidivism rate by 43.5% among the group of Transcendental Meditation participants. The most appropriate statistical model was found to be a split-population Weibull model, which, unlike the usual survival analysis, takes into account that a subgroup of the population will not recidivate; this analysis also showed a highly significant reduction in recidivism among inmates who had learned the Transcendental Meditation program while incarcerated. A number of additional analyses were also reported, which each supported the conclusion of significant reduction of recidivism.

Table 1 lists the specific statistical results of each of the findings viewed above. The effect size estimates from each study indicate that
the results of the Transcendental Meditation program on psychological and behavioral parameters among inmates are of substantial practical importance as well as of statistical significance.

Studies with Correctional Professionals
Two studies have also been performed to evaluate the effects of the Transcendental Meditation program with correctional or rehabilitation professionals. The first study was performed with a small group of staff members in a drug abuse program of the U.S. Army (Orme-Johnson, Arthur, Franklin, & O’Connell, 1977). Using a longitudinal design with existing groups, it was found that after 10 weeks counselors who learned the Transcendental Meditation program, in contrast to controls, showed reduced anxiety (Taylor Manifest Anxiety Scale) and reduced psychological disturbance (over-all elevation of MMPI scales 1–4 and 6–9).

The second study, in the Vermont Department of Corrections, was a single-group longitudinal design in which a random sample of 18 correctional professionals were tested before and after a four-month period in which they learned the Transcendental Meditation program (Gore, Abrams, & Ellis, 1991). The correctional professionals received the same battery of tests as the subjects in the previously reported studies of the Vermont system. Staff member participants in the Transcendental Meditation program showed a significant decrease in hostility, anxiety, and sleep disturbance.

These studies indicate that correctional staff and inmates both gain the same benefits from participation in the Transcendental Meditation program. This fact underscores the point previously made that the support for the implementation of the program, but also the snared experience and benefits of the program will contribute to a reduction of tension in staff-inmate relations. Past experience with the application of the Transcendental Meditation program in the correctional settings described above is consistent with these suggestions.
## Table 1
Results of Research on the Application in Corrections of the Transcendental Meditation Program

<table>
<thead>
<tr>
<th>Study</th>
<th>Design</th>
<th>Sample</th>
<th>Measure</th>
<th>Result</th>
<th>Unbiased Estimate of Effect Sizea</th>
</tr>
</thead>
<tbody>
<tr>
<td>La Tuna Federal Penitentiary, New Mexico (Orme-Johnson et al., 1977)</td>
<td>Pre-post quasi-experimental design, two-month period</td>
<td>Regular TM = 5 CTL = 7</td>
<td>MMPI Psychasthenia&lt;br&gt;$\chi(10) = -2.53, p &lt; .025$</td>
<td>-1.287(c)</td>
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<td></td>
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<td></td>
<td>MMPI Social Introversion&lt;br&gt;$\chi(10) = 2.22, p &lt; .05$</td>
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<td>-1.129</td>
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<td></td>
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<td></td>
<td>Spontaneous Skin Resistance&lt;br&gt;$\chi(10) = -1.89, p &lt; 0.05$</td>
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<td>-.961</td>
</tr>
<tr>
<td>Stillwater Prison, Minnesota (Ballou, 1977)</td>
<td>I. Pre-post experimental design, ten-month period</td>
<td>TM = 23&lt;br&gt;CTL = 21</td>
<td>State Anxiety&lt;br&gt;$F(1,41) = 15.63, p &lt; .001$</td>
<td>-1.129</td>
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<td></td>
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<td></td>
<td>Trait Anxiety&lt;br&gt;$F(1,42) = 39.50, p &lt; .001$</td>
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<td>-1.107</td>
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<td>II. Pre-post quasi-experimental design, ten-month period</td>
<td>TM = 23&lt;br&gt;CTL = 14</td>
<td>State Anxiety&lt;br&gt;$F(1,34) = 16.82, p &lt; .001$</td>
<td>-.773</td>
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<td></td>
<td>Trait Anxiety&lt;br&gt;$F(1,35) = 13.37, p &lt; .001$</td>
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<td>-.689</td>
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<td></td>
<td>III. Pre-post match groups, ten-week period</td>
<td>TM = 24&lt;br&gt;CTL = 24</td>
<td>Rule Infractions&lt;br&gt;Mann-Whitney $U = 354, z = 1.36, p &lt; .001$</td>
<td>-1.484(c)</td>
<td></td>
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<tr>
<td>FCI, Lompoc, California (Cunningham &amp; Koch, 1977)</td>
<td>Within-subjects longitudinal design, 15-week period</td>
<td>TM = 15</td>
<td>State Anxiety&lt;br&gt;$\chi(14) = 4.45, p &lt; .001$</td>
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<td></td>
<td>Trait Anxiety&lt;br&gt;$\chi(14) = 3.83, p &lt; .001$</td>
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<tr>
<td>FCI, Milan, Michigan (Ramirez, in press)</td>
<td>Pre-post experimental design, ten-week period</td>
<td>Regular TM = 19&lt;br&gt;Irregular TM = 15&lt;br&gt;CTL = 31</td>
<td>EPI Neuroticism&lt;br&gt;$F(2,61) = 9.59, p = .002$</td>
<td>-.890(c)</td>
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<td>MMPI Depression&lt;br&gt;$F(2,61) = 4.28, p = .018$</td>
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<td>-.774</td>
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<td>MMPI Hypomania&lt;br&gt;$F(2,61) = 2.75, p = .072$</td>
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<td>MMPI Psychasthenia&lt;br&gt;$F(2,61) = 6.57, p = .003$</td>
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<td>-.857</td>
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<td>MMPI Schizophrenia&lt;br&gt;$F(2,61) = 6.69, p = .005$</td>
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<td>-.646</td>
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<td>MMPI Ego Strength&lt;br&gt;$F(2,61) = 3.045, p = .055$</td>
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<td>.043</td>
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<td>MMPI Social Responsibility&lt;br&gt;$F(2,61) = 3.575, p = .034$</td>
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<td>.497</td>
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<td>MMPI Hysteria&lt;br&gt;$F(2,61) = 1.559, p = .219$</td>
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<td>-.375</td>
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<td>MMPI Hypochondriasis&lt;br&gt;$F(2,61) = 1.609, p = .209$</td>
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<td>-.306</td>
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<td>MMPI Psychopathic Deviance&lt;br&gt;$F(2,61) = 4.018, p = .023$</td>
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<td>-.632</td>
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<td>MMPI Paranoia&lt;br&gt;$F(2,61) = 4.781, p = .012$</td>
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<td>MMPI Control of Hostility&lt;br&gt;$F(2,61) = 2.909, p = .062$</td>
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<td>.813</td>
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<td>Self Esteem&lt;br&gt;$F(2,61) = 7.475, p = .001$</td>
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<td>1.108</td>
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<td>Locus of Control&lt;br&gt;$F(2,61) = 2.200, p = .120$</td>
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<td>.367</td>
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<tr>
<td>Study</td>
<td>Design</td>
<td>Sample</td>
<td>Measure</td>
<td>Result</td>
<td>Unbiased Estimate of Effect Size*</td>
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<tr>
<td>FCI, Milan, Michigan (Ramirez, in press)</td>
<td>Pre-post experimental design, ten-week period</td>
<td>Regular TM = 19, Irregular TM = 15, CTL = 31</td>
<td>Buss-Durkee Hostility Inventory: Assault, Indirect Hostility, Negativity, Resentment, Suspicion, Verbal Abuse, Guilt</td>
<td>$F(2,61) = 3.278, p = .005$</td>
<td>-.723</td>
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<td>$F(2,61) = 7.833, p = .001$</td>
<td>-1.065</td>
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<td>$F(2,61) = 9.459, p = .003$</td>
<td>-.970</td>
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<td>$F(2,61) = 1.289, p = .283$</td>
<td>-21.7</td>
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<td>$F(2,61) = 5.172, p = .008$</td>
<td>-1.180</td>
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<td>$F(2,61) = 18.43, p &lt; .0001$</td>
<td>-1.380</td>
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<td>$F(2,61) = 3.220, p = .047$</td>
<td>.525</td>
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<td></td>
<td>$F(2,61) = 2.464, p = .094$</td>
<td>.611</td>
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<tr>
<td>MCI, Walpole, Massachusetts (Ferguson, in press)</td>
<td>Within-subjects longitudinal design</td>
<td>N = 25</td>
<td>State Anxiety, Trait Anxiety, Hostility, Disciplinary Reports, Sleep Quality, Time to Sleep, Recent Sleep</td>
<td>$F(2,25) = 3.278, p = .005$</td>
<td>-.723</td>
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<td>$F(2,25) = 7.833, p = .001$</td>
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<td>$F(2,25) = 9.459, p = .003$</td>
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<td>$F(2,25) = 1.289, p = .283$</td>
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<td>$F(2,25) = 2.464, p = .094$</td>
<td>.611</td>
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<tr>
<td>MCI Walpole, Massachusetts (Alexander, 1982)</td>
<td>I. Cross-sectional</td>
<td>TM = 40, CTL = 93</td>
<td>Ego Development, Psychopathology Factor, Developmental Factor, Post-Conceptual Experience Factor</td>
<td>$F(1,96) = 4.121, p = .045$</td>
<td>-.809</td>
</tr>
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<td>$F(1,96) = 3.190, p = .05$</td>
<td>-.476</td>
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<td>$F(1,96) = 2.292, p = .10$</td>
<td>.374</td>
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<td>$F(1,96) = 6.474, p = .01$</td>
<td>.634</td>
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<td></td>
<td>$F(1,96) = 3.031, p = .05$</td>
<td>-.434</td>
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<td>II. Longitudinal quasi-experimental</td>
<td>TM = 40, CTL = 93</td>
<td>Ego Development, Agression, Trait Anxiety, Post-Conceptual Experience, Schizophrenia Experience</td>
<td>$F(1,76) = 14.34, p = .001$</td>
<td>-.872</td>
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<td>$F(1,76) = 3.190, p = .05$</td>
<td>-.476</td>
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<td>$F(1,76) = 2.292, p = .10$</td>
<td>.374</td>
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<td></td>
<td>$F(1,76) = 6.474, p = .01$</td>
<td>.634</td>
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<tr>
<td></td>
<td>III. Retrospective recidivism</td>
<td>TM = 53, CTL = 291</td>
<td>Return for at Least 30 Days (at 3 years), Return with New Conviction (at 3 years), Clear Records (at 3 years)</td>
<td>$F(1,62) = 4.221, p &lt; .025$</td>
<td>-.288</td>
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<tr>
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<td>$F(1,62) = 2.87, p &lt; .05$</td>
<td>-.280</td>
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<td></td>
<td>$F(1,62) = 2.198, p &lt; .05$</td>
<td>.301</td>
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<td>Study</td>
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<td>Measure</td>
<td>Result</td>
<td>Unbiased Estimate of Effect Size*</td>
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<tr>
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<td>Cross-validation study, pre-post matched groups</td>
<td>I. TM = 26 CTL = 14</td>
<td>State Anxiety</td>
<td>$F(1,34) = 24.44, p &lt; .01$</td>
<td>-.896(1)</td>
</tr>
<tr>
<td></td>
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<td>Trait Anxiety</td>
<td>$F(1,34) = 13.26, p &lt; .01$</td>
<td>-.615</td>
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<td>Neuroticism</td>
<td>$F(1,34) = 14.95, p &lt; .01$</td>
<td>-.581</td>
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<td>Extroversion</td>
<td>not reported as (n.s.)</td>
<td>.266</td>
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<tr>
<td></td>
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<td>Hostility</td>
<td>$F(8,23) = 3.43, p &lt; .01$ (multivariate)</td>
<td>- .451</td>
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<td>Assault</td>
<td>- .408</td>
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<td>Indirect Hostility</td>
<td>- .418</td>
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<td>Irritability</td>
<td>- .910</td>
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<td>Negativity</td>
<td>- .094</td>
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<td>Resentment</td>
<td>- .391</td>
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<td>Suspicion</td>
<td>- .369</td>
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<td>Verbal Hostility</td>
<td>- .378</td>
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<td></td>
<td></td>
<td>Guilt</td>
<td>not reported (n.s.)</td>
<td>.632</td>
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<td>Time to Sleep</td>
<td>$z = 3.41, p &lt; .05$</td>
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<td></td>
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<td></td>
<td>Sleep Quality</td>
<td>$z = 2.63, p &lt; .05$</td>
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<td>Recent Sleep</td>
<td>$z = 2.92, p &lt; .05$</td>
<td>**</td>
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<td>Cigarette Use</td>
<td>$z = 0.01, n.s.$</td>
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<td>Blood Pressure</td>
<td>not reported (n.s.)</td>
<td>-1.127</td>
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<td>Systolic</td>
<td>- .937</td>
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<td>Diastolic</td>
<td>not reported (n.s.)</td>
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<td>Cross-validation study, pre-post matched groups</td>
<td>II. TM = 23 CTL = 26</td>
<td>State Anxiety</td>
<td>$F(1,43) = 17.81, p &lt; .01$</td>
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<td>Trait Anxiety</td>
<td>$F(1,43) = 12.70, p &lt; .01$</td>
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<td>Neuroticism</td>
<td>$F(1,43) = 11.62, p &lt; .01$</td>
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<td>Extroversion</td>
<td>$F(1,43) = 3.09, p &lt; .10$</td>
<td>.347</td>
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<td>Hostility</td>
<td>$F(8,32) = 4.00, p &lt; .01$ (multivariate)</td>
<td>- .608</td>
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<td>Assault</td>
<td>- .384</td>
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<td>Indirect Hostility</td>
<td>- .310</td>
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<td>Irritability</td>
<td>-1.207</td>
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<td>Negativity</td>
<td>- .700</td>
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<td>Resentment</td>
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<td>Suspicion</td>
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<td>Guilt</td>
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<td>Time to Sleep</td>
<td>$z = -2.04, p &lt; .05$</td>
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<td>TM</td>
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<td>Sleep Quality</td>
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<td>z = .60, n.s.</td>
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<td>Recent Sleep</td>
<td>$z = 2.56, p &lt; .05$</td>
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<td>TM</td>
<td>z = -.73, n.s.</td>
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<td>Cigarette Use</td>
<td>$z = 1.60, n.s.$</td>
<td>.025</td>
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Transcendental Meditation program is a technology for full development of the individual not primarily a rehabilitative program. Its success in rehabilitation is a by-product of its success in unfolding individual potential. The joint benefits for staff and inmates also suggest that by including both groups in an institutional program utilizing the Transcendental Meditation technique, not only will staff provide greater...

<table>
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<tr>
<th>Study</th>
<th>Design</th>
<th>Sample</th>
<th>Measure</th>
<th>Result</th>
<th>Unbiased Estimate of Effect Size*</th>
</tr>
</thead>
</table>
| California Prison System                   | I. Existing groups comparison, retrospective | TM = 259, CTL = 37,389 (all state parolees) | Recidivism Outcome:  
Six months: $z = -3.08, p < .005$  
One Year: $z = -3.07, p < .005$  
Two Years: $z = -3.66, p < .005$ | (m)            | -19                |
|                                            | II. Matched groups comparison, retrospective | TM = 241, CTL = 241 | Recidivism Outcome:  
One Year: $t(480) = -3.42, p < .0007$  
Three Years: $t(415) = -3.03, p < .003$  
Four Years: $t(321) = -1.94, p < .054$  
Five Years: $t(150) = -2.44, p < .016$ | (i)            | -312               |
| Vermont Department of Corrections          | I. Pre-post experimental design, two-week period | TM = 21, CTL = 21 | Paranoid Anxiety: $F(2,80) = 3.91, p < .05$  
Hostility: n.s.  
Locus of Control: $F(2,80) = 4.04, p < .025$  
Sleep Disturbance: $F(2,80) = 9.02, p < .001$  
Cigarette/Caffeine Use: n.s. | -859          | -126               |
|                                            | II. Cross-Sectional     | N = 208 (some with multiple testing) | Holiness: $F(1,247) = 28.97, p < .0001$  
Paranoid Anxiety: $F(1,248) = 41.04, p < .0001$  
Locus of Control: $F(1,248) = 27.58, p < .0003$  
Anger: $F(1,54) = 11.73, p < .002$  
Sleep Disturbance: $F(1,234) = 49.27, p < .0001$ | -1.150        | -315               |

* Effect sizes are adjusted for sample size of control group, as described by Hedges in Glass et al. (1981, pp. 111-114)  
** No control in study and therefore effect size compared with control group cannot be calculated  
*** Contrast on the four groups listed; additional degrees of freedom in the denominator come from two other groups not involved in the specific contrast  
(a) E.S. calculated as in Glass, McGaw, & Smith (1981, p. 126) for t test.  
(b) E.S. calculated as in Glass et al. (1981, p. 127) for ANCOVA.  
(c) E.S. calculated as in Glass et al. (1981, pp. 130-131)  
(d) ANCOVA on pre-test score of three groups, covarying for pretest score.  
(e) E.S. = $(X-E)-X-C)/SD(C)$, where individual scores are difference scores  
(f) Statistical tests on the follow measures calculated from data provided in study (all subjects pre-post).  
(g) E.S. calculated as in (e), where individual scores are raw scores.  
(h) E.S. calculated from Glass et al. (1981, p. 149); point-biserial correlation converted into t-test value, then into effect size as in (a) above  
(i) E.S. calculated from F value; F converted into t-test value, then into effect size as in (a) above.  
(j) E.S. = $\Phi(1) - \Phi(2)$ as in Cohen (1969, pp. 174-178).  
(k) E.S. = $(X(E2) - X(E1)) - (X(C2) - X(C1))/SD(C2)$  
(l) E.S. = $z \cdot \sqrt{1/N}$ calculated from each group; reported E.S. is difference of these values for two groups.  
(m) Effect size reported by authors in paper.  
(n) Effect size calculated as in (g) above where pre-TM group is control group and 3-6 months TM group (largest group) is experimental group.
Future Directions for Research

Alternatives to Sentencing
It is widely recognized that, whatever benefits to society in punishment or isolation of offenders are served by prison sentences, these sentences do not serve to reduce criminal tendencies. The promising results of the Transcendental Meditation program in correctional settings have begun to draw the attention of legal counsels and judges (*Freedom Behind Bars*, 1979). Learning and practicing the Transcendental Meditation program have served as the central feature of a sentencing alternative in at least seven court cases, five in the United States and two in India. This is a promising area for research.

Standards for Release: Development of a Rehabilitation Index
At the present time, when the emphasis of the criminal justice system is on stiff sentencing to remove repeat offenders from society, a great burden is placed upon the correctional system. Rapidly increasing prison populations raise the alternatives of early release or of massive expenses for new facilities. Throughout the history of corrections, no objective standard for release, no index of rehabilitation, has been developed.

The research results of the Transcendental Meditation program raise the possibility that the positive psychological and physiological effects of the program, together with regularity of practice of the technique, may effectively serve to predict ability to succeed on parole. This idea was originally suggested by researchers at Maharishi European Research University (*Freedom Behind Bars*, 1979), who proposed that such measures reviewed in this paper as EEG coherence, low levels of plasma cortisol, stability of galvanic skin resistance responses, field independence, and absence of prison rule violations could serve as the starting point for the development of a rehabilitation index. Added to these variables could be other psychological variables which researchers have found to predict recidivism, such as impulsivity (measured by Porges Maze Test; Riddle & Roberts, 1977). The fact that participation in the Transcendental Meditation program creates measurable improvement on these variables raises the exciting possibility that, if such measures are found to predict success upon release, not only would objective standards for release be validated but also a systematic technology to achieve these standards would already have been documented.
Summary and Conclusions

Applications in Corrections

In summary, the consistency of positive research outcomes on a variety of indices associated with criminal rehabilitation over many independent studies indicates that the Transcendental Meditation program has striking success in rehabilitation settings. The use of the technique is potentially universal, due to the simplicity of its practice and the fact that it does not conflict with any other existing programs or approaches to corrections.

Given the fact that the success of the projects described above has come from a wide variety of program designs, the question arises as to the ideal structure for a correctional project implementing this approach to rehabilitation. Based upon the results of prior projects and recent developments in the Maharishi Technology of the Unified Field, of which the Transcendental Meditation technique is one part, the organization which teaches the Transcendental Meditation program and other aspects of the technology has proposed an ideal program structure. This structure consists of a six-month to one-year program consisting of the following: 1) the Transcendental Meditation technique and, possibly, the TM-Sidhi program, the advanced practice of the technology which has been found by research to accelerate the benefits of the Transcendental Meditation technique; 2) therapeutic procedures to further promote physiological stability, flexibility, and release of stress; and 3) educational curricula which develop basic skills for subsequent employment and which also give the inmates a broad vision of the relevance of knowledge to their own lives. In order to accommodate these components, the program will require 1) one two-hour group period each day; and 2) time for the second daily period of practice of the technology, also ideally in a group. Correctional programs that involve only the Transcendental Meditation program and a six-month follow-up to provide more knowledge of the technique and to insure correct practice would require a smaller amount of time, that for the daily practice of the technique and for the instructional meetings.
Conclusion

This paper has reviewed findings which indicate that the Maharishi Technology of the Unified Field through the practice of the Transcendental Meditation program produces consistent and substantial rehabilitative effects in correctional settings. From a practical perspective it appears to the authors that the results of this research are clearly sufficient to merit its adoption in large-scale correctional programs with state or federal support. The advantage of large programs is that the decreased recidivism that can be predicted to occur from the application of the program on a large scale might be sufficient to save a state from the extremely expensive necessity to construct additional correctional facilities.

References


This article, “The Application of The Transcendental Meditation Program to Corrections,” by Michael C. Dillbeck, Ph.D. and Allan I. Abrams, Ph.D., here revised/updated, was reprinted with permission from International Journal of Comparative and Applied Criminal Justice vol 11, 1987, pp. 111–132.
Improving the Effectiveness of Schools through the

Transcendental Meditation Program

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Randi J. Nidich, Ed.D.
Ronald L. Zigler
ABOUT THE AUTHORS

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Randi Jeanne Nidich, Ed.D., is adjunct associate professor of education at Maharishi University of Management. She received her doctorate in foundations of education from the University of Cincinnati in 1985 and taught full-time at Maharishi University of Management for 10 years. She has published key research in the areas of school climate and student moral development in the U.S. and the Philippines. Dr. Nidich is the co-author of studies on teacher burnout, academic achievement, intelligence, and student psychosocial stress. She and her husband, Sanford Nidich, are co-authors of the book, *Growing Up Enlightened*.

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ABSTRACT

This paper provides a review of research on the Transcendental Meditation program with middle and secondary school students, emphasizing the main outcomes of school effectiveness programs—academic achievement and graduation rates. A model was provided to organize the research findings and to show possible relationships among the various factors. Central to the model is the contribution of increased integrated brain functioning and higher EEG coherence through practice of the Transcendental Meditation program. Other student outcomes include improvements in the areas of cognitive functioning, student affect and social and emotional learning competencies, and student behavior. In addition, the Transcendental Meditation program’s economic benefit to society, based on increased graduation rates, is presented.

Introduction

The Current State of Education

Over the past few decades, state, national, and international standardized test scores have indicated a subpar level of academic achievement across U.S. public schools contributing to low levels of student high school graduation rates (Battin-Pearson, Newcomb, Abbott, Hill, et al., 2000; Kaplan, Peck, & Kaplan, 1997). Among developed countries, the U.S. ranks eighteenth in high school graduation rates (Organization for Economic Co-Operation and Development, 2007). The most recent data from Diplomas Count 2010 shows that only 69 percent of the students in 2007 graduated from our nation’s schools. At its peak in 1969, the national graduation rate was 77 percent. Further a racial and ethnic gap exists, with only 46 percent of African American, 44 percent of Latino, and 49 percent of Native American students earning a diploma (Heckman & LaFontaine, 2007).

Since the No Child Left Behind Act, public schools in every state have attempted reform measures to try to improve the quality of education and the graduation rates. Reform has featured an increased emphasis on accountability through standardized assessment of student academic achievement across grade levels (Torres, 2004). Even with this renewed attention from politicians and educators to improve public
education, the data on academic achievement and graduation rates has not been encouraging.

The high student dropout rate carries a tremendous burden to the society. High school dropouts are more likely than graduates to have lower lifetime earnings, and as a result, pay less taxes to local, state, and federal governments; need government housing, food and other assistance; have higher rates of incarceration, and have physical and mental health problems, (Belfield & Levin, 2007).

Studies conducted by Belfield and Levin (2007) and Rouse (2007) estimate that each dropout, over his or her lifetime, costs the nation over $200,000. This means, taking into account differences between those who graduate from high school and those who fail to graduate, there is an aggregated difference of over $200,000 in lifetime tax revenue due to a dropout’s diminished earning potential, increased risk for crime and incarceration, higher health care costs, and government food and housing assistance. At current student dropout rates, over the next decade more than 12 million students will drop out, resulting in an estimated loss to the nation of nearly three trillion dollars (Alliance for Excellent Education, October, 2007).

The Missing Element in Education: Development of the Student

Traditionally, education has focused predominantly on the process of learning (such as study skills) and on what students study—the curriculum itself, such as reading, math, science, the arts etc. A student can learn specific information about a certain field, but in most schools, students have yet to learn about and develop the foundation of knowledge, their own consciousness, and thus their ability to assimilate, integrate, and utilize knowledge. What has been lacking in schools is a way to directly and systematically unfold the students’ capacity to learn—as indicated by increased brain integration and coherence (associated with improved attention, memory, control, and other executive function processes), improved social emotional learning competencies, and reduced psychological distress.

In commenting about the importance of developing each student’s potential, Maharishi Mahesh Yogi, the founder of the Transcendental Meditation program, explained:
Every teacher knows that while he teaches the same thing to all his students, some grasp it brilliantly and others fail to do so. This shows a difference in the levels of intelligence, or consciousness. Every student receives the education according to his level of consciousness. But, so far, education has not taught anything about consciousness and has not done anything to raise the level of consciousness. The need is to expand the ability of the student’s mind to receive education.” (1978, p. 148)

This article describes an innovative, practical, value-added approach to improving the effectiveness of schools by fostering the personal, inner development of the student through practice of the Transcendental Meditation program. It reviews some of the current research findings on the implementation of the Transcendental Meditation program in middle and secondary schools in the U.S., highlighting recent research on brain functioning student psychological distress, social emotional learning competencies, student behavior, academic achievement, and graduate rates. The final section of the paper shows a cost-benefit analysis of this program, based on graduation rate data, following the methods described by Belfield and Levin (2007).

**Description of the Transcendental Meditation Program**

In public elementary and secondary school settings, the Transcendental Meditation technique is practiced twice a day during “Quiet Time” by students in a group, along with their supervising teachers. (The Quiet Time Program is a school-wide program in which students can rest, do homework, meditate, or participate in other quiet activities that are non-distracting to others). Students that start the Transcendental Meditation technique are also encouraged to practice this technique at home on weekends.

Transcendental Meditation is a simple, natural, effortless technique that allows the mind to experience finer levels of the thinking process until the mind transcends and experiences the source of thought, the simplest form of human awareness, described as the Unified Field of Natural Law (Roth, 1987). During the meditation session, the active mind settles down to a silent yet fully awake state of awareness, a state of “restful alertness,” associated with a more integrated style of brain functioning (Travis, Tecce, Arenander, & Wallace, 2002).
The practice of Transcendental Meditation involves the effortless use of a specific vehicle for transcending, called a “mantra,” or suitable sound. Unlike most mantra meditations, any possible meaning of the mantra is not part of Transcendental Meditation practice. Rather, the individual is trained to experience the sound value of the mantra at more “refined levels” (Maharishi Mahesh Yogi, 1969). Further the Transcendental Meditation technique is not a process of concentration, but rather is a process of “effortless transcending”—using the mantra as a vehicle to take attention from the ordinary thinking level to the least excited state of consciousness—consciousness without content, called pure consciousness (Maharishi Mahesh Yogi, 1969; Travis and Pearson, 2000).

Research has found that Transcendental Meditation practice is characterized by decreased activation or arousal of the autonomic nervous system, as reflected in decreased breath rate and lower sympathetic tone (Dillbeck, & Orme-Johnson, 1987); higher parasympathetic tone, as reflected in amplitude of the high frequency component of heart rate variability (Travis, 2001); and higher levels of frontal electroencephalography (EEG) alpha coherence (8–12 Hz) (Dillbeck and Bronson, 1981; Travis, 2002; Travis et al., 2002) and frontal- parietal phase synchrony (Hebert et al., 2005).

Students as young as the age of 10 can be instructed in the standard 7-step Transcendental Meditation program and are able to successfully learn how to practice this technique in an effortless manner, (Nidich & Nidich, 1990). The time of practice is adjusted for adolescents, with middle and secondary school students practicing the Transcendental Meditation program from 10 to 15 minutes morning and afternoon. (The usual time of practice for adults is 20 minutes.) The ability to learn how to meditate does not involve any change in beliefs, values, religion, or lifestyle (Roth, 1987).

The Transcendental Meditation program is taught to students by certified teachers, following the same standardized procedures for teaching. After initial introductory and preparatory lectures and a brief personal interview with the teacher, students then participate in an individual personal instruction session (about an hour), followed by group meetings to verify the correctness of practice and to provide additional knowledge about the practice over the next three consecutive
days (about an hour each day). Students then practice their meditation program in school at the beginning and end of each day, supervised by a classroom teacher or Transcendental Meditation instructor. All students continue with their school’s standard curriculum and instruction.

The following are examples of personal experiences with the Transcendental Meditation program from middle and secondary school students (Nidich and Nidich, 1990). These are fairly common experiences that students are noticing in their own daily practice, especially the feelings of quietness, relaxation, and happiness.

I feel light and happy when I meditate. I feel like a bird soaring free and high with no boundaries. (8th grade)

It usually feels like you’re merging into an ocean of deep quietness and peacefulness. It is unlike any kind of rest or sleep that one experiences if one is not practicing the TM technique. Once in a while, when I’ve submerged into the quietness, my body becomes one with everything. (10th grade)

During my practice of Transcendental Meditation, I feel extremely relaxed. I also experience a feeling of complete rejuvenation, as if I were a battery barged. I also experience a diving feeling as if my awareness was going deeper and deeper into a very quiet but active field. (12th grade)

**Personal Development Model**

While there are many factors that contribute to a comprehensive school effectiveness model including school climate, family support and cooperation, and community safety, the following model focuses on the holistic personal development of the student and its potential contribution to improving academic achievement and graduation rates.

Research over the past forty years indicates that regular practice of the Transcendental Meditation program results in holistic personal development—higher frontal EEG coherence and brain integration both during and after practice (e.g., Dillbeck and Bronson, 1981; Travis et al., 2002), increased executive functioning (e.g., Travis, Grosswald et al., 2011, Dillbeck, 1982), decreased psychological distress (negative emotions) (Eppley et al., 1981), increased social and emotional learn-
ing competencies, and enhanced self-actualizing abilities (Alexander et al., 1991). These factors may contribute to the increased academic performance, school behavior, and graduation rates in school children described below.

The model illustrates the effect of integrated brain functioning on cognitive and non-cognitive factors related to student behavior and academic achievement. In addition there is a direct influence between cognitive factors (and possibly certain non-cognitive factors) and academic achievement. Academic achievement, in turn, is a consistent, independent predictor of high school graduation, starting with the middle school experience.

Review of Research

Brain Integration
There have been several studies showing positive changes in brain functioning both during mediation practice and outside the practice, associated with increased executive function and reduced psychological distress,

In a randomized study, 18 ADHD students, ages 11–15, were measured on brain functioning, using electroencephalography (EEG) at baseline and at the three-month post test (Travis, Grosswald et al., 2011). EEG was recorded during visual-spatial tasks involving matched items. Findings indicated a high level of frontal parietal coherence across frequencies—alpha1 and alpha2, theta1 and theta2, beta, and gamma—after three months of practice of the Transcendental Meditation program, with little difference in coherence in controls over time. These frequencies are associated with attention, memory, and top-
down processing. Higher coherence across frequencies indicates greater functional connectivity between areas, leading to more focused activity. Also theta/beta ratios, a measure of severity of ADHD symptoms, decreased from baseline to the 3-month post test and the 6-month post test.

In research on 38 college students, Travis and colleagues (2010) conducted a randomized controlled trial of Transcendental Meditation practice on Brain Integration Scale scores (broadband frontal coherence, power ratios, and preparatory brain responses), reflecting structural and functional connectivity between brain areas. Results indicated significant positive effects in brain integration due to practice of Transcendental Meditation compared to controls over three months.

Findings also showed a trend for higher frontal broadband coherence at post test in the Transcendental Meditation group. Frontal coherence may support enhanced cognitive flexibility and self-regulation, which have been reported in Transcendental Meditation research on cognitive functioning (Dillbeck, 1982). Other research has shown higher coherence and brain integration correlated with higher levels of moral development, emotional stability, and inner directness, and lower levels of anxiety (Nidich et al., 1983; Travis et al., 2004).

Taken as a whole, these and other studies on brain coherence and integration (e.g., Dillbeck & Bronson, 1981) indicate a marked improvement in brain functioning both during and after practice of the Transcendental Meditation program that may be responsible for the beneficial changes described below in student personal (cognitive and affective) development and academic achievement.

**Cognitive Performance**

Several studies on school and college students indicate improvement in cognitive performance, including executive function, due to practice of Transcendental Meditation. Research by Travis, Grosswald et al., (2011) with ADHD secondary school students showed improvement in verbal fluency by the Transcendental Meditation students compared to controls. The verbal fluency test measured higher-order executive functions, including initiation, simultaneous processing, and systematic retrieval of knowledge. Performance depended on several fundamental
cognitive components, including vocabulary knowledge, spelling, and attention (also see integrated brain functioning above).

In randomized controlled studies with Chinese school students, increases in culture-fair intelligence (IQ), creative thinking skills, including flexibility, field independence, and inspection time (factors related to executive function) were found in meditating students compared to controls (So Kam Tim & Orme-Johnson, 2001).

Pilot studies on middle and secondary private school students showed higher levels of creative thinking skills, including fluency, flexibility, and originality, in those practicing Transcendental Meditation compared to controls, and within-group increases in cognitive intelligence in meditators (Nidich & Nidich, 1987).

In college students, a two-year longitudinal study showed significant improvements on culture-fair intelligence and reaction time due to Transcendental Meditation practice (Cranson, 1991). Dillbeck and colleagues (1986) also found significant improvement in IQ and field independence. In addition increases in visual perception and verbal problem-solving ability were observed in students practicing Transcendental Meditation compared to controls (Dillbeck, 1982).

**Psychological Distress**

Under high stress, the brain “downshifts” to a stimulus/response mode (Caine and Caine, 1991). High psychosocial stress causes brain regions involved in memory and emotions, such as the hippocampus, amygdala, and prefrontal cortex, to undergo structural remodeling, with the result that executive function such as working memory is impaired and anxiety and other negative affect are increased (McEwen et al., 1998, 2006a, b).

Research by Elder et al. (in press) on student psychological distress factors in secondary school students comprised of racial and ethnic minorities showed a significant reduction of distress in those students practicing the Transcendental Meditation program compared to controls. A total of 106 secondary school students (68 meditating and 38 non-meditating students), who completed both baseline and 4-month post-testing, were included. Results indicated reductions in Transcendental Meditation students compared to controls in general psycho-
logical distress and anxiety over a four-month period. Within-group effects on depressive symptoms also were observed in the Transcendental Meditation group.

A pilot study with ADHD children found significant within-in group reductions in psychological stress, anxiety and associated problems, and improvement in ADHD symptoms and executive function by student self-report and by teacher rating (Grosswald et al., 2008).
The above results on reduction in psychological distress factors have important implications for school behavior and performance and overall mental and physical health of the student. Research has linked psychological distress such as anxiety and depression, to poor academic achievement, negative school behavior, and adverse physical and mental health outcomes (e.g., Aluja & Branch, 2004; Kiselica, Baker, Thomas, & Reedy, 1994; Schwarzer, 1990; Heinrich, 1979; Barnes, Bauza, Treiber, 2001; Barnes, Treiber, & Davis, 2001; Suldo, Shaunessy, & Hardesty, 2008).

The Transcendental Meditation program reduces psychological distress by favorably impacting neuroendocrine (MacLean et al., 1997; Walton et al., 2004), autonomic, and other neurophysiologic (Travis, 2001) parameters. Maclean and colleagues (1997) demonstrated reductions in serum cortisol levels (a stress hormone) in those practicing the Transcendental Meditation technique compared to a stress education control group, while Travis (Travis, 2001) documented higher EEG brainwave integration and coherence, associated with reduced stress reactivity. The Transcendental Meditation technique thus offers a holistic, pragmatic and effective tool to combat stress related symptoms (Anderson et al., 2008).

Social Emotional Learning Competencies
Student learning has strong social, emotional, and academic components (Zins, Weissberg, Wang, & Walberg, 2004). Student social and emotional competencies affect academic engagement, work ethic, and commitment, impacting the quality of social behavior and level of academic success (Durlak, 2011).

Research is currently being conducted in U.S. middle and secondary public schools on emotional intelligence—the ability to effectively understand one’s self and others, relate well to people, and adapt to and cope with the immediate surroundings in order to be more successful in dealing with environmental demands.

In prior random assignment studies with Chinese students practicing the Transcendental Meditation technique, So Kam Tim and Orme-Johnson (2001) found significant improvement on the Constructive Thinking Inventory (CTI), which measures the constructive and destructive beliefs and thinking patterns that underlie emotional
intelligence, coping ability, and physical and emotional well-being (also see improved cognitive functioning above). Research by Epstein (1998) indicates that constructive thinking is a key factor in emotional intelligence and contributes to academic performance, work performance, social skills, and emotional and physical well-being.

Nidich and colleagues (2009) in a study of 296 university students randomly allocated to either the Transcendental Meditation program or wait-list control found improvement on the CTI global thinking skills and positive emotional and behavioral coping scales over a three-month period. These changes were correlated with decreased psychological distress and blood pressure.

A randomized controlled study with district school administrators also found significant improvement on the Bar On Emotional Intelligence Inventory in those practicing the Transcendental Meditation program compared to wait-list controls. Increases were found on the intrapersonal scale, comprising self-regard, emotional self-awareness, assertiveness, independence, and self-actualization; the stress management scale, consisting of stress toleration and impulse control; the adaptability scale, which includes reality testing, flexibility, and problem-solving ability; and the positive mood scale consisting of optimism and happiness (Valosek et al., submitted for publication).

A number of studies also have been conducted on self-actualization, most notably with college students, showing significant improvement in autonomy and inner-directedness, greater sense of being centered in the present rather than dwelling on the past or the distant future, greater self-regard and self-confidence, and greater tolerance of others (Alexander and colleagues, 1991).

**Self-Esteem**

Another important factor in school success is student self-esteem. Research has shown that self-esteem is associated with quality of academic performance in certain student populations (Whitesell et al., 2009; Close & Solberg, 2008; DuBois, Lockerd, Reach, & Parra, 2003) and also positively and robustly associated with health behavior (Kristjansson et al., 2010).

A prospective observational study on self-esteem was conducted with a total of 333 middle school students from two urban middle schools
practicing the Transcendental Meditation program. Using the Rosenberg Self-Esteem scale as a measure of self-competence and self-worth (Rosenberg, 1965), findings indicated a significant improvement over an average of five months (Grant et al., 2009). Dillbeck, Clayborne & Dillbeck (1990) also found improvements in self-esteem measures with low-income inner city children, along with increases in field independence and self-actualization.

**Behavior: Absenteeism, Suspensions, Rule Infractions, and Substance Usage**
A randomized controlled study by Barnes et al. (2001) with 45 African American public secondary school students showed significant reductions in absenteeism, suspensions, and rule infractions in students practicing the Transcendental Meditation technique compared to controls over a four-month intervention period. The Transcendental Meditation group showed a mean decrease of 6.4 absentee periods compared to an increase of 4.8 absentee periods in the control group. The meditation group showed a mean reduction of 0.3 suspension days compared to an increase of 1.2 days in the control group. The meditation group further showed a mean decrease of 0.1 rule infractions compared to an increase of 0.3 in the control group.

Another secondary school study showed lower absenteeism in those practicing the Transcendental Meditation technique compared to non-meditating controls (Boncheff, 2009). This was a cross-sectional study with 195 students, predominantly low-income American Indian students (124 meditating and 71 non-meditating controls). Those students who were practicing the Transcendental Meditation program had 23% less days absent than the non-meditating students. Meditating students showed a mean of 24.8 days absent and non-meditating controls showed a mean = 32.4 days absent.

In terms of reduced substance usage, randomized controlled research in college students showed decreased use of alcohol over a three-month period in students practicing Transcendental Meditation compared to controls (Haaga et al., 2011). Alexander and colleagues (1994) in a meta-analysis study found significant reductions in alcohol, nicotine, and drug abuse in subjects practicing the Transcendental Meditation technique.
Academic Achievement

A recent study by Nidich et al. (2011) showed increased academic achievement in urban public middle school students practicing the Transcendental Meditation program compared to controls. A total of 189 students in the study (125 meditating and 64 non-meditating controls) who were below proficiency level at baseline in English and math, were included in the study. The students were evaluated for change in academic achievement, using the California Standards Tests (CST). All students were included who had academic achievement scores for both baseline (prior year) and post test (current year). Ninety-seven percent were racial and ethnic minority students with about 75% of the students classified as Title 1. The Transcendental Meditation program was practiced at school twice a day as part of the school’s Quiet Time program for three months prior to post testing.

Results indicated significant improvement for those students practicing the Transcendental Meditation technique compared to controls on English scale scores, math scale scores, and composite scores. There was also a significant difference found in the percentage of students who showed a gain of at least one performance level in math and English. For the meditating students 40.7% of the students gained at least one performance level in math compared to 15.0% of the non-meditating control students. For English, 36.8% of the meditating students exhibited a gain of at least one performance level compared to 17.2% of the non-meditating students. Results on a matched-control subgroup, matched on GPA, yielded similar results.
Another study on public middle school English Language Learners (ELL) showed significant improvements in English proficiency in students practicing Transcendental Meditation compared to controls (Grant et al., 2009). A total of 75 public middle school students (48 meditators and 27 non-meditators) who reported a non-English language as the language spoken at home and who were below proficiency in English at baseline were included in the study. Change in student scores on the California Standardized Test and Reporting (STAR) English scale were compared over a one-year period. All students continued with their standard classroom instruction for English Language Learners. Findings indicated a significant improvement in English performance level scores in students practicing the Transcendental Meditation technique compared to controls. Approximately 21% of the meditating students attained proficiency in English over one-year compared to 4% of the non-meditating students.

In addition, research on standardized academic achievement in private school students, using the Iowa Tests of Basic Skills and Educational Development, showed significant improvement in composite academic performance, math, reading, language, and work-study skills (Nidich et al., 1986, 1989).

**Graduation Rates**

Colbert and Nidich (submitted for publication) conducted research on a total of 235 12th grade students (142 meditating students and 93 non-meditating controls) enrolled in an urban East Coast high school. All students included in the analysis were enrolled at the start of the fall semester and were tracked to determine the percentage of students graduating by the end of the school year. The meditating students practiced Transcendental Meditation for an average of 1.5 years. Students were coded as: 1) graduating in the Spring or Summer; 2) not graduating but still in high school; 3) transferring to another school; 4) enlisting in the army; 5) being a dropout; or 6) entering prison. Students were stratified into high and low GPA groups based on overall median GPA score.

Overall the percentage of graduating students practicing the Transcendental Meditation technique was 87.1% and the percentage of graduating non-meditating students was 66.7%. For the meditating
group 84.1% of the males and 90.1% the females graduated compared to 64.7% of the males and 70.4% of the females in the non-meditating group. When student grade point average was added to the regression model, a significant intervention effect continued to be observed.

For the high GPA group 97.5% of the meditating students graduated compared to 96.7% of the non-meditating students (ns). For the low GPA group 73.8% of the meditating students graduated compared to 47.9% of the non-meditating students in the low GPA group. Analysis with a matched control subgroup, based on GPA yielded similar results.

Further analysis on dropout rates indicated that for the entire sample, only 2.9% of the students practicing the Transcendental Meditation technique were officially classified by the school as dropouts compared to 20.5% in the non-meditating control group. None of these meditating students entered prison compared to 4% of the non-meditating students.

The largest difference was observed in the low academically performing students, with a 25 percent difference between groups. These findings are consistent with the above research on academic achievement in which the Transcendental Meditation program was found to make a noticeable impact in lower performing students.
Impact of Increased Graduation Rates on Society

Belfield and Levin (2007) emphasize the need for American high schools to begin to incorporate more effective school intervention programs. By raising graduation rates, the beneficial impact for society could be substantial, with the continued high dropout rate having a marked negative effect on the whole economy (Rouse, 2007).

As mentioned above, high school dropouts compared to graduates have a lower earning potential and therefore pay less taxes, need more government housing, food and other assistance, commit more crime and have higher rates of incarceration, and have greater levels of physical and mental health problems (Belfield and Levin, 2007). Therefore, increasing the number of high school graduates in our nation’s schools provides one of the best potential cost-benefits for society.

Using the cost-benefit formula described by Belfield and Levin (2007), a 15% difference in graduation rates (found in the above study), yields a net value of about $170,000 per additional graduating student over the lifetime of each student. This means that for every 100 students who learn the Transcendental Meditation program as part of a schoolwide Quiet Time program, the resulting benefit to society is over $2 million. This value of the Transcendental Meditation program compares very favorably with other successful school effectiveness programs.
such as comprehensive high school reform and early childhood education programs, with the added advantage of the ease and relatively low cost of implementation, and holistic benefits such as improved brain functioning described above.

**Conclusion**

This paper provided a review of research on the Transcendental Meditation program in middle and secondary school students, emphasizing the main outcomes of school effectiveness programs—academic achievement and graduation rates. The economic value to society of increased graduation rates was also described. A model was provided to organize the research findings and to show possible relationships among the various factors. Central to the model is the contribution of increased integrated brain functioning and higher EEG coherence through the practice of Transcendental Meditation.

**References**


improving the effectiveness of schools


Valosek, L., Nidich, S., Grant, J. et al. (submitted for publication). Effect of Transcendental Meditation on emotional intelligence in district school administrators.

Acknowledgements

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Medical Care Utilization and the

Transcendental Meditation Program

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ABSTRACT
This field study compared 5 years of medical insurance utilization statistics of approximately 2,000 regular participants in the Transcendental Meditation (TM) program with a normative data base of approximately 600,000 members of the same insurance carrier. The benefits, deductible, coinsurance terms, and distribution by gender of the Transcendental Meditation group were very similar to the norm, yet the Transcendental Meditation group had lower medical utilization rates in all categories. Inpatient days per 1000 by age category were 50.2% fewer than the norm for children (0–18), 50.1% fewer for young adults (19–39), and 69.4% fewer for older adults (40+). Outpatient visits per 1000 for the same age categories were, respectively, 46.8%, 54.7%, and 73.7% fewer. When compared with five other health insurance groups of similar size and professional membership, the Transcendental Meditation group had 53.3% fewer inpatient admissions per 1000 and 44.4% fewer outpatient visits per 1000. Admissions per 1000 were lower for the Transcendental Meditation group than the norm for all of 17 major medical treatment categories, including -55.4% for benign and malignant tumors, -87.3% for heart disease, -30.4% for all infectious diseases, -30.6% for all mental disorders, and -87.3% for diseases of the nervous system. However, the Transcendental Meditation group’s admissions rates for childbirth were similar to the norm. The issue of self-selection is addressed in terms of previous medical research in this area.

Introduction
The U.S. Public Health Service’s Centers for Disease Control estimates that half of the mortalities from the ten leading causes of death can be linked to behavior and life-style (1). A review of 25 studies concludes that treatment for alcohol abuse, drug abuse, or mental treatment (ADM impact) generally reduces medical care utilization (2). Although none of these studies used randomized clinical trials, 13 studies did use a comparison group, indicating reduced medical care utilization by about 20% in the treatment group compared to controls. These studies focused primarily on outpatient psychotherapy, mostly in organized health maintenance organizations (HMOs) or in alcoholism treatment provided for employees or provided by HMOs.
A more recent review of 58 studies found reductions in use of medical services associated with inpatient rather than outpatient mental health care, particularly for persons over 55 years of age (3). Twenty-two random assignment studies reviewed indicated a 10.4% mean reduction in inpatient hospitalization compared with 33.1% mean reduction in 26 time series studies in which patients had self-selected psychotherapy treatment. Both changes were statistically significant, indicating that self-selection studies yield reliable information, albeit a larger effect size. A meta-analysis of 49 experiments on the effects of psycho educational interventions with surgical patients indicated that method of subject assignment was not systematically related to effect size, i.e., the outcomes were similar for random assignment and self selection studies (4).

The present study analyzes five years of medical care utilization statistics from a major health insurance carrier on a self-selected group of approximately 2000 participants in the Transcendental Meditation (TM) program of Maharishi Mahesh Yogi (5). There are about two million Transcendental Meditation meditators worldwide and the Transcendental Meditation technique is not a therapeutic modality per se but is offered to the general public as a means of self-actualization (5). It is taught in seven systematic steps, which include introductory and preparatory lectures, personal interview and personal instruction, and verification and validation of experiences of the first three days of meditation (6, p. 6). The technique is taught by qualified teachers trained by Maharishi and it is described as “an effortless procedure for allowing the excitations of the mind gradually to settle down until a least excited state of mind is reached” (6, p. 123).

The Transcendental Meditation program consists of the regular practice of the Transcendental Meditation technique 15–20 minutes twice a day. It is practiced at home, in the office, or wherever is convenient. It does not require any special treatment setting, and although a quiet place is best, it can also be practiced successfully in noisy environments such as a bus, commuter train, or airplane.

Physiologic research shows that the Transcendental Meditation technique produces a state of “restful alertness” (7, 8). Rest is indicated by reduced minute ventilation, respiration rate, plasma lactate levels, and spontaneous skin resistance responses and increased basal skin resistance relative to eyes-closed rest in non-meditating control subjects.
Alertness or inner awareness is indicated by increased alpha band EEG power (7, 8) and coherence (10). Subjective experiences of a “least excited state of mind,” also referred to as transcendental consciousness, are highly correlated with slowing of respiration and increased EEG coherence over all frequencies and derivations (11, 12).

It has been proposed that the state of restful alertness gained during the Transcendental Meditation technique optimizes the efficiency of the innumerable intrinsic self-repair mechanisms of the body (9). Subsequent normalization of accumulated physiologic imbalances through the technique could thus be expected to help maintain good health. A number of experiments using random assignment as well as other research designs have demonstrated that the Transcendental Meditation program does have an impact on alcohol use (13–15), drug abuse (13, 14, 16, 17), and cigarette smoking (13, 14, 18), as well as on mental health (17, 19, 20).

For example, Brooks and Scanaro (19) randomly assigned 18 Vietnam veterans seeking treatment for post-Vietnam adjustment symptoms to either the Transcendental Meditation program or psychotherapy. After three months the Transcendental Meditation group showed significant improvements relative to the psychotherapy group, as indicated by reductions in emotional numbness, alcohol abuse, insomnia, depression, anxiety, and severity of delayed stress syndrome, and improved employment status. In addition, habituation of the skin resistance response to a loud tone (a physiologic measure of stress reactivity) was faster in the Transcendental Meditation group on posttest relative to pretest, whereas no change was observed in the psychotherapy group, indicating more rapid recovery from stress in the meditators.

A meta-analysis of 66 longitudinal and cross-sectional studies on anxiety and other affective outcomes, controlling for population, experimental design, duration of treatment, demand characteristics, payment of fees, experimenter attitude, type of publication, and attrition, found that the Transcendental Meditation program had twice the effect size as other meditation or relaxation techniques, whether or not the studies were matched on possible confounding variables (20).

“Sense of coherence” is a personality factor that has been found to have an impact on health. It is defined as the ability to make cognitive sense of stimuli, to perceive resources as adequate and to make emo-
tional sense of the environment (21). Several studies indicate that the Transcendental Meditation program increases these factors. One study randomly assigned 60 high school students to either the Transcendental Meditation technique or the Transcendental Meditation technique plus SCI (Science of Creative Intelligence, a course on the display of intelligence in nature), or SCI alone, and another 20 subjects served as a no-treatment control group (22). After a 14-week experimental period those participating in the Transcendental Meditation technique (with or without SCI) showed a significant improvement relative to SCI alone or the no-treatment control group on intelligence (Raven Progressive Matrices), creativity, ability to work with complex and abstract situations, energy level, innovation, self-esteem, tolerance, and anxiety.

One measure of perceptual and cognitive coherence is field independence, the ability to disembed target stimuli from high “noise” backgrounds. In one study, 40 subjects were randomly assigned to either the Transcendental Meditation program or a control group. After a three-month experimental period the Transcendental Meditation group significantly improved on three indices of field independence, indicating increased perceptual and cognitive structuring ability (23). Another study demonstrating increased “sense of coherence” found support for the hypothesis that the Transcendental Meditation technique reduces habitual patterns of perceptual activation, resulting in 1) more effective application of schemata to new information, and 2) less distracting mental activity during performance (24). Signal detection analysis indicated that in contrast to two control conditions (ordinary relaxation or reading) the Transcendental Meditation technique had immediate and longitudinal effects of improving detection of novel stimuli that could not be attributed to response bias.

These studies demonstrating ADM impact and increased sense of coherence suggest that the Transcendental Meditation program might engender successful aging, which is perhaps the ultimate test of well-being. A cross-sectional study (25) showed a lower level of biologic aging in Transcendental Meditation participants (n = 84, mean age 53 years) relative to controls as measured by systolic blood pressure, auditory threshold, and near point vision. Another study (26) extended this finding by randomly assigning 73 residents of homes for the elderly to either a no-treatment condition, or to one of three treatments designed...
to be equivalent in external structure and expectation-fostering features—the Transcendental Meditation program, an active thinking procedure, and a relaxation program. After a three-month experimental period the Transcendental Meditation group had significantly improved in comparison to one or more treatment conditions on three measures of cognitive flexibility, on word fluency, systolic blood pressure, self-report measures of behavioral flexibility, aging, and in nurse's rating of mental health (the last after 18 months). The most striking finding is that all members of the Transcendental Meditation group were still alive three years after the program began, in contrast to other groups and to the 62.5% survival rate for the remaining population in the homes for the elderly.

Other medical research indicating that the Transcendental Meditation program improves health has shown decreased bronchial asthma (27), decreased blood pressure in hypertensive subjects (28–30), decreased serum cholesterol levels in normal and hypercholesterolaemic patients (31), and reduced insomnia (32).

The present study complements this previous laboratory research by being the first large-scale field study of the effects of the Transcendental Meditation program on general health.

Methods
This study examined the medical care utilization statistics over a five-year period for the SCI Insurance Group, which is based in Fairfield, Iowa, but whose membership is 80% out of state, distributed throughout the United States. The only requirement for membership in the SCI health insurance group is that the individual (and all family members of age 10 and older) have practiced the Transcendental Meditation technique regularly for at least six months prior to enrollment. In order to remain eligible for participation in the health insurance plan and its benefits, SCI members are required to continue to regularly practice the Transcendental Meditation technique. Participation in the Transcendental Meditation program in no way biased the availability of any types of medical treatment; it was only the criterion of membership in the SCI health insurance group.
SCI is one of many health insurance groups belonging to a major health insurance carrier of Iowa hereafter referred to as “MIC.”1 MIC’s total membership numbered from 600,000 to 700,000 during the period of the experiment. MIC is not an HMO, but a health insurance carrier whose member companies, such as SCI, offer prepaid health insurance plans for the usual medical, surgical, and obstetric services. Sixty percent of the health insurance policies offered by the different groups with MIC have a $100 to $200 deductible, and 80% of MIC’s business is with an 80/20 coinsurance plan.

Semiannually the MIC actuarial services send each group in its membership a standard report on account-specific utilization and charge indicators for that group compared to all other groups with MIC. The statistics reported in this article were taken from the MIC’s standard reports sent to the SCI health insurance group from 1981 to 1985. In these reports, SCI’s medical utilization rates in different categories were compared with the mean of all other groups. These normative data for all other groups is based on MIC’s 600,000 plus membership and is referred to as Group Business. In addition, MIC’s actuarial services provided statistics comparing the SCI group with five other health insurance groups specifically selected to be of similar size and professional membership as SCI.

SCI’s membership enrollments were 694, 1123, 1395, 2119, and 2011 for 1981 to 1985, respectively. The terms of SCI’s insurance policy were typical or better than the other groups represented by Group Business. For the majority of the study, SCI members had a $100 deductible with a 80/20 coinsurance level in force. The lowest deductible range offered by MIC is $100 to $200. SCI does screen potential applicants for current major illnesses, but this is also implicitly done by almost all medical insurance groups either through their not enrolling high health risk individuals or through a waiting period (SCI does not have a waiting period).

SCI and Group Business were compared on standard medical care and charge indicators, including hospital inpatient, outpatient, inpatient procedures (medical, surgical, and obstetric procedures performed by the physician, and x-ray and laboratory procedures), and outpatient procedures (physician’s procedures performed at the office, emergency

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1 More detailed information about the SCI health insurance group and MIC can be obtained from Dick Alexander, President, SCI Insurance Group, 2nd and Broadway, Fairfield, IA 52556.
As a control for age, and to see whether the Transcendental Meditation program has a differential impact on different age groups. MIC of Iowa actuarial services kindly provided utilization statistics comparing SCI and Group Business in three age categories (0–18, 19–39, 40+). Because of small numbers, the utilization indicators for SCI were derived as averages over two years (1982–1983) and relatively broad age categories had to be used. For the SCI group there were 80, 975, and 218 in the 0–18, 19–39, and 40+ categories, respectively.

Since these age categories are broad, it was of interest to compare the distributions by decades that fall within the broader age categories. For the oldest decade (60–69), which would be expected to have the highest medical utilization, SCI and Group Business had similar percentages (18.47% and 17.8%, respectively). However, in the next oldest decade (50–59), the SCI group had 12% fewer and they had 11.3% more in the 40–49 decade.

For the 19–39 age groups, SCI members tended to be older than Group Business, with 87.4% in the 30–39 decade compared to 49.8% in the 30–39 decade for Group Business. In the 0–18 bracket, SCI had proportionally fewer school age children from 5–18 than Group Business (53.9% vs. 73.2%).

The distribution of gender by age was found to be very similar for SCI and Group Business, with 46.5% males in the SCI group in 1982 and 1983 combined, compared with 47% males in Group Business.

The medical and surgical hospital admission per 1000 was also compared for SCI and Group Business for 18 standard treatment categories. The categories, ordered by frequency of admissions for the normative data (Group Business) are

1. Pregnancy and childbirth—including shortly before and after childbirth
2. Intestinal diseases—ulcers and disorders of the stomach, hernia, functional digestive disorders, chronic liver disease, gastroenteritis/colitis, appendicitis, and gallbladder disorders
3. Nose, throat, and lung—tonsils, adenoids, bronchitis, emphysema, pneumonia, and asthma
4. Heart and blood vessels—hypertensive disease, is chemic heart disease, hemorrhoids, angina, atherosclerosis, congestive heart failure
5. Genital and urinary—kidney/urinary tract stones, hyperplasia of prostate, benign mammary dysplasia
6. Injuries and poisoning—accidents, wounds, burns, fractures, internal head injuries
7. Benign and malignant tumors—malignancy of the oral cavity/stomach, colon/rectum/anus, throat/lung, skin, female breast, cervix/ovary/uterus, prostate, thyroid, benign tumors of various sites, carcinoma of breast/genitourinary and leukemia
8. Bones and muscles—intervertebral disc disorders, bone infections, arthritis
9. Ill defined condition—convulsions, chest pain, abdominal pain
10. All mental disorders—psychoses/neuroses, drug/mental disorders, alcohol/mental disorders, other mental disorders
11. Nervous system—migraine, glaucoma and cataract, disorders of ear
12. Irregularities of metabolism—thyroid disorder, diabetes mellitus, pituitary/adrenal gland ailment, nutritional deficiencies, obesity
13. All infectious diseases
14. Other
15. Medical carveout—services covered by Medicare
16. Skin
17. Congenital
18. Blood

Data aggregated into this system of treatment categories could be calculated from the available information for three years (1983–1985) for Group Business and for five years (1981–1985) for SCI. The means of three years for Group Business and five years for SCI are reported. The following formulas were used to calculate this data from the available information:

\[
\frac{\text{SCI hospital admissions}}{1000} = \left( \frac{\# \text{ of admissions in a treatment category for SCI in that category}}{N} \right) \times \frac{1000}{N}
\]

where \( N \) = group membership of SCI that year
The accuracy of these values was checked by showing that the sum of the admissions per 1000 calculated for the 18 categories equaled the total admissions per 1000 given in the MIC report.

### Other Accounts

As a control for profession, MIC actuarial services selected five other insurance accounts with comparable policies that were of similar size and professional membership as SCI for utilization indicators for 1982 incurred. None of the Other Accounts selected for the comparison with SCI exactly matches the SCI group, which was difficult to match because its membership is not based on a common profession, although most of its membership can be characterized as “white collar” and many are teachers. The Other Accounts do, however, cover a variety of professions typical of the SCI members, including two banking groups, a school system (teachers and administrators), a computer firm (high technology), and a city government unit (see bottom of Table 1 for N for each of these groups). The terms of the health insurance policies of the Other Accounts were comparable to SCI’s.

### Statistical Analysis

The hypothesis that the medical utilization indicators for SCI and Group Business were significantly different over the five years was tested using the chi-square statistic for a 2 x 5 table representing the two groups (SCI and Group Business) for the five years (1981–1985). The utilization rates for the normative data (Group Business) were used as the expected values and the rates for SCI were the observed values. A separate chi square was calculated for each indicator—inpatient admissions per 1000, inpatient days per 1000, outpatient visits per 1000, inpatient procedures (e.g., x-rays etc.) per 1000, outpatient procedures per 1000, and total health charges.
Table 1
SCI Utilization Rates Compared with Other Accounts of Similar Professional Membership

<table>
<thead>
<tr>
<th></th>
<th>Average</th>
<th>High (ID)</th>
<th>Low (ID)</th>
<th>SCI</th>
<th>p SCI vs. Average</th>
<th>p SCI vs. Low</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Admissions per 1000 members</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical</td>
<td>45</td>
<td>48 (1,2)</td>
<td>28 (5)</td>
<td>20</td>
<td>&lt;0.0001</td>
<td>0.1042</td>
</tr>
<tr>
<td>Surgical</td>
<td>38</td>
<td>43 (5)</td>
<td>32 (4)</td>
<td>9</td>
<td>&lt;0.0001</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Obstetric</td>
<td>22</td>
<td>28 (1,4)</td>
<td>14 (3)</td>
<td>20</td>
<td>0.06477</td>
<td>0.0870</td>
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<tr>
<td>Total</td>
<td>105</td>
<td>116 (1)</td>
<td>90 (3)</td>
<td>49</td>
<td>&lt;0.0001</td>
<td>&lt;0.0001</td>
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<table>
<thead>
<tr>
<th></th>
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<th>SCI</th>
<th>p SCI vs. Average</th>
<th>p SCI vs. Low</th>
</tr>
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<tbody>
<tr>
<td><strong>Patient days per 1000 members</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical</td>
<td>282</td>
<td>305 (2)</td>
<td>178 (5)</td>
<td>125</td>
<td>&lt;0.0001</td>
<td>&lt;0.0001</td>
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<tr>
<td>Surgical</td>
<td>200</td>
<td>209 (2)</td>
<td>120 (4)</td>
<td>32</td>
<td>&lt;0.0001</td>
<td>&lt;0.0001</td>
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<tr>
<td>Obstetric</td>
<td>88</td>
<td>105 (1)</td>
<td>46 (3)</td>
<td>62</td>
<td>0.0021</td>
<td>0.0105</td>
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<tr>
<td>Total</td>
<td>570</td>
<td>615 (2)</td>
<td>456 (3)</td>
<td>221</td>
<td>&lt;0.0001</td>
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<table>
<thead>
<tr>
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<th>Low (ID)</th>
<th>SCI</th>
<th>p SCI vs. Average</th>
<th>p SCI vs. Low</th>
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<tr>
<td><strong>Average length of stay</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical</td>
<td>6.3</td>
<td>603 b</td>
<td>5.6 (1)</td>
<td>6.4</td>
<td>0.9893</td>
<td>0.9098</td>
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<td>Surgical</td>
<td>5.2</td>
<td>5.5 (3)</td>
<td>3.8 (4)</td>
<td>3.7</td>
<td>0.8355</td>
<td>0.9863</td>
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<td>Obstetric</td>
<td>4.1</td>
<td>4.3 (3)</td>
<td>2.9 (4)</td>
<td>3.0</td>
<td>0.8555</td>
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<td>5.4</td>
<td>5.6 (3)</td>
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<th>Low (ID)</th>
<th>SCI</th>
<th>p SCI vs. Average</th>
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<td>35 (3,5)</td>
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<td>103 (5)</td>
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Note: a 1982 Incurred, Paid through March 31, 1983
b Tie: 2, 3, 4, 5

Table ID Key

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Figure 1. Levels of inpatient and outpatient medical care utilization in major treatment categories over five years for SCI (Transcendental Meditation group) and Group Business (normative data).

The data on the different age categories were analyzed by calculating a 2 x 3 chi square table representing the two groups (SCI and Group Business) and the three different age categories, testing the hypothesis that the two groups were different over the age categories. This was done for hospital inpatient days per 1000 and outpatient visits per 1000 (p values from these analyses are shown in Figure 2).
Figure 2. Levels of inpatient and outpatient medical care utilization by age categories for SCI and Group Business.

The critical ratio test (33) was used to compare SCI and Other Accounts (data presented in Table 1). This tests the hypothesis that the observed proportion of the statistic in question (admissions per 1000, patient days per 1000, average length of stay, or outpatient days per 1000 for SCI members (P_{sci}) was significantly lower than the expected proportion (P) of admissions for Other Accounts. The standard devia-
tion in proportion units is \( \sqrt{\frac{PQ}{N}} \), where \( Q = (1 - P) \) and \( N = \) sample size of the SCI group. Thus, \( z = (P_{sci} - P) \sqrt{\frac{PQ}{N}} \) (33, p. 50). As a test for normality, \( NP \) and \( NQ \) must exceed 5, and the data must be corrected for continuity if either product is between 5 and 10 (30, p. 51). This would be the test of choice for the 18 treatment categories as well, but due to very small proportions the data were too skewed and no normal to justify the use of the test. Instead, the sign test was used as an overall test of the difference between SCI and Group Business on the 17 pathologic treatment categories taken together (omitting pregnancy and childbirth).

**Results**

Figure 1 shows that for every year from 1981 to 1985, SCI’s utilization rates were consistently lower than Group Business for medical and surgical inpatient and outpatient medical care. It is interesting to note in Figure 1 that over the five years, Group Business decreased on inpatient medical and surgical utilization while its outpatient utilization increased.

The five-year means showed that SCI’s admissions per 1000 compared to Group Business’s were 63% fewer for inpatient medical, 71.5% fewer for inpatient surgical, 58.8% fewer for outpatient medical, and 56.0% fewer for outpatient surgical (\( ps < 0.0001 \)). SCI’s obstetric admission was 5.6% higher than Group Business over the five-year period, a nonsignificant difference.

All other utilization indicators—patient days per 1000, inpatient and outpatient procedures—showed results that were similar to admissions per 1000 (\( ps < 0.0001 \)).

Figure 2 shows that SCI had lower medical utilization rates than Group Business in all age categories. Inpatient days per 1000 were 50.2% fewer for SCI children (0–18), 50.1% fewer for SCI young adults (19–39), and 68.4% fewer for SCI older adults (40 +), \( p < 0.0001 \). Outpatient visits per 1000 were 46.8% fewer for SCI children, 54.7% fewer for SCI young adults, and 73.7% fewer for SCI older adults, \( p < 0.0001 \).

Figure 3 shows that SCI had lower admissions per 1000 than Group Business in all 18 treatment categories except obstetrics. For the other 17 categories, SCI had lower admissions rates: intestinal, –49%; nose, throat, and lung, –73.0%; heart, –87.3%; genital and urinary, –37.0%; injuries, –63.2%; tumors, –55.4%; bone and muscle, –67.6%; ill-
defined conditions, –76.0%; all mental disorders, –30.6%; nervous system, –87.2%; metabolism, –65.4%; infectious diseases, –30.4%; other, –91.2%; medical carveout (services covered by Medicare), –100%; congenital, –50.6%; and blood, –32.8%. The probability of SCI being lower than Group Business in the 17 medical treatment categories is $0.517 = 7.63 \times 10^{-6}$, a highly significant result. The N of the SCI group was not large enough for a finer breakdown into subcategories.
Table 1 shows that SCI had significantly fewer hospital admissions than the mean of Other Accounts of similar professional membership for medical and surgical admissions per 1000 and patient days per 1000 (\(p < 0.0001\)), but a comparable average length of stay. However, the average length of stay in the hospital for child delivery for the meditating mothers was three days, compared with an average of 4.1 days for Other Accounts and the obstetrics patient days per 1000 were 62 for SCI compared to 88 for Other Accounts (\(p = 0.0021\)). It is noteworthy that SCI was lower than the lowest of the five Other Accounts for medical, surgical, total admissions per 1000, and patient days per 1000.

**Cost Benefit**

SCI’s combined cost of inpatient and outpatient treatment per 1000 members paid out by the insurance carrier was 26.5\% to 67.4\% less than Group Business for different years, which amounted to $623,571 per 1000 less over the five-year period. The average one-time cost to learn the Transcendental Meditation technique per person is approximately $300, or $300,000 per 1000. Therefore, after teaching a group of people the Transcendental Meditation technique, one would still save an estimated third of a million dollars per 1000 over a five-year period, a considerable reduction of health care costs if extended nationwide.

**Discussion**

Regular practice of the Transcendental Meditation technique 15–20 minutes twice a day was the only explicit defining characteristic of the SCI group. It is reasonable to believe that SCI members actually did meditate regularly because members sign a legal agreement to continue to regularly practice the program as a condition of eligibility for the insurance benefits, and because they are periodically required to participate in standard checking of the practice offered by Transcendental Meditation centers. The specific criteria of correct meditation used by the Transcendental Meditation teacher are that the practice is effortless and relaxing and produces cumulative benefits in activity.

However, the SCI group (as well as all the comparison groups) was self-selected, which raises the question of causality. Does the requirement for six months of participation in the Transcendental Meditation program bias this group in relation to the nonmeditator enrollees in
the other insurance groups? One possible explanation for the data is that people who learn and continue to participate in the Transcendental Meditation program tend to have more health-promoting life-styles anyway. This appears to be unlikely, however, because many people come to learn the technique because they are having problems, and research using random assignment and other experimental designs has shown that the technique has beneficial effects on people who begin even with serious problems (e.g., 19, 20). In addition, it seems unlikely that the mediators could significantly change their life-styles merely on the basis of an intellectual or emotional commitment to some ideal of behavior; indeed, no change in belief system or life-style is suggested or required for participation in the program.

In addition, there does not appear to be anything in the terms of the SCI insurance policy that would tend to reduce its utilization relative to the comparison groups. The SCI insurance policy had a low deductible and a coinsurance plan typical of the normative data (Group Business) and Other Accounts of similar professional membership. SCI does exclude prospective members who have a current major illness, but so do most group insurance plans represented in the comparison groups, either through not enrolling high health-risk individuals in their health insurance plan or by having a waiting period (SCI had no waiting period). The distribution of gender was the same for the SCI and Group Business so this was not a factor.

With regard to age, the SCI group had lower medical utilization rates in all age categories. The categories were broad in order to maintain a substantial N in each, but there was little in the distributions within the categories to explain the results. For example, in the high-risk 60–69 decade the SCI group actually had a slightly higher percentage of members than Group Business, although they did have 12% fewer members in the 50–59 decade and proportionally more in the 40–49 decade. Within the 19–39 brackets, SCI members were actually more distributed towards the older 30–39 decade, so younger age could not account for their lower medical utilization rates. For the 0–18 group, SCI had 19.3% more preschoolers, which might have resulted in less disease because of not being exposed at school. However, it is unlikely that this 19.3% discrepancy could have accounted for all of
the approximately 50% reduction in hospitalization and doctor visits observed for the SCI children.

An interesting note on age is that the contrast between the SCI group and Group Business increased with age. Whereas health care utilization was approximately 50% less for SCI in the 0–18 and 19–39 age brackets, for the 40+ group it was 68.4% less for inpatient and 73.7% less for outpatient utilization. This result supports previous research (25, 26) demonstrating the cumulative preventative benefits of the Transcendental Meditation program for aging.

Inpatient vs. Outpatient Treatment

SCI’s reduced medical care utilization cannot be attributed to a shift from inpatient to outpatient care, because SCI had lower inpatient and outpatient rates relative to both Group Business and Other Accounts. The normal obstetric admission rates for SCI further indicate normal medical utilization for no pathologic use, i.e., child delivery. This pattern of results suggests that the reduction in SCI’s utilization rates was not due to a life-style preference, such as a tendency to deliver babies at home rather than in the hospital or a preference for outpatient rather than inpatient treatment. In addition, the finding that the SCI group had lower incidences of major conditions such as heart disease and cancer shows that their utilization levels were not restricted to the less serious medical categories.

The SCI mothers did spend somewhat fewer days (3.0) in the hospital than did Other Accounts mothers (4.1). This may have been because of a preference to leave the hospital earlier or because of better health. The latter interpretation is consistent with previous medical research on over 100 mothers showing better health for mother and child during pregnancy and childbirth, shorter duration of labor, lower frequency of operative intervention during labor (34), and research showing more time in the quiet alert state in neonates of meditating mothers (35).

The explanation for the data that is most consistent with the previous research taken as a whole (7–20, 22–32, 34–37) is that the regular experience of the physiologic state of restful alertness produced by the Transcendental Meditation technique influences health both directly and indirectly. Direct effects would occur through preventing the accumulation of physiologic stress. Indirect effects would occur through
improved life-style due to becoming a “better chooser” on the basis of stabler, more balanced physiologic functioning, which increases one’s sense of coherence. Decreasing the physiologic manifestations of stress could be expected to decrease internal “noise,” thus increasing the signal-to-noise ratio, which would allow one to attend to the subtle cues coming from within the body and environment so that one would spontaneously make more health-supporting choices with regard to diet, smoking, seat belts, etc.

The research showing that Transcendental Meditation meditators reduce their intake of alcohol, drugs, and tobacco (13–19, 36) can be interpreted as indicating their growing ability to make better choices. One study (37) found that the principal reason given by Transcendental Meditation participants for reducing their intake of these substances is increased sensitivity to the negative consequences of the substances on their physiology. Increased sensitivity to the physiologic effects of food might also result in dietary changes. Diet influences health (38), but unfortunately information on the dietary and exercise habits of the SCI group was not available. Although there is no published research on the Transcendental Meditation program and diet, personal observation suggests that a tendency towards vegetarianism develops gradually over a matter of years in some but not all meditators. However, in their study of biologic aging, Wallace et al. (25) controlled for both diet and exercise and found that the Transcendental Meditation program had an independent effect on reducing biologic age relative to chronologic age.

More random assignment studies are needed to further clarify the relationship between the Transcendental Meditation program, health-promoting behavior, and health. However, large-scale studies of this type are difficult to do for a number of practical reasons; random assignment experiments were nonexistent in one review of ADM impact (2) and those that did exist on the effects of mental health treatment on medical utilization were small, with a median N = 22 (3). The present study had a larger N than all but 1 of 25 studies cited in the first review (2) and a larger N than all 58 studies cited in the second review (3). The present study also had a longer treatment duration than all but 3 of the 25 studies in the first review (2).
A New Theoretical Perspective on Health

A recent overview of health-enhancing strategies stated that “we need to be open at this point to a broad spectrum of conceptual models of health and ways to enhance it” (39). Most health-enhancement strategies follow a two-step process of 1) identifying specific behavioral factors that influence health, and 2) finding techniques that modify behavior to promote health. The list of health-related behaviors includes cigarette smoking, physical exercise, the use of seat belts, and chronic stress (40). Techniques for changing health-related behaviors have been termed participant modeling (41) and include various procedures that have been classified as corrective action, direct feedback, and social modeling (39).

The Transcendental Meditation program differs fundamentally from these health-enhancement strategies in that it does not involve attempting to identify or directly modify specific target behaviors. Recently, however, Maharishi has made available a comprehensive prevention program called Maharishi Vedic Approach to Health, which, in addition to the Transcendental Meditation technique, includes programs on diet, herbal supplements, exercise, behavioral patterns, and prevention techniques for different physiologic types, seasons, and climates (42, 43). However, the majority of the present study occurred before these other programs were available and it only involves the Transcendental Meditation program itself, which does not require or even recommend changes in life-style. Yet without specifically attempting to change behavior, the Transcendental Meditation program has been shown to have a wide-ranging impact on ADM (13–20, 36, 37), sense of coherence (22–24), and health (25–32). The generality of the Transcendental Meditation program’s effects is also illustrated in the present study by the low utilization rates of the SCI group in virtually all medical treatments categories.

The holistic effects indicated by the present and previous research have prompted a new theoretical approach to health that draws upon unified field theory of modern physics (42–44). Hagelin (44) and other theoretical physicists have noted the emergence at nature’s fundamental scales of measurement of characteristically subjective qualities, such as dynamism, intelligence, and attributes of self-awareness, suggesting that consciousness may require a more fundamental position in our conception of nature. Hagelin (44) has demonstrated that there are
close structural parallels between the technical properties of the unified field of quantum field theory and the descriptions by both ancient and modern meditators of the field of pure consciousness experienced when conscious awareness settles into its “least excited state” (6). Chopra (42) points out that the Vedic tradition that Maharishi represents, as well as the roots of most cultures of the world, identify the unified field of natural law with a field of pure consciousness, which can be directly experienced by the human nervous system to achieve higher levels of health and well-being. Wallace (43) has reviewed experimental evidence on the Transcendental Meditation program supporting the theory that the direct experience of the unified field as pure consciousness produces an optimally balanced state in the neurochemical environment of the body that maximizes the efficient use of the information in DNA to induce self-repair, holistic growth, and, hence, a higher level of health.

Based on previous research, some physicians prescribe the Transcendental Meditation program for stress management, and there are two organizations that serve the over 6000 physicians who have learned the Transcendental Meditation technique and many more who recommend it. Future large-scale research in business, industry, military, governmental, or educational settings would further clarify the ability of this promising technology of health enhancement to prevent disease and to reduce medical care costs.

References
consciousness-based education and physiology and health


This article, “Medical Care Utilization and the Transcendental Meditation Program,” by David Orme-Johnson, Ph.D., here revised/updated, was originally published in Psychosomatic Medicine 49:493–507 (1987).
The Health Care Cost Crisis and the Role of Prevention:
New Approaches Utilizing
the Transcendental Meditation Program

Robert Herron, Ph.D.
Robert E. Herron, Ph.D., is an independent researcher, writer, speaker, and consultant in medical cost reduction and health policy. He earned a B.A. in English in 1975, an MBA in 1985, and doctoral degree in management in 1993. From 1996 to 1998, he completed a post-doctoral program in the epidemiology of cardiovascular disease that was funded by the National Institutes of Health. Dr. Herron has taught a wide range of business and government policy courses at the undergraduate and graduate levels. Dr. Herron has conducted research to evaluate the cost-effectiveness of various methods of disease prevention and alternative medicine. He also conducted research that led to the development of new methods of analyzing medical costs and innovative means for reducing those costs. Dr. Herron has also done extensive policy research in many other fields, including on how to rescue national economies. He has served as a senior policy adviser and researcher for political parties.
HEALTH CARE COST CRISIS AND TRANSCENDENTAL MEDITATION PROGRAM

ABSTRACT

During the past two decades, the United States has become increasingly concerned with reducing medical care expenditures while continuing to improve the health of Americans. However, medical costs have continued to rise rapidly, despite efforts to contain them. Unlike the treatment-based strategies for health care that are currently in wide use, prevention-oriented approaches offer great unrealized potential to directly improve the health of U.S. citizens and thereby to reduce medical utilization and its attendant costs. At present, however, there is little research to validate the cost effectiveness of such prevention programs.

This paper reviews the cost effectiveness of the current U.S. health care system as compared with those of other nations, especially Canada, and examines the potential of effective prevention programs for alleviating the health care cost crisis. A strategy is suggested to lower medical care utilization and expenditures by directing effective health-promotion and disease-preventive interventions toward the highest-cost patients—that fraction of the population that consistently incurs the majority of all medical expenses. The scientifically validated Transcendental Meditation program is proposed as an effective preventive intervention to accomplish this strategy, and pertinent health-related research on the Transcendental Meditation program is reviewed. Future research possibilities are also suggested in order to enhance and expand national preventive care and thereby to further reduce high medical expenditures in the U.S.

Introduction

Despite numerous attempts by many governments to contain accelerating costs in the health care field during the past two decades, medical expenditures have continued to grow rapidly as a percentage of gross national product (GNP) throughout the world. This escalation diverts resources from other important national and international goals, such as job creation, housing, education, economic development, and the environment. In recent years, the medical expenditure crisis in the United States has created growing alarm about the efficiency and equity of the U.S. medical system. Jencks and Schieber (1991) summarize the problem:

Although U.S. health care costs have been in a proclaimed crisis for 10 to 20 years, we have made strikingly little progress in containing the
growth of these costs. Neither the “regulatory” policies of the 1970’s nor the “competitive” policies of the 1980’s have slowed the growth of health care spending. (p. 1)

Although medical expenses are higher in the U.S. than in any other country, the cost crisis is not limited to one nation; it is a worldwide problem. Moreover, the medical expenditure challenge is noncyclical; it continues to grow worse with time. Consequently, new and innovative interventions in the health care field will be required to slow this growth and, ultimately, to decrease medical spending.

Present cost-containment efforts focus mainly on attempting to improve the financing, delivery, and administration of the medical system. This type of improvement so far has had limited results (Jencks & Schieber, 1991). Medical spending is still escalating, yet many measures of health are not improving; indeed, some are declining. For example, the cancer rate is increasing in most developed nations in spite of significant funding for medical treatment and research. Such data suggest that current cost-containment strategies will inevitably fail in the long term if they do not address the underlying causes of the health care problem (Schwartz, 1987). Policy makers can no longer rely solely on administrative, financial, or treatment-oriented strategies to reduce medical expenses. New strategies are needed to prevent disease and enhance health, and thereby to reduce medical payments.

Most traditional preventive interventions, such as pure water and food, hygiene, and vaccination, have been fully exploited in the developed countries. Hence, further investment in these types of prevention is unlikely to yield significant improvements in national health and reductions in medical expenses. Other preventive approaches, however, offer great unrealized possibilities. These include lifestyle change, stress reduction, and environmental improvement. The U.S. Department of Health and Human Services (1990b) conducted an exhaustive analysis of the research on the benefits of prevention and concluded:

Recent evidence confirms that better control of fewer than 10 health risk factors—for example, poor diet, infrequent exercise, use of tobacco and drugs, and abuse of alcohol—could prevent between 40 and 70 percent of all premature deaths, a third of all cases of acute disability, and two-thirds of all cases of chronic disability. (p. v)
These figures represent a large potential cost savings and a significant reduction of suffering. They suggest that the underlying cause of high medical utilization and hence expenditures is poor health. Yet research consistently shows that most disease is preventable through known methodologies (Friend, 1992; Breslow, 1990). If the implementation of such methodologies led to better public health, then medical financing, administration, technology, and delivery issues would become less important.

A renewed focus on prevention thus seems essential in order to alleviate both the health care cost crisis and unnecessary human suffering. However, many prevention interventions have been found to be expensive (Russell, 1986). Therefore, it is also essential to find cost-effective methods of health promotion and disease prevention.

**The Transcendental Meditation Program: An Overview**

Several lines of research indicate that one recently introduced method, the Transcendental Meditation (TM) program, can be particularly effective in reducing health care costs through effective disease prevention and health promotion. Moreover, existing data on this technique indicate that it is particularly effective in reducing health care costs among high health-care utilizers, the 10% of the population responsible for over 75% of national health care expenditures (Garfinkel et al., 1988).

The Transcendental Meditation technique is the primary intervention of a comprehensive system of health care known as Maharishi Ayur-Veda, which includes 20 distinct approaches to health promotion and disease prevention. This system is the authentic record of the ancient natural medical system of India. During the past decade, Maharishi Mahesh Yogi, founder of the Transcendental Meditation program, has initiated and collaborated on extensive research to bring to light the principles and practices of this ancient system of health.

Transcendental Meditation is a simple, effortless procedure, normally practiced for 15–20 minutes in the morning and evening sitting comfortably with eyes closed. The technique can be learned by anyone, independent of their educational, religious, or cultural background.

Twenty years of scientific research have shown that the Transcendental Meditation program is highly effective in alleviating many stress-
related diseases and lowering the associated high rates of health care utilization and costs. These studies, several of which will be described below, have shown Transcendental Meditation to be a practical preventive program in a wide variety of populations, including inner-city African American and elderly groups.

Over 500 scientific research studies examining the effects of Transcendental Meditation on mental, physical, and social health have been conducted to date (see Orme-Johnson and Farrow, 1976; Chalmers et al., 1989; and Wallace et al., in press). Published meta-analyses—the most rigorously objective method of reviewing scientific literature—have found that the Transcendental Meditation technique produces:

1. a psychophysically unique state of restful alertness that is different from simply resting with the eyes closed (Dillbeck and Orme-Johnson, 1987);

2. greater reductions in anxiety than other meditation, relaxation, and stress management techniques (Eppley et al., 1989);

3. greater improvements in positive mental health (self-actualization) compared to other techniques (Alexander et al., 1991).

The research further indicates that regular practice of this technique restores balance in the mind and body and provides the basis for accumulated health benefits.

Numerous published studies have documented that the Transcendental Meditation program prevents and reduces such major health problems as cardiovascular disease, substance abuse, mental disorders, and cancer. In addition, there is strong evidence for slowing or reversal of the aging process and enhancing human performance in many areas. These disease prevention and health promotion effects have resulted in 50% or greater reductions in health care utilization and health costs in several populations.

In this paper, we present an analysis showing how a relatively small investment to train high-cost health care patients in the Transcendental Meditation technique would result in a surprisingly large reduction in national health care expenditures. We first review the escalation of medical expenditures in the U.S. and compare the U.S. medical system with those of other countries, notably Canada. Then we discuss the
The International Health Care Cost Crisis
Medical Expenditure Escalation in the U.S.

The U.S. has the highest absolute medical expenditures and highest per capita medical expenditures of any nation. The U.S. also has the fastest growing percentage of GNP devoted to the health sector (Schieber, Poullier, & Greenwald, 1992). The rate of medical expenditure growth has accelerated in the last two decades. Jencks and Schieber (1991) elaborate: “Since 1970, U.S. health care expenditures have grown at an annual rate of 11.6 percent, 2.9 percentage points faster than our gross national product (GNP)” (p. 1). According to the Health Care Financing Administration, the U.S. spent approximately 13% of its GNP on medical care in 1991 and 13.5% in 1992. These expenditures could rise to 18%-20% of GNP by the year 2000. Figure 1 shows the extraordinary growth of American medical expenditures from 1929 to the present. Reinhardt (1990) predicted that if the health sector's share of GNP continued increasing at the present rate, in 82 years medical expenses would consume the entire GNP. Although such a prediction could never come true, the current trend indicates the urgency of the high medical expenditure situation in the United States.

This problem increased in severity during the early 1980’s, when medical expenditures began growing approximately twice as fast as the Consumer Price Index (CPI). Numerous reasons exist for the faster growth of prices for medical services. Jencks and Schieber (1991) identify some of these as follows:
Figure 1: Data source: Health Care Financing Administration.

1. insurance coverage and premium subsidies (third-party payment);
2. lack of price competition among providers;
3. open-ended payment systems (fee-for-service);
4. developments in technology;
5. malpractice litigation;
6. self-referral (many physicians own diagnostic equipment and labs to which they refer their patients to enhance income);
7. expenses related to containment policies (cost-containment systems increase both payer and provider overhead);
8. and increasing physician supply.

Price increases, however, are only part of the problem. Medical expenditure growth has two components: rising prices and increased utilization. Both are extremely difficult to control. Equation (1) illustrates the fundamental relationship that must be considered in all cost containment planning:

\[ \text{Medical Expenditures} = \text{Price of Medical Services} \times \text{Utilization of Medical Services} \]
Jencks and Schieber (1991) and Fuchs (1990) indicate that both medical prices and medical utilization have been growing faster than the corresponding prices and utilization of goods and services in other areas of the U.S. economy. Consequently, controlling medical expenditures is analogous to pushing on a balloon; if we squeeze in one place, it bulges in another. For example, if a government attempts to control medical prices by fiat, then the medical industry can, within certain limits, maintain target revenues and incomes through supply-induced demand—that is, suppliers of medical goods and services can increase the utilization of these goods and services through various means (Payer, 1992; Inlander, Levin, & Weiner, 1988; Wohl, 1984). Hence, trying to control medical prices while expanding health insurance coverage, as is currently being attempted by the U.S. government, may increase access to care, but total direct expenditures are still likely to rise dramatically.

Direct payments for medical care are only part of the problem. The indirect costs of ill-health constitute an additional large drain on the nation's economic and human resources. The indirect losses due to illness include lower productivity, increased absenteeism, and higher retraining costs. The total economic impact of an inadequate health care system greatly exceeds the direct payments of medical care. According to the U.S. Department of Health and Human Services (1990a):

Lost productivity due to disease and early death compounds the impact of this problem. In 1980 the total cost of illness equalled nearly 18% of GNP. Injury alone now costs the nation well over $100 billion annually, cancer over $70 billion, cardiovascular disease $135 billion. (p. 5)

If the total economic impact of poor health was 18% of GNP in 1980, it might be as high as 25% of GNP in 1992. Thus, total medical (indirect and direct) expenditure growth is a major problem for all of society.

The disproportionate allocation of resources to the health sector hurts national economies in the long term. Health and Human Services Secretary Dr. Louis W. Sullivan (1989) explains, “Employers are finding that health care costs consume a large proportion of their gross income—more than 10 percent of gross income for some companies” (p. 127). It is true that the short-term channeling of funds to the medical sector has created millions of jobs (Hiles, 1992), which in turn give the appearance of economic growth because national output of services
has increased. More than eight million people today are employed in the medical services industry, and three million of those jobs were created in the last decade. However, economists concur that the net effect of this redistribution of resources weakens long-term growth and productivity. Robert Marks explained, “Unchecked health-care spending consumes resources that could be utilized more productively elsewhere and imposes considerable costs on the economy and the American people” (Koretz, 1992, p. 24). Employers ultimately pass on the effects of higher medical expenses to workers in the form of lower wages; instead of increasing employees’ salaries, employers have had to contribute more and more each year to corporate health benefits packages. This is a major reason why real salaries and wages over the last 20 years have barely increased. Yet, as medical payments increase, actual health status stays the same or, in some areas, declines. Unchecked medical outlays divert funds away from the creation of new businesses and productive jobs, which might explain much of the current shortage of business investment and venture capital. In short, medicine is a nonproductive industry.

Soaring Medicare and Medicaid expenses are also undermining attempts to reduce the federal deficit. A recent Congressional Budget Office report warned that escalating medical spending “will reduce investment and substantially cut future incomes—by almost 2.5% in 2002 and even more thereafter” (Koretz, 1992, p. 24). Furthermore, a Government Accounting Office report states that the unduly complex and fragmented health insurance system in the U.S. enables unscrupulous medical providers to defraud insurers and the government of approximately $70–$80 billion a year—almost 10% of all health sector expenditures in 1992. Consequently, finding effective and affordable means of providing health care is a national priority.

**U.S. Medical System Compared with Other Developed Nations**
When compared with other developed countries, the expense and performance inadequacies of the American medical system become more evident. As mentioned above, the U.S. has the highest annual per capita expenditure for medical care in the world. Yet life expectancy is lower, infant and adult mortality rates are higher, and other general measures of medical performance are worse than those in many other developed
nations (Schieber et al., 1992). Table 1 compares the expenditures and outcomes of selected developed nations.

Table 1  
1987 OECD Health Outcomes and Expenditures Comparison

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Source: OECD Health Data Bank (Schieber and Poullier, 1989b).

In 1987, among the 24 member nations of the Organization for Economic Cooperation and Development (OECD), the U.S. ranked 21st in infant mortality, 16th in male life expectancy at birth, and 13th in female life expectancy. These poor health outcomes should be contrasted with their price. Schieber noted that “the United States spends almost twice as much per person and devotes 50 percent more of its gross domestic product (GDP) than the other major industrialized countries” (1990, p. 159). The data in Table 1 demonstrate the
lack of any significant relationship between medical expenditures and health outcomes. Thus, one must infer that the United States needs to increase the effectiveness and efficiency of its medical system.

Part of the problem appears to be negative growth in medical productivity in the U.S. medical sector, despite tremendous growth in technology (Jencks & Schieber, 1991). Productivity can be evaluated in many ways. If we compare American total outputs with the total expenses incurred to produce those outputs, the U.S. medical system appears to be extremely unproductive, especially in relation to other industrial nations. In an international comparison of medical systems, Schieber and Poullier (1989a) summarize the productivity of the U.S. medical system:

Several relevant facts are clear. First, the United States spends far more in absolute dollar terms and relative to GDP than any other country in the world. Second, this gap appears to have grown in recent years. Third, the higher GDP of the United States can explain only a small part of these disparities. The United States tends to have about the same physician-population ratio as the average for the OECD countries and fewer inpatient medical care beds. U.S. use rates in terms of physician visits, hospital days, and average length of stay are among the lowest in the OECD. Yet, the costs for medical procedures and the costs per hospital bed, day, and stay are the highest in the world by far. Americans appear to practice a much more intensive style of medicine. Nevertheless, on the basis of crude outcome measures such as infant mortality and life expectancy as well as access-to-care criteria, the achievements fall short of those in many other OECD countries. (p. 7)

Among the industrial nations, the United States is also weak in primary care. Primary care is the first level of treatment after a disease or injury has occurred, and should prevent minor medical events from becoming serious and expensive problems. An inadequate primary care system may thwart attempts to improve health and contain expenditures. The inadequacy of the U.S. primary care system may be due, in part, to misplaced incentives. Most nations give greater prestige, awards, and larger income to specialists instead of primary care physicians. The disparity, however, appears to be more extreme in the U.S. Terris (1990) reports:

In Canada, 50 percent of all physicians are general practitioners, versus 10 percent in the United States. Although the ratio of physicians to
population is about the same in both countries, the United States has 33 percent more surgeons per capita. It is hardly surprising therefore, that Americans undergo 40 percent more operations per capita than Canadians. Nor is it surprising that the costs of care are higher in the United States. First, specialists in both countries charge considerably more than general practitioners; U.S. specialists often pull in $130,000 to a quarter of a million a year, GPs only earn about $80,000. Second, specialists are trained to use expensive high-tech diagnostic and therapeutic procedures, whether or not these make a significant difference in the patient’s health. (pp. 30–31)

The inadequacy of the U.S. primary care system is likely to persist for some time. Whitcomb and Desgroseilliers (1992) explained:

Between 1986 and 1991, the number of graduates matched to residencies (internal medicine, pediatrics, and family medicine) that might lead to careers in primary care medicine decreased by 19 percent. If the current trend persists, the percentage of U.S. physicians who are primary care practitioners can be expected to decrease from the present one-third to approximately one fourth by the turn of the century (p. 1469). Inadequate primary care leads to needless human suffering and contributes to escalating expenditures by allowing minor medical problems to degrade into serious and expensive tertiary care crises.

These high medical expenditures are an especially great burden for U.S. businesses, which pay a large and growing portion of the national health care bill each year. Businesses in the United States frequently feel unfairly burdened because they are competing in a global marketplace where their foreign competitors do not pay their employees’ medical insurance. In 1965 business paid 17% of the cost of national health services and supplies, but in 1985 they paid 30% (Levit & Cowan, 1990). Firms often have paid 20%–30% increases in annual health insurance premiums in recent years. Eastaugh (1991) states, “For the past six years corporate health care spending in America has exceeded after tax profits and should surpass $175 billion in 1991” (p. 25). Group plans buy approximately 85%–90% of all health insurance. These plans are usually funded by employers, according to Standard & Poor’s Industry Surveys (1990). A survey conducted by A. Foster Higgins in 1990 found that American firms paid approximately $3200 in average annual total health plan expenditures per employee. These expenditures are
obviously beginning to have a tremendous impact on companies’ profits and competitiveness, and many corporations are having difficulty caring for their employees and meeting their profit objectives.

However, in other countries where the government pays for most or all medical care, private business still pays indirectly for the medical system through higher taxes. The Canadian medical system, which is fully funded by the government, is an example.

The Canadian Health Care System
Policy leaders in the U.S. are studying various aspects of the Canadian health care system to find new strategies for lowering expenditures and expanding access to services. Some U.S. officials speak as if adopting the Canadian system would automatically solve all health sector problems. In fact, although the Canadian system has many commendable features, growth in medical expenditures is a source of economic distress in Canada as well. Rapid increases in medical outlays are imped- ing the federal and provincial governments’ attempts to meet their fiscal responsibilities. Francis (1990) describes the growth in Canadian medical expenditures:

The latest figures show that, between 1975 and 1987, total Canadian health-care costs jumped fourfold to $47.9 billion from $12.2 billion. This represents 8.71 percent of the nation’s gross domestic product . . . compared with 7.15 percent in 1975. (p. 19)

Thus the Canadian system appears to have an expenditure escalation problem similar to that in the United States. Although Canada’s current percentage of GNP spent on medicine is smaller, it is also growing, if somewhat more slowly than in the U.S. These differences in growth rates may be the result of differences between the two medical systems. The Canadian government (as in most developed countries) controls the price of medical services; this helps to slow expenditure increases. The U.S. prices and utilization are controlled by neither the government nor market dynamics. Hence, Americans have the faster medical expenditure growth rate (Schieber et al., 1992).

Although the Canadian system is less costly, they are rapidly approaching a financial crisis. Since the Canadian national debt, per capita, is the largest in the world, the government has attempted to
diminish budget deficits through several means, including reducing the federal government’s contributions to the provincial medical care systems, in order to restore economic strength. At one time, Ottawa paid 48% of the nation’s annual medical expenditures; now, the federal contribution is only 38%. Even more drastic cuts are intended by the mid-1990’s. According to the 1993 President of the Canadian Medical Association, “The provinces are trapped between the public’s unlimited expectations of a ‘free’ system—expectations which are fueled by politicians—and a federal government intent on reducing the debt” (Brown, 1989, p. 29). In response to the reduced federal contribution, the provinces have had to either increase taxes or ration medical expenditures more severely or both. These options are difficult and unpopular.

Overall, Canada has been more successful than the United States in slowing the rate of medical expense growth, especially with reference to the physicians’ price component of health expenditures (Fuchs & Hahn, 1990; Hughes, 1991). Quebec, in particular, surpassed all other provinces in Canada in containing the price of physician and other medical services. Indeed, most of the total difference between the relatively high U.S. and low Canadian medical expenditures is caused by the extraordinary success of cost containment programs in Quebec. Yet the quality of care does not seem to have suffered: for example, Quebec has the lowest infant mortality rate of any province in the world.

Recently, however, increases in utilization have led to dramatic increases in medical expenditures even in Quebec. The Quebec Minister of Health and Social Services said the province will have a shortfall of at least $2 billion in the health care budget over the next five years if current trends persist. Medical care presently consumes $12.8 billion annually, or one third of the province’s total budget. Consequently, a massive restructuring of Quebec’s entire health and social services system is under way in order to lower expenditures and improve efficiency. Proposed changes may include deviating from the guidelines of the Canada Health Act by charging fees for some medical services to reduce capricious utilization.

Hughes (1991) found that increases in the supply of physicians have been a major contributor to increases in utilization. Barer et al. (1988) and Hughes (1991) provide cogent evidence for physician-induced demand phenomena in Quebec. Their analysis shows that new physicians
generate utilization for their services in order to attain target incomes. Furthermore, established doctors respond to government fee-reduction schemes by increasing demand for their services. Once under a doctor’s care, a patient sometimes become the victim of unnecessary treatment administered by the physician to maintain his or her target income. This unnecessary treatment generates high expenditures for the provinces.

One can see from Figure 2 that medical expenditures of other countries are simply a few years behind the United States. Thus, the health care cost escalation problem is not only an American or Canadian problem, but an urgent concern for policy makers worldwide.


The Need For Prevention: Identifying New, Cost-Effective Strategies

During recent years, there has been a growing recognition throughout the world that more and better prevention is needed to reduce human suffering, enhance the quality of life, and contain medical expenditures (Fries et al., 1993). There are two major reasons for this conclusion: the inadequacy of treatment-oriented strategies and the potential benefits of prevention.
The Inadequacy of Treatment-Oriented Strategies
A therapeutic-oriented medical system devotes most of its funds towards curing diseases after they occur. Medical resources are therefore focused on diagnosing disease and eliminating it through pharmacology, surgery, radiation, or related technologies, which are relatively expensive. The prevailing medical doctrine is that better diagnosis and therapeutics will yield better health.

Therapeutics is the dominant strategy for health care partly because when many groups are competing for relatively scarce financial resources, generally the most dire needs are met first. People dying of heart disease or cancer today are a higher priority than groups who might get the disease 20 years in the future. Consequently, the majority of nations currently direct most of their medical resources towards implementing a therapeutic or curative strategy.

However, in recent years some medical researchers have questioned the effectiveness of relying almost entirely on the therapeutic strategy for maintaining health. For example, Thomas McKeown (1978) explained:

Modern medicine is not nearly as effective as most people believe. It has not been effective because medical science and service are misdirected and society’s investment is misused. At the base of this misdirection is a false assumption about human health. Physicians, biochemists, and the general public assume that the body is a machine that can be protected from disease primarily by physical and chemical intervention. This approach, rooted in 17th century science, has led to widespread indifference to the influence of the primary determinants of human health—environment and personal behavior—and emphasizes the role of medical treatment, which is actually less important than either of the others. It has also resulted in the neglect of sick people whose ailments are not within the scope of the sort of therapy that interests the medical professions. (p. 60)

Robert J. Haggerty (1990) stated:

There is not much evidence that illness care (which is what most medical care consists of) reduces mortality or morbidity very much. When well organized, it can reduce utilization of expensive facilities such as hospitals and emergency rooms and can reduce other costs such as laboratory and pharmacy without any measurable difference in health status. In other words, the effect of illness care after a point produces only marginal gains in health. (p. 113)
Some research supports this viewpoint. Fuchs (1972, 1974, 1979) and Newhouse, Phelps, and Schwartz (1974) concur that therapeutic care appears to be only a minor factor in producing national health. Multiple regression studies on general health inputs and outcomes further support this conclusion. These studies include those by Letourmy (1975). Fuchs (1979) summarizes the results of these studies: “The basic finding is: when the state of medical science and other health-determining variables are held constant, the marginal contribution of medical care to health is very small in modern nations” (p. 155).

Evidence for the ineffectiveness of almost total reliance on therapeutic medicine (at present, 98%–99% of health sector spending has been devoted to treatment and 1%–2% for prevention) in producing health is the virtual leveling off of the adult mortality rate in the U.S. from 1955 to the present. Since the end of World War II, the GNP devoted to medical spending has grown from less than 5% to an estimated 14% of GNP in 1993. Yet there have been no corresponding improvements in mortality and other health measures.

C.T. Stewart, Jr. (1971), empirically evaluated the contributions of treatment, prevention, information, and research in improving health as measured by life expectancy for all the nations in the Western Hemisphere. With regard to the comparison between treatment and prevention, Stewart (1971) concluded:

Readily available empirical data suggest that until recent decades in the United States, and even today in nearly all underdeveloped nations, health improvement as measured by increased life expectancy has been almost entirely the result of improvements in prevention. (p. 111)

The therapeutic strategy has apparently reached the point of diminishing marginal utility in most nations, including the United States. This suggests that our continued massive investment in this expensive approach is unwarranted. Further spending might help a relatively small number of people in the short term, but the general population does not appear to benefit significantly in terms of increased life expectancy or reduced morbidity in the long term.

The therapeutic strategy is exhibiting the symptoms of an obsolete technology, namely, level to decreasing marginal returns. It may now be time to consider alternative strategies.
The Possible Benefits of Expanded Prevention

The prevention-oriented strategy is based on the realization that “an ounce of prevention is worth a pound of cure.” In implementing this strategy, a public health organization attempts to identify and promote the determinants of good health and to eliminate factors that threaten health. Usually public health officials prevent disease through community interventions that improve water purity, hygiene, vaccination, sanitation, nutrition, and air quality and other environmental factors. They also attempt to foster healthier lifestyles through programs that aim to improve dietary habits, lower cholesterol, reduce drug abuse, decrease smoking, encourage regular exercise, decrease alcohol consumption, increase prenatal care, introduce stress management, and otherwise enhance health in the individual and society. Unlike clinical medicine, public health attempts to avert medical problems before they arise.

In 1979, the United States government called for more prevention in Healthy People: The Surgeon General’s Report on Health Promotion and Disease Prevention. Later, in Healthy People 2000: National Health Promotion and Disease Prevention Objectives (1990a), the Department of Health and Human Services (DHHS) identified specific prevention-oriented goals and delineated plans for attaining those goals. Both these documents operationalized prevention in terms of eliminating behaviors that increase disease risk. Secretary of Health and Human Services Louis W. Sullivan (Health and Human Services, 1990a) explains the U.S. government’s perspective:

First, personal responsibility, which is to say responsible and enlightened behavior by each and every individual, truly is the key to good health. Evidence of this still-evolving perspective abounds in our concern about the dangers of smoking and the abuse of alcohol and drugs; in the emphasis that we are placing on physical and emotional fitness; in our growing interest in nutritional practices; and in our growing concern about the quality of our environment. . . . We would be terribly remiss if we did not seize the opportunity presented by health promotion and disease prevention to dramatically cut health-care costs, to prevent the premature onset of disease and disability, and to help all Americans achieve healthier, more productive lives. (pp. v & vi)

In spite of extensive recognition of the need for more prevention, governmental funding has not increased significantly in this area.
Historically the United States has spent 1%–2% of its health sector expenditures on prevention. It is possible that more funding for health promotion and disease prevention research and interventions in the United States would yield significant improvements in health and well-being that would simultaneously reduce national medical expenditures. This funding, however, must be well directed; not all prevention and promotion programs are effective (Russell, 1986).

Government and private organizations attempt to promote health and prevent disease mainly by disseminating information on lifestyle improvement. Prominent individuals help this endeavor by expounding the virtues of healthy behaviors; for example, on February 5, 1992 (Des Moines Register, 1992), President Bush urged citizens, “Let’s change the behavior that costs society tens of billions.” Such exhortation strategies appear to have had only limited impact: they have yielded minimal results as measured by morbidity and mortality rates. Most people find it difficult to change their behavior. For example, there have been numerous smoking cessation campaigns in the U.S., and consequently, almost all adult smokers in the country know that their habit increases the likelihood of their dying prematurely from lung cancer, coronary heart disease, or other diseases. Ninety percent of those who smoke would like to stop, but only 15% will attempt to quit each year. Of those who try to end their habit, only 10% will succeed. John G. Bruhn (1988) explains why behaviors are difficult to change:

Compliance is difficult to achieve when health produces little or no rewarding physical feedback, e.g., reduction of pain, and typically elicits only minimal or short-term acknowledgement and support by family, friends and employer. . . . People are reluctant to alter patterns that represent powerful, predictable, and immediate sources of gratification which are deeply ingrained in social and cultural contexts. One possible impediment may be the lack of a comprehensive national health policy and the mixed messages the public receives about the health risks of certain substances. These inconsistencies may reinforce the ambivalence and resistance to change among many people. Furthermore, there is an apparent lack of real commitment to the concept of healthier living. The government continues tobacco subsidies, while the Surgeon General takes a strong stand on the health risks of smoking. Similarly, certain foods and alcohol are promoted by the mass media, while the health sector warns about their abuse. Perhaps one of the greatest barriers to change may be
the “live for today and don’t worry about tomorrow” attitude prevalent in our country, coupled with the high expectations that the sophisticated technology of medicine can mend any health malady that might occur. There is little incentive for individuals to assume responsibility for their health or adopt a Spartan pattern of living. (Milio, 1981, 79)

In 1974 Marc Lalonde, Canadian Minister of National Health and Welfare, issued a working paper called A New Perspective on the Health of Canadians, which challenged many of the current assumptions in the health care field, such as “more medical therapeutics means better health.” Lalonde stated that the Canadian government would give the same priority to environment and lifestyle that it gives to medical care organizations. Only a small fraction of Minister Lalonde’s recommendations for prevention were implemented, however. Sixteen years later, Milton Terris (1990) again urged Canadians to adopt more healthy behaviors:

Perhaps the biggest failing of the Canadian program is a defect it shares with most of the world’s developed nations: its enormous expenditures for medical care have left very little money for preventing disease and injury. Illness and death from lung cancer continue to rise in Canada—at an alarming pace in women, for whom the death rate doubled from 1970 to 1979. Chronic obstructive lung disease, another major killer caused mainly by cigarette smoking, is also on the rise in Canadian women. Cirrhosis of the liver, primarily from heavy drinking, increased by 31 percent in men and 21 percent in women during the 1970’s. . . . All these problems are preventable, but even now, 15 years after the Lalonde Report, decisive action has yet to be taken. (p. 32)

A possible deterrent to funding research on innovative prevention strategies is a perceived doubt that health promotion and disease prevention are cost effective. Pelletier (1991) points out that research assessing the cost effectiveness of health promotion interventions is urgently needed:

Unequivocally, the question most frequently asked by decision makers prior to implementing comprehensive health promotion and disease prevention programs is “What is the data regarding the health and/or cost benefits?” Failure to provide compelling evidence documenting these benefits is the most pervasive deterrent to the implementation of programs. (p. 311)
According to two reports by the Office of Technology Assessment (1989, 1990), Medicare does not pay for most preventive interventions in the elderly because there is no evidence to justify these programs as being effective and affordable. These reports add that the failure to produce strong evidence is usually related to research design problems that foil the accurate measurement of potential expenditure savings. The problem is not necessarily a lack of potential results, but the lack of well-designed and properly implemented research. Unfortunately, in America prevention research has been a low priority; it has been overridden by more popular projects such as AIDS and genetic research.

Finally, interventions must also succeed in changing the potential patient’s perception of his or her own health status, in addition to improving physical health. The reason for this is that health improvement alone is unlikely to reduce utilization. A study by Buczko (1986) indicates that the key determinant of physician utilization for the general population is perceived health status. Buczko (1986) explained the results of his regression analysis on various possible predictors of physician utilization:

As in prior studies, health status variables were the strongest predictors of both physician visit utilization and expenditures. Perceived health status was the best predictor of number of physician visits and physician visit expenditures, and it was also a significant predictor of the probability of a physician visit. (p. 25)

Thus to decrease medical utilization and expenditures, a health-promotion intervention must improve both physical health and psychological status, because both of these factors affect medical care expenses.

The High-Cost Case Phenomenon: A Way to Leverage Medical Expenditure Savings Through Prevention

The term high-cost cases is applied to that fraction of a population that consistently incurs high medical expenses over a long time period (Alexandre, 1988). Numerous researchers have found that high-cost cases, who compose only a small percentage of the population of a nation, incur the majority of its medical expenditures. For example, in the United States, Garfinkel, Riley and Iannacchione (1988) reported, “Based on data from the National Medical Care Utilization and
Expenditure Survey, the 10 percent of the non-institutionalized U.S. population that incurred the highest medical care charges was responsible for 75 percent of all incurred charges” (p. 41). The consistency of the high-cost case phenomenon has been documented in several studies by Schroeder, Showstack, and Roberts (1979) and by Anderson and Knickman (1984). In their analysis of 204,917 randomly selected subjects, Anderson and Knickman (1984) reported:

Individuals hospitalized in 1974 were found to have twice the rate of hospitalization in 1975, 1976, or 1977 compared with individuals who were not hospitalized in 1974. The increased rate of hospitalization remained constant throughout the 3 years. Individuals with large medical expenditures in 1974 were 20 times more likely to have large medical expenditures the following year, and this rate declined slowly in the following 2 years. (p. 143)

High-cost people are generally not hypochondriacs. Typically, these people suffer from chronic health problems. Schroeder et al. (1979) found that 47% of adult high-cost patients had chronic medical problems, whereas only 17% had an acute medical problem. In another study, which analyzed the hospital utilization of 2238 patients whose medical records were randomly selected, Zook and Moore (1980) found, “On average, the high-cost 13 percent of patients consumed as many resources as the low-cost 87 percent” (p. 996). The persistent poor health of the high-cost individual is a potential target for health promotion interventions.

Unlike the general population’s chief determinant of health care utilization, which is perceived health status (Buczko, 1986), actual health status is the chief determinant of medical utilization for high-cost people. Garfinkel et al. (1988, p. 41) reported, “Health status was the strongest predictor of high-cost medical utilization, followed by economic factors.” Several researchers have found that high-cost patients frequently have lifestyles that put them at greater disease risk. For example, Zook and Moore (1980, p. 996) found that “Potentially harmful personal habits (e.g., drinking and smoking) were indicated in the records of high-cost patients substantially more often than in those of low-cost patients.” In an article illustrating a new method for analyzing high-cost cases, Lynch, Teitelbaum, and Main (1992) stated, “The relative risk of high cost from smoking remained consistent across all age groups” (p. 213).
If the level of medical utilization of these high-cost patients could be reduced, the financial impact on the entire nation would be significant.

Research has shown that certain types of preventive interventions can significantly reduce the medical utilization and expenses of high-cost people. For example, in a study in Quebec, Herron (1993) found that a stress-reduction program utilizing the Transcendental Meditation program decreased the medical payments of high-cost cases an average of 18% per year over three years (cumulative: 54%). The mechanism explaining this effect has only recently been understood. During the last ten years, a substantial body of research has found that stress has a powerful negative effect on health (Chrousos & Gold, 1992). Prolonged mental or physical stress weakens the immune system and thereby increases disease susceptibility. Almost everyone is exposed to undue stress, and hence the potential benefits of stress reduction are widespread.

Certain types of stress reduction appear to be more effective in reducing medical utilization and expenses than other preventive interventions; the outcomes of prevention programs can vary widely. For example, lifestyle interventions are probably the most widely used methods of health promotion and disease prevention. Lifestyle changes, however, can take many years to affect health status and expenses. Bly, Jones, and Richardson (1986) reported on Johnson and Johnson’s Live for Life Program, which is a comprehensive attempt to develop and maintain healthier lifestyles in the corporate setting. Over a five-year period, the Live for Life group showed a slower rate of increase in medical expenses than control groups. Note that this program, which utilized several lifestyle interventions, including smoking cessation, weight control, nutrition education, and fitness and blood pressure programs, failed to reduce medical expenses (Bly et al., 1986). When lifestyle interventions are compared with certain types of stress reduction for their effectiveness in reducing medical expenditures, stress reduction produces larger expense decreases. Consequently, the most powerful stress-reduction interventions are recommended to reduce health care expenditures in high-cost groups that incur the majority of expenses in most populations.
The Proposed Strategy

Our proposed strategy is to offer innovative health-promotion and disease-prevention interventions to high-cost cases and thereby reduce medical expenditures. This strategy is a refinement of previous public health approaches that were directed to the entire population, which often wasted much time, energy, and funds urging people who were already relatively healthy to change their behavior. This new strategy would focus resources on the least healthy people, who are incurring the majority of our nation’s medical expenses. We propose that a small amount of resources could be directed to a narrow segment of society and possibly leverage a large reduction in expenditures.

Since this plan demands that such prevention strategies first be rigorously tested before implementation, we recommend the implementation of the Transcendental Meditation program, which has already been scientifically verified by over 500 published research studies for its effectiveness in promoting good health. Such an intervention would demonstrate the benefits and cost savings resulting from the use of one prevention program that has been ascertained to meet the necessary criteria of scientifically validated effectiveness.

Maharishi’s Transcendental Meditation Program as a Proven Technology for Disease Prevention and Health Promotion

The previous sections of this paper have established that the implementation of an effective prevention strategy is central to addressing the current crisis in health care costs. The key to the success of an effective prevention initiative will be cost-effective measures that work. Those measures currently in wide use have been shown to be of limited benefit and to be inadequate to reduce national health care expenditures. In contrast, Maharishi’s Transcendental Meditation program has been shown through extensive scientific research to be particularly effective in the reduction of health care costs through effective disease prevention and health promotion. Moreover, application of this program to high health care utilizers—the 10% of the population responsible for over 75% of national health care expenditures—has demonstrated its consistent effectiveness both in improving the quality of life of these patients and in lowering medical expenditures.
Below we summarize the most pertinent areas of research on the Transcendental Meditation program concerning the alleviation of health problems that contribute most to rising national health care expenditures.

**Studies on Health Care Utilization and Costs**
Several studies have shown that the Transcendental Meditation program substantially reduces rates of health care utilization and costs. Orme-Johnson (1987, 1988) conducted two field studies using Blue Cross/Blue Shield data to compare the health care utilization rates of Transcendental Meditation practitioners with matched control groups. In the first study, over 2000 subjects were followed over a five-year period. The Transcendental Meditation subjects had a 50% reduction in both inpatient and outpatient medical utilization when compared with controls matched for age, gender, occupation, and health insurance coverage. As Figure 3 shows, for people practicing the Transcendental Meditation program, utilization was strikingly reduced in every major category of health care examined, including heart disease, cancer, and mental health.

In the second study, the medical insurance utilization of 400 individuals who practiced Transcendental Meditation and other prevention programs of Maharishi Ayur-Veda in the midwestern United States was 83% lower than the national norm. The greatest utilization decrease was in the older subjects.

In a longitudinal study, Herron (1993) expanded upon Orme-Johnson’s research by evaluating the impact of Transcendental Meditation practice on the medical care costs of 600 French Canadians. This carefully controlled study used the Quebec government’s health care system’s own data. Health care utilization was compared for the three years preceding and the three years following instruction in the Transcendental Meditation technique. The Transcendental Meditation participants’ expenses declined approximately 36% over three years. Older participants showed even greater reductions in their expenses—a 57% decline over three years.

**Transcendental Meditation in the Treatment of Hypertension**
Hypertension is a major health problem throughout the United States, and is an even greater problem among African Americans. Approximately 40% of African American adults are afflicted with hypertension.
This rate averages about 33% higher than for Caucasians. Furthermore, the rates of hypertension-related diseases, such as stroke, heart attack, and kidney disease, are significantly higher in African Americans compared to whites (for example, death from stroke is 60% greater) (Schneider et al., 1992).

One of the major reasons for the disproportionately high levels of blood pressure in African Americans is excessive stress from disadvantaged social and environmental conditions. For this reason, Schneider et al. (1992) conducted a well-controlled field trial of the effects of stress management for treating hypertension in older African Americans. The study was funded by a national research foundation and conducted at an inner-city community health center in Oakland, California. After three months, the results showed that the Transcendental Meditation group had reduced their systolic blood pressure by 11 points (mm Hg) and their diastolic blood pressure by 6 points (mm Hg). A “relaxation” control group showed about half these reductions, and the usual care group did not change at all.

These results are highly significant because the magnitude of reductions in blood pressure with Transcendental Meditation were the same as the reductions normally produced by drug treatment. Over a few
years these reductions in blood pressure would prevent an average of 40% of strokes and 20% of heart attacks that normally occur without adequate blood pressure treatment.

A second major advantage of treatment with Transcendental Meditation was the lack of adverse side effects that are commonly experienced with conventional drug therapy. Instead of negative side effects, the Transcendental Meditation group reported several improvements in subjective health and quality of life measures.

A third advantage is compliance with the program. Normally, less than 50% of patients with hypertension take their medication regularly as prescribed. However, in this inner-city project, approximately 90% of the Transcendental Meditation group followed their prescribed program regularly throughout the study. In addition, the Transcendental Meditation group rated their stress management program as “excellent” on the average, and all participants reported that they planned to continue the program and would feel comfortable recommending it to their friends.

In a study directed towards nonminority elderly, Alexander et al. (1989) examined the effects of the Transcendental Meditation program and other relaxation and self-development techniques on mental and physical health. After three months of follow-up, the Transcendental Meditation group showed a 12-point reduction in blood pressure, similar to the African American study above, as well as improvements in mental agility and health. Also, a higher proportion of the Transcendental Meditation group regularly practiced their technique (80%) as compared to the other programs. Most important, after three years, the survival rate for the Transcendental Meditation group was 100%, as compared to an average survival rate of 76.6% for the control groups.

**Transcendental Meditation Program and Prevention of Cardiovascular Disease**

The two other major risk factors for heart disease, namely, cholesterol and smoking, have been significantly reduced in Transcendental Meditation practitioners. Thus, it is not surprising that Orme-Johnson (1987) found an 87% lower rate of hospitalization for heart disease in Transcendental Meditation meditators compared to matched nonmeditators.
Alcohol, Substance Abuse, and Mental Health

In an area overlapping the consideration of stress, it is estimated that 80% of the health problems seen by general practitioners are related to alcohol, drug abuse, and mental health. Substance abuse and mental health problems are a major source of excessive health care utilization and costs. Research shows that Transcendental Meditation is effective in alleviating these problems.

Twenty-four studies on alcohol and drug abuse found significant effects of Transcendental Meditation on reduction of substance misuse for all classes of illegal drugs, as well as for alcohol, cigarettes, and prescribed drugs (Shafii et al., 1974 and Gelderloos et al., 1991). These studies include large surveys of students in addition to well-controlled studies of drug rehabilitation patients.

For example, in a very carefully designed study of 120 skid-row chronic alcoholics in Washington, D.C., 65% of Transcendental Meditation subjects were found to be completely abstinent 18 months after completion of training, compared to 25% of the patients receiving standard treatment (Gelderloos et al., 1991). The Transcendental Meditation technique was also consistently more effective in enhancing mood and reducing negative emotions.

In addition to increasing the risk of heart disease, cigarette smoking is probably the single most important risk factor for lung cancer. With most smoking cessation programs, the quit rate gradually decreases over time (to about 10%), while with the Transcendental Meditation program the quit rate actually increases gradually over time to over 90% after 60 months (Gelderloos et al., 1991).

The National Institute of Health of Japan has also conducted a study on more than 800 Transcendental Meditation practitioners and found significant decreases in physical complaints, anxiety, depression, smoking, insomnia, digestive problems, neurotic tendencies, and psychosomatic problems (Haratani and Itsumi, 1990a and Haratani and Itsumi, 1990b).

Several studies have also shown that Transcendental Meditation is effective in reducing anger, hostility, anxiety, and depression. For example, a nationwide epidemiological study by the Swedish government’s National Health Board found that psychiatric hospital admissions were 150–200 times less common among the 35,000 Transcendental
Meditation meditators in Sweden than for the population as a whole (Suurkūa, 1989).

**Cost-Benefit Analysis of Health Care Savings Through the Transcendental Meditation Program—Example: The Washington, D.C., Medicaid Program**

The following analyses provide an example of the large savings that would accrue if the Transcendental Meditation program were implemented in the treatment of hypertensive patients and high-cost health care utilizers. Using the Medicaid program of the District of Columbia as an example, these analyses show that the Transcendental Meditation program would greatly reduce the burden on the health care system.

**Analysis 1: Reduction of Hypertension and Prevention of Heart Disease and Stroke**

According to population-based estimates, approximately 26,000 Medicaid recipients in Washington, D.C., are diagnosed hypertensives. We estimate that average medical expenses for these individuals are about $1000 per year for medicines, doctor visits, and hospital costs. Thus, Medicaid in Washington, D.C., pays $26 million per year for the care of hypertension alone. Since the majority of people with hypertension have mild hypertension (80%–90%), and since research has shown that Transcendental Meditation by itself is capable of correcting mild hypertension, the Transcendental Meditation program could potentially lower the blood pressure to normal levels in at least 80% of the hypertensive patients. Therefore, the Washington, D.C. Medicaid system could save at least $21 million per year if these hypertensive patients were to begin the Transcendental Meditation technique. If only 50% of these patients began Transcendental Meditation, then the savings would be $10.5 million.

Furthermore, over a four- to five-year period, since the Transcendental Meditation program reduces blood pressure without side effects, we would expect substantial reductions in the incidence of heart attacks and strokes, which could save the District additional millions of dollars in acute medical care costs. We would also expect that the prevention of such disabling diseases would result in significant savings in productivity and human quality of life costs.
Analysis 2: Reduction of Health Care Utilization

Approximately 100,000 people are currently enrolled in the District’s Medicaid system, and last year’s Medicaid budget was $206 million. As mentioned above, 75% of all health care dollars are consumed by 10% of the population—the high utilizers of health care. For the District’s Medicaid program, this means that 10,000 of the 100,000 participants use approximately $154.5 million of the total Medicaid budget. The upper line in Figure 4 projects the current $154.5 million of Medicaid expenditures attributable to high utilizers through the next five years, assuming a yearly increase of 11.6%, which is the published national norm for health care inflation (Jencks & Schieber, 1991).

Herron (1993) has demonstrated that, on average, the health care costs of high utilizers decrease at least 19% per year for five years following instruction in the Transcendental Meditation technique. The lower line in Figure 4 projects Medicaid expenses over five years if all high utilizers were to begin the Transcendental Meditation program. The savings in the first year would be $29.4 million. The savings for
five years would be $667.9 million. If only 50% of the high health care utilisers in Medicaid were to learn the Transcendental Meditation pro-
gram, the savings would be $14.7 million in the first year and $334 million for five years. It is clear that this program would result in huge savings to Medicaid: approximately $30 would be saved for every dollar invested in Transcendental Meditation instruction, at an average cost of instruction of $1000 per subject in this income group.

The above analysis indicates that implementation of the Trans-
cendental Meditation program for even a modest proportion of the members of the hypertension and high utilization groups of Medicaid participants would reduce the District’s Medicaid costs substantially. This cost-benefit analysis provides an example of the enormous cost savings that can be realized by adopting this effective prevention strategy. Extending this analysis to the national level indicates that proportional savings would accrue to the national health care budget if this program were implemented on a national scale.

**Conclusions and Future Research Directions**

On the basis of the scientific research already conducted on the Trans-
cendental Meditation program, as well as the cost-benefit analyses provided above, we suggest that national health initiatives should make provision to reimburse training in proven prevention-oriented pro-
grams such as the Transcendental Meditation program. Intermediate options might also be considered, e.g., targeting hypertensives and high health-care Medicaid participants, as in the example cost-benefit analyses above. The available research suggests that, ultimately, the most effective long-term approach would be to make the Transcendental Meditation program an integral part of health education programs in the nation’s schools.

In addition to the Transcendental Meditation technique, Maharishi Ayur-Veda encompasses several other proven, cost-effective prevention methods that could also be included as part of a comprehensive health education program. Innovative health education programs, such as the Transcendental Meditation interventions described above for minority and elderly populations, could empower individuals to take fuller responsibility for their own health, rather than giving the physician that responsibility, as is currently the case in society. Future research
should therefore include the development of innovative health education programs that will enable citizens to make use of health information in a more practical and useful way.

An effective national health care policy must address both price containment (through managed competition, price control, and other methods) and reduced utilization of medical services. Breslow (1990) and numerous other public health experts estimate that the majority (80%) of diseases and accidents are preventable through known methodologies; yet at present there is an imbalance in the funding of medical research, with only 1%–2% going to prevention and 98%–99% spent on curative approaches. One rationale for neglecting prevention is the lack of evidence to support its cost effectiveness. Therefore, a first step in overcoming this lack of documentation would be to redirect more resources toward prevention research. To achieve this end, specific grants should be made available to conduct rigorous, well-controlled studies to evaluate the possible health and financial benefits of prevention. It would be especially valuable to conduct intensive research that would evaluate the impact of effective health promotion and disease prevention on high-cost individuals, because as mentioned above, this small fraction of our population incurs the majority of medical expenses in our nation. Research directions should include studies on the effectiveness of various approaches that enhance health and prevent disease and that might also be cost effective.

Since a substantial body of research indicates that most disease can be prevented by living healthier lifestyles, future research to identify and develop effective methodologies to change unhealthy behaviors should be given top priority. For example, cigarette smoking accounted for nearly 434,000 deaths in 1992 and cost over $100 billion in medical treatment expenses for those who died. Effective smoking-prevention programs for the young as well as smoking-cessation interventions for adults could thus save many more lives than are lost through genetic disorders, for example, although those diseases are allocated significantly more funding for research. For example, several research studies examining the effects of the Transcendental Meditation program on cigarette and alcohol consumption have validated the effectiveness of this intervention in reducing and even eliminating these behaviors.
Finally, on a collective level, over 40 scientific research studies have indicated that group practice of the Transcendental Meditation and Transcendental Meditation-Sidhi program by a relatively small proportion of a population reduces societal stress, leading to significant reductions in violent crime, drug abuse, and other antisocial behavior (see, for example, Dillbeck et al., 1987; OrmeJohnson et al., 1988a; and OrmeJohnson et al., 1988b). Funding to allow the formation of such groups would therefore not only improve collective health, but would also improve the overall quality of life for all Americans.

Through the implementation of prevention-oriented interventions such as those described in this paper, the health status of the United States should no longer remain among the worst of the developed nations. The goal of improving the health of U.S. citizens while reducing medical expenditures is feasible today through intelligently applied programs of expanded and effective preventive care.

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Improving the National Economy
Through Alliance with Nature’s Government:
Effects of the Group Practice of
Maharishi’s Transcendental Meditation
and TM-Sidhi Programs

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ABSTRACT

The promotion of greater prosperity, affluence, and improved economic health is a central goal of governmental policy throughout the world. This paper describes how Maharishi Vedic Science and Technology brings fulfillment to the highest goals of economic policy for every nation, whatever its political or economic system, by bringing national government into alliance with natural law, nature’s government. Maharishi Vedic Science explains that by promoting coherence in national consciousness through the practice of Maharishi’s Transcendental Meditation and TM-Sidhi programs by a single group comprising the square root of 1% of the national population, any national government can come into alliance with the government of nature, the unified field of natural law, which is responsible for the creation and orderly evolution of the entire universe. This will bring success to the economic and other policies of government through support of natural law, thus providing governments with a powerful new tool of economic policy. After describing the principles of Maharishi Vedic Science which underlie this supremely effective approach to governing society and promoting economic progress, we summarize the findings of scientific research validating the beneficial effects of this technology of consciousness on national economic performance.

Introduction

Peace and prosperity are unquestionably the pre-eminent goals of every national government throughout the world. According to Maharishi Mahesh Yogi (“Maharishi Offers,” 1990), the founder of the Transcendental Meditation (TM) and TM-Sidhi programs, any government can easily achieve these fundamental goals by making use, through Maharishi Vedic Science and Technology, of the most recent discovery of modern science, the unified field of natural law. By enabling national government to come into alliance with nature’s government, the unified field, this technology offers fulfillment to the search of government leaders everywhere for effective means to ensure lasting peace and promote and sustain economic progress (“Maharishi Offers,” 1990). The contribution of Maharishi Vedic Science to the achievement of world peace has been previously described by Orme-Johnson and Dillbeck (1987) and Orme-Johnson, Alexander, Davies, Chandler, and Larimore (1988). This paper describes the contribution of Maharishi Vedic Science and Technology to the improvement
of national economic performance for any nation, irrespective of its political and economic system, through the reduction and prevention of economic problems and the promotion of prosperity and fulfilling progress.

In the following section, we outline the principles of Maharishi Vedic Science, which explain how any government can utilize the skilled hand of nature to administer society and thereby bring success to its efforts to promote economic progress and improve the quality of national life. A particular focus of this discussion will be Maharishi’s program for aligning national government with the government of nature through the group practice of Maharishi’s Transcendental Meditation and TM-Sidhi programs. As discussed in further detail below, Maharishi Vedic Science predicts that the practice of the Transcendental Meditation and TM-Sidhi programs by a single group as small as the square root of one percent of the national population will be sufficient to bring any national government into alliance with natural law, the government of nature. Maharishi (1990) explains that this will enable national law to be brought into accord with natural law, thus making the government of the nation powerful, successful, and ideal. The predicted result of alliance with nature’s government is to bring greater success to the activities of government, including its economic programs and policies, through support of natural law; to improve the performance of the national economy; and, more generally, to promote a holistic improvement in the quality of life. These positive effects of the group practice of the Transcendental Meditation and TM-Sidhi programs on society are known as the “Maharishi Effect” (Borland & Landrith, 1977).

We then examine key evidence validating these principles of Maharishi Vedic Science by summarizing the results of research on the effect of the group practice of the Transcendental Meditation and TM-Sidhi programs on the national economies of both the U.S. and Canada. Using statistical time series analysis, this research found that Okun’s “misery index” of inflation and unemployment, a commonly used measure of national economic performance, was significantly improved over the period 1979 to 1988 through the collective practice of the Transcendental Meditation and TM-Sidhi programs by a single group comprising approximately the √1% of the U.S. population.
In this research on the Maharishi Effect, time series impact assessment analysis of monthly data for both the U.S. and Canada found evidence of sizeable and statistically significant reductions in the misery index attributable to the influence of the Transcendental Meditation and TM-Sidhi group. These reductions occurred two to eight months after periods in which the daily size of the group averaged 1500 to 1699; 1500 is approximately the √1% of the U.S. population, and 1600 is approximately the √1% of the population of all of North America. The declines in the misery index were highly statistically significant for both the U.S. (p < .01) and Canada (p = .00004).

These reductions in the misery index were also very large. A sustained increase in the average size of the group to between 1500 and 1699 led to an estimated ultimate reduction of 4.23 points in the U.S. misery index, or 30.0 percent of the total decline of the index (14.1 points) from its peak in 1980. For a group of 1700 or more, the estimated decline for the U.S. was 5.62 points, or 39.9 percent of the total decline from the peak of the index over this period.

The results for Canada also supported the hypothesis of reduction in the misery index through the Maharishi Effect. For a group of 1500 to 1699, the reduction in the misery index attributable to the Transcendental Meditation and TM-Sidhi group was estimated at 4.14 points, or 26.7 percent of the total decline in the Canadian misery index (15.5 points) from its peak in 1981. For a group averaging 1700 or more in size, the estimated reduction was 4.55 points, or 29.3 percent of the total decline. Thus for both countries, the estimated effect on the misery index was larger when bigger groups were practicing the Transcendental Meditation and TM-Sidhi programs.

The results of the statistical analysis lend strong support to the hypothesis that over the period 1979 to 1988 the collective practice of the Transcendental Meditation and TM-Sidhi programs significantly contributed to a substantial improvement in national economic performance for both the U.S. and Canada, as measured by a marked decline in Okun’s misery index. These findings, therefore, offer empirical validation of Maharishi’s prediction of improvement in the national economy and greater success of government through alliance with natural law.

The paper is organized as follows. Part I discusses the principles of Maharishi Vedic Science which underlie the Maharishi Effect and
which describe how any government can ensure the success of its economic and other policies through establishing alliance with the government of nature. Part II describes how the behavior of the misery index reflects the degree of government success in meeting the three goals of economic policy which are widely viewed as most important by governments throughout the world—reduction of unemployment and inflation and promotion of economic growth. Part III summarizes the empirical results and concludes with a discussion of these findings. [A more detailed description of the statistical methodology and empirical results is given in Cavanaugh (1990) and in Cavanaugh (1987).]


Maharishi Vedic Science is the revival of the ancient Vedic tradition of knowledge. It represents a fundamental paradigm-shift with implications for the social sciences which are even more profound and far-reaching than those of the shift from the classical to quantum mechanical paradigms in physics. In this section we provide a brief introduction to those aspects of Maharishi Vedic Science which provide an understanding of the Maharishi Effect and its implications for economics and government.

Consciousness and Social Science

The dominant theoretical perspectives in the fields of contemporary social science—such as economics, political science, psychology, and sociology—are, in the broadest sense, fundamentally behavioral in nature, although this behavior sometimes takes the form of expressed opinions and attitudes. In focusing solely on observed behavior, such behavioral theories ignore the basis of all thought and behavior—consciousness or awareness. Therefore, from the perspective of Maharishi Vedic Science, these theories are intrinsically incomplete because they fail to incorporate a satisfactory theory of human consciousness. This gap in the theories of social science reflects the fact that the origin and nature of consciousness remains one of the great unsolved questions of modern science generally. The study of consciousness using
the scientific methods of the modern objective approach to knowledge remains in its infancy. In fact, consciousness has been widely regarded as unsuitable for scientific investigation because of the generally vague and indefinite meaning of the term “consciousness,” and because, by its very nature, consciousness is not directly observable by the senses (Hagelin, 1987, p. 56).

Consciousness and Maharishi Vedic Science
The most ambitious and successful approach to formulating a satisfactory scientific analysis of consciousness and human behavior stems from the work of Maharishi Mahesh Yogi, who over the past fifty years progressively revived and reinterpreted the ancient science of consciousness expounded for millennia by the sages and seers of the Vedic tradition of India (Chandler, 1987). Maharishi provided a highly precise and coherent description of the nature and development of consciousness, its connection to the physical universe, and its relation to the behavior of the individual and society. Maharishi has also provided the Transcendental Meditation technique, “a reliable, systematic method by which consciousness can be directly experienced in its most fundamental state,” (Hagelin, 1987, pp. 56–57).

In reviving and reinterpreting the knowledge of the Vedic tradition, Maharishi systematically expressed the theoretical basis of Vedic knowledge in terms that are accessible and empirically testable. He also actively encouraged empirical research on the testable implications of this Vedic paradigm and extensively explored the relationship between the findings of this ancient subjective approach to knowledge and those of the most recent discoveries of the modern objective approach to gaining knowledge (Chandler, 1987).

At the basis of Maharishi Vedic Science is the proposition that human behavior has its basis in thought, and that the source of thought is the state of pure consciousness. Pure consciousness is an unbounded, nonlocalized, unified field which lies at the basis of all individual and social thought and behavior, and all behavior of the universe at large. According to Maharishi Vedic Science, consciousness is not an emergent property of matter that comes into existence through the functioning of the human nervous system, but is fundamental in nature. Pure consciousness is seen as the essential basis of life, an unbounded, unified
field which gives rise to and pervades the physical universe (Maharishi Mahesh Yogi, 1969; Bhagavad-Gita, 1977; The Principal Upanishads, 1974; Sankaracharya, 1977). Maharishi Vedic Science also holds that it is possible for the individual to experience the field of pure consciousness by allowing human awareness to experience its “self-referral” state in which consciousness is awake only to itself rather than identified with objects of perception, thought, or feeling. A simple, systematic procedure for experiencing this unified field of consciousness, Maharishi’s Transcendental Meditation technique, has been taught to over three million people around the world during the past thirty years (Dillbeck, Cavanaugh, Glenn, Orme-Johnson, & Mittlefehldt, 1987, p. 70).

Consciousness and Unified Field Theory in Physics

The Vedic description of the unified field of consciousness, as brought forth by Maharishi, bears a striking resemblance to fundamental features of the unified field described in contemporary supersymmetric quantum unified field theories in physics, such as the superstring theory (Hagelin, 1987; 1989). Like these recent unified field theories, Maharishi Vedic Science describes a single, unbounded, unified field of nature which transcends space and time and gives rise to the observed physical universe through a lively internal dynamics of self-interaction or self-referral. Maharishi Vedic Science also describes the unified field as a field of pure intelligence, in which resides the totality of all the laws of nature which govern the evolution of the universe. Likewise, physics describes the unified field as an unmanifest field in which all natural laws, all principles of orderly change, are inherent (Schwarzschild, 1985; Waldrop, 1985).

Maharishi Vedic Science goes beyond contemporary unified field theories in physics in equating the unified field, described by physics as underlying the objective physical universe, with the simplest level of human consciousness, pure consciousness (Maharishi Mahesh Yogi, 1986, pp. 95–97; 1985, pp. 135–136). Maharishi (1986) explains the relationship between pure consciousness and the unified field as follows:

The knowledge of the unified field has been discovered by modern science during just the last few months and years, but the complete knowledge of the unified field has always been available in the Vedic literature. Today quantum physics is peeping into the details of the unified field
and is locating its three-in-one structure. This is precisely the three-in-one structure of the self-referral state of consciousness. This structure is very simple to understand. The awareness is open to itself, and therefore the awareness knows itself. Because the awareness knows itself, it is the knower, it is the known, and it is the process of knowing. This is the state of pure intelligence, wide-awake in its own nature and completely self-referral. This is pure consciousness, transcendental consciousness. (p. 29)

The suggestion that consciousness must be deeply related to the most fundamental descriptions of nature given by modern science has been made repeatedly in twentieth-century physics (e.g. d’Espagnat, 1979; Eddington, 1929; Jeans, 1932; Schrodinger, 1967). For example, Bernard d’Espagnat (1979) concluded:

The doctrine that the world is made up of objects whose existence is independent of human consciousness turns out to be in conflict with quantum mechanics and with the facts established by experiment. (p. 158)

Along the same lines, Sir James Jeans (1932) observed:

Mind no longer appears as an accidental intruder into the realm of matter; we are beginning to suspect that we ought rather to hail it as the creator and governor of the realm of matter. (p. 186)

More recently, a leading unified field theorist in physics (Hagelin, 1987) has concluded that

The proposed identity between pure consciousness and the unified field is consistent with all known physical principles, but requires an expanded physical framework for the understanding of consciousness which leads to a more integrated picture of the physical world and the full range of human experience. Indeed, such a framework appears to be required to account for experimentally observed field effects of consciousness and other phenomenological aspects of higher states of consciousness, which are otherwise anomalous within the paradigms that are currently in vogue. (p. 56)

Thus Maharishi’s explanation that consciousness is the essential nature of the fundamental field of nature described in modern physics has many historical precedents and, according to one of the world’s leading theoretical physicists, this proposition is fully consistent with all known physical laws.
Consciousness and Human Behavior
The fundamental relationship between consciousness and behavior described by Maharishi Vedic Science is that the quality of individual behavior is dependent on the quality of individual consciousness. When human awareness consciously identifies with the unified field through the practice of Maharishi’s Transcendental Meditation and TM-Sidhi programs, then all thought, feeling, and behavior begin to more fully reflect the comprehensive intelligence of nature which is lively in the unified field of natural law (Maharishi Mahesh Yogi, 1986, pp. 94–101). Life is spontaneously lived in greater accord with natural law; that is, all thought, feeling, and behavior begin to have a constructive influence in terms of all the specific laws of nature governing human life (Maharishi Mahesh Yogi, 1986, pp. 94–98). Maharishi explains (1982):

As the practice advances, individual life is spontaneously lived more and more in accordance with natural law. That means all thoughts and actions, all trends and tendencies take an evolutionary direction. With this, every aspect of life enjoys support of nature. This is what Transcendental Meditation and the TM-Sidhi programme do to the individual. (p. 3)

The basis of problems in individual life: Violation of natural law.
From the perspective of Maharishi Vedic Science, all problems and suffering in individual life ultimately stem from the “violation” of natural law which, in turn, results from lack of conscious contact with the unified source of natural law, pure consciousness (Maharishi Mahesh Yogi, 1978, pp. 98–101). Violation of natural law refers to behavior which creates a predominantly destructive rather than constructive influence in the life of the individual and his environment (Maharishi University of Natural Law, 1982, pp. 5–6).

According to Maharishi Vedic Science, natural law governs the evolution of the entire universe from the level of the unified field, naturally promoting evolution, growth, and expansion; the process of evolution requires a balanced functioning of the constructive and destructive forces of natural law (Maharishi University of Natural Law, 1982).

The evolution of one state into the other is brought about by a simultaneous process of destruction of the existing state and creation of a new one. Thus it is obvious that natural law stimulates constructive and destructive forces to function with each other for the evolution of the system.
Peaceful co-existence of these opposite forces of life is completely natural. It is only stress that brings life to a state of imbalance where the destructive potential of natural law becomes over-dominant. (Maharishi University of Natural Law, 1982, p. 5)

Thus, according to Maharishi, behavior which violates the laws of nature governing human development creates stress in individual consciousness. The resulting predominance of the destructive aspect of natural law, in turn, retards the pace of evolution and gives rise to all forms of problems and suffering in individual life (Maharishi University of Natural Law, 1982, pp. 5–6; Maharishi European Research University, 1982a, p. 6).

On the basis of the principle “as you sow, so shall you reap,” violation of natural law inevitably leads to misery and suffering (Maharishi Mahesh Yogi, 1985, p. 151–152). Because natural law always promotes growth and evolution, Maharishi explains, “as soon as we violate natural law we are set right, and all pains, all problems, all failure, all misery, result from this one fact—violation of natural law” (1978, p. 99). Problems and failures are like a slap from nature to encourage more evolutionary thought and action (Maharishi Mahesh Yogi, 1978, p. 80).

Removing the basis of problems in individual life. According to Maharishi, the practice of the Transcendental Meditation and TM-Sidhi programs removes the basis of suffering and problems in individual life by enlivening the full potential of natural law in human awareness. This eliminates all stress and strain which create imbalance between the destructive and constructive forces of natural law (Maharishi University of Natural Law, 1982, p. 6). Maharishi’s technology of consciousness—the Transcendental Meditation and TM-Sidhi programs—improves the quality of individual life by bringing individual life in tune with the laws of nature, enabling the individual to spontaneously think and act according to natural law. Life in greater accord with natural law brings greater support of nature, removing obstacles to progress, and setting life “on an invincible course of evolution towards greater fulfillment, happiness, and creativity” (Maharishi Mahesh Yogi, 1982, p. 5).

Maharishi emphasizes that bringing individual and collective consciousness into alliance with natural law “is the key to solving all prob-
lems of society on any level, be it social, economic, political, religious, or any other” (1978, p. 164).

**Individual Consciousness and Collective Consciousness**

According to Maharishi Vedic Science, the quality of life in any nation is ultimately determined by the quality of what Maharishi calls the collective consciousness of the nation. Each level of society—family, community, city, state, nation, or the entire world—is described as having its own characteristic collective consciousness, which is the wholeness of consciousness of the entire group (Maharishi Mahesh Yogi, 1977, pp. 123–124). The most fundamental level of collective consciousness is the same as that of individual consciousness, the unified field of pure consciousness (Maharishi Mahesh Yogi, 1985, pp. 56–76). Just as the quality of the behavior of the individual is an expression of the quality of individual consciousness, the quality of behavior in society is seen as an integrated expression of the quality of collective consciousness of the individuals of the nation.

The view that society may possess some form of collective consciousness has also been expressed by the leading social thinker Emile Durkheim (1951). As described by Dillbeck et al. (1987), the empirical support for Durkheim’s views was not persuasive, and his concept of collective conscience has therefore had little impact on the mainstream of sociological thought. By contrast, Maharishi provides a precise and complete description of collective consciousness and its relationship to individual consciousness which is readily amenable to empirical testing. Empirical tests of Maharishi’s description of collective consciousness are facilitated by the fact that he has provided a practical and effective technology for systematically influencing the quality of collective consciousness in society.

**Violation of natural law: The basis of all problems in society.** A key feature of Maharishi’s description of collective consciousness is that individual and collective consciousness reciprocally influence each other. Due to this reciprocal relationship between individual and collective consciousness, an increase in stress and tension in individual consciousness will be mirrored in the quality of collective consciousness, and vice versa (Maharishi Mahesh Yogi, 1978, pp. 258–262; Maharishi European Research University, 1982a, p. 6). Just as prob-
lems and suffering in individual life arise from violation of natural law, Maharishi emphasizes that all problems in national life arise from the accumulation of stress in national consciousness due to the continual violation of natural law by the people of the nation (Maharishi Mahesh Yogi, 1978, pp. 98–108; Maharishi University of Natural Law, 1982, p. 7). Maharishi explains that the prevalence of problems, disharmony, and unhappiness in the family of man is the consequence of pervasive violation of the laws of nature:

All problems in the world arise from violations of the laws of nature. Everywhere in the world today there is a lack of happiness, harmony, and real freedom. This shows that life on earth is not lived in perfect accord with natural law. (Maharishi College of Natural Law, 1982, p. 2)

Maharishi (1979) emphasizes that inadequate education is ultimately responsible for the violation of natural law which gives rise to all problems in society:

All weaknesses or problems in society have their basis in a lack of culture of the human mind, and this in turn is the result of incomplete education. Education is incomplete when it fails to develop the full creativity of the individual and fails to nurture his ability to act in accordance with the laws of nature. (p. 1)

Because the educational system of every country does not educate the individual to spontaneously think and act according to natural law, the whole population unknowingly, but inevitably, violates the laws of nature day after day, creating stress in national consciousness (Maharishi University of Natural Law, 1982, p. 7). The unfortunate consequence of this accumulation of stress in the collective consciousness of the nation is that disorder, problems, and negative trends become more prevalent in society (Maharishi University of Natural Law, 1982):

If the collective consciousness of the country is under stress, then incoherent and conflicting tendencies will predominate in society and problems, turbulence, and violence will characterize the nation. (p. 8)

Thus the build-up of stress and tension in national consciousness must result in the growth of negative trends and problems in national life (Maharishi European Research University, 1982a, p. 6; Maharishi Mahesh Yogi, 1986, p. 88).
Bringing national life in accord with natural law. By bringing individual life in greater accord with natural law, the practice of the Transcendental Meditation and TM-Sidhi programs promotes more positive trends in society and contributes to the improvement of the quality of national life. Through this technology of consciousness, Maharishi (1982) explains,

Since the individual avoids violating the laws of nature, he does not sow any seeds of future suffering for himself, nor does he create tensions in collective consciousness which could burst into disasters, criminal tendencies, and war. Extended scientific research has demonstrated that as the individual’s thought process becomes more coherent, collective consciousness too becomes more coherent. Since the laws of nature are silently organizing and putting perfect order into all of creation—from the galaxies to the individual—the practitioner of the Transcendental Meditation and TM-Sidhi programme also exhibits more orderly and coherent behavior. As individuals become more ideal, society becomes more ideal. (p. 3)

Thus from the perspective of Maharishi Vedic Science, the key to improving the quality of life in society is promoting greater order and coherence in collective consciousness through the practice of the Transcendental Meditation and TM-Sidhi programs by a sufficient number of individuals in society.

Maharishi’s Absolute Theory of Government
According to Maharishi Vedic Science, there is an intimate connection between the functioning of government and the quality of collective consciousness in society. From the perspective of Maharishi’s Absolute Theory of Government, every action of the national government is seen as the expression of national consciousness, just as every action of the individual is an expression of individual consciousness (Maharishi Mahesh Yogi, 1986, p. 81). Maharishi (1986) explains that

The government of any country, irrespective of its system—whether capitalist, communist, or any other system—is governed by the collective consciousness of the nation. Whatever the quality of national consciousness, that will always be the quality of national government and national law. (p. 80)
Maharishi emphasizes that whatever a government does, it is the doing of the collective consciousness of the nation, in the same way as anything done by the individual is motivated by the mind.

Because the quality of governmental activity is merely a reflection of the quality of national consciousness, Maharishi’s Absolute Theory of Government suggests that misguided or ineffective government policy, administrative inadequacies, and all other forms of governmental failure have their ultimate basis in stress and disorder in the collective consciousness of the nation. Thus one of the important channels by which collective consciousness influences the quality of national life is via the influence of national consciousness on government (Maharishi Mahesh Yogi, 1985, p. 206). This paradigm implies, for example, that to the extent that economic problems arise from, or are exacerbated by, the failure of governmental economic policy, the growth of stress in collective consciousness will adversely affect the economic health of the nation.

**Solving all problems of government.** Since governmental achievements reflect the quality of collective consciousness in society, Maharishi (1982) explains that the government will be the first to benefit from an improvement in the quality of national consciousness:

The most frustrating and most regular experience of any government is that its best laid and noblest plans for the people fail because of disorderly social and individual behavior. When individual thinking is incoherent, governmental actions too become incoherent because the government mirrors the nation’s collective consciousness. The government can only achieve as much as the collective consciousness will allow it to achieve. When collective consciousness becomes orderly and supportive, governmental achievements reach their zenith. Then all of the government’s highest aspirations are fulfilled. Introducing the technology of higher consciousness into education and other walks of life is the sole method of maximizing governmental achievements. (pp. 5–6)

Because all problems confronting governments have their ultimate basis in the violation of natural law by the citizens of the nation, “the only solution to problems faced by any government, therefore, is to educate the people to spontaneously become incapable of doing anything contrary to natural law” (Maharishi Mahesh Yogi, 1978, pp. 194–195). Maharishi emphasizes that “economic policies, health policies, etc. will
not solve the problems of society” (1978, p. 112). Bringing individual and collective consciousness in tune with natural law, adds Maharishi, “is the key to solving all problems of society on any level, be it social, economic, political, religious, or any other” (1978, p. 164). According to Maharishi Vedic Science, government policies which do not address the fundamental cause of national problems—violation of natural law in society—cannot be fully successful.

Through educating the people of the nation to think and act spontaneously in accord with natural law, however, governments will become competent both to solve existing national problems and to prevent new problems from arising (Maharishi Mahesh Yogi, 1985):

A government should not be satisfied only by solving the problems as they arise. The government should be competent to disallow the eruption of problems. As this competency rises in the government, problems will not arise. (p. 152)

Maharishi further explains (1985) that the practice of this technology of consciousness by a sufficient number of individuals in the nation will purify national consciousness, thereby enhancing governmental achievements:

The national consciousness will be more coherent, more supported by nature, and the governments will be the first beneficiaries. The governments will be supported by nature. All the plans and programs of the government will come to be materialized, and that will be the positive gain for the nation. (p. 204)

According to Maharishi Vedic Science this approach will enable any government to ensure its success by harnessing the organizing power of natural law:

All that is required is to use the organizing skills of nature—which govern all the galaxies as well as our lives so perfectly—to administer society. That can be done easily by providing facilities to educate every citizen to enliven the laws of nature from the simplest state of his own awareness. (Maharishi European Research University, 1982a, p. 7)

Maharishi describes this process of utilizing the evolutionary, organizing power of nature to enhance governmental achievements as “establishing alliance with nature’s government,” the unified field of natural law (“Maharishi Offers,” 1990). As discussed in the following section, Maharishi explains that the practice of the Transcendental
Meditation and TM-Sidhi programs by only a small fraction of the national population will be sufficient to purify national consciousness and thereby bring the government of the nation into alliance with the government of nature. This approach to enlivening the evolutionary power of natural law in national consciousness offers to every government a practical and effective means to prevent and reduce problems in society and enhance governmental achievements.

**Alliance with Nature’s Government through the Maharishi Effect**

In this section we summarize the principles of Maharishi Vedic Science which explain how the practice of the Transcendental Meditation technique, or the Transcendental Meditation and TM-Sidhi programs together, by even a small fraction of the national population, can neutralize collective stress, purify national consciousness, and thereby bring thought and action of the entire population into alliance with natural law, nature’s government. We also describe how this positive, evolutionary influence of the Maharishi Effect will benefit society, improve the functioning of government, and enhance economic progress.

A small number of individuals practicing Maharishi’s Transcendental Meditation and TM-Sidhi program can positively influence the entire society because, as we have seen, according to Maharishi Vedic Science, consciousness is a field which, at its most basic level—pure consciousness—is the unified field of natural law. Because pure consciousness is the common basis of both individual and collective consciousness, enlivenment of the omnipresent field of pure consciousness in individual awareness through the Transcendental Meditation technique simultaneously enlivens pure consciousness throughout the collective consciousness of society. This enlivenment of pure consciousness, the unified field of natural law, by a sufficient number of individuals practicing the Transcendental Meditation technique brings the thought and action of everyone in society spontaneously into greater accord with natural law (Maharishi Mahesh Yogi, 1975, p. 59).

This predicted effect on the whole of society of a few individuals practicing the Transcendental Meditation technique provides an illustration in social systems of a characteristic property of fields in physics, “action at a distance.” In physics, phenomena involving action at a distance such as the gravitational effect of the earth on the moon, are typically explained...
by theories positing the existence of a field which mediates the interaction (Sudarshan & Mukunda, 1974). Likewise, Maharishi Vedic Science explains that the thought and behavior of individuals throughout society can be positively influenced by a few individuals enlivening the field of pure consciousness, the unified field of natural law, which underlies both individual and collective consciousness.

**The Maharishi Effect.** The existence of this field effect in social systems was first proposed in the early 1960’s when Maharishi predicted even a small fraction of the population practicing the Transcendental Meditation technique, on the order of one percent, would produce an influence of positivity and harmony throughout society (*Thirty Years Around the World*, 1986, p. 430). This effect, named the Maharishi Effect by the first researchers validating it (Borland & Landrith, 1977), is produced by enlivening the omnipresent field of pure consciousness, the common basis of all activity in nature, subjective and objective (Maharishi Mahesh Yogi, 1977):

When one percent of a community practices the Transcendental Meditation technique the community’s crime rate, accident rate, and sickness rate decrease. Consciousness is the basis of the whole creation; it is present everywhere—the most fundamental field of life. Enlivening the field of pure consciousness will enliven any aspect of creation and any aspect of behaviour, experience, and activity in the world. Transcendental Consciousness, the field of pure consciousness, administers the trends of life of the whole creation. (p. 110)

When even a few individuals in society take their awareness to the level of Transcendental Consciousness, Maharishi explains, every aspect of creation is enriched, like watering the root of a tree nourishes all the leaves, branches, flowers, and fruits of a tree. Maharishi (1975) further explains the omnipresent nature of the field of consciousness:

Because consciousness is the basis of all that is there—here, there, and everywhere—it is the quantum level of life, the very basic level of life. If the attention reaches that level, what happens is like the small pebble falling on the silent bed of the water. A small pebble falls, creating impulses. Those impulses reach all the far places and all the water. Just like that, when the conscious mind of one single individual transcends, we can imagine the thrills being created on that silent level of con-
sciousness, which is the omnipresent reality. This pulsating consciousness of the individual creates impulses of life all over, and because this is the very fundamental level of everyone, everyone’s thinking, everyone’s consciousness is influenced by that. It is very easy to understand, (p. 59).

As a result of the enlivenment of pure consciousness and the neutralization of stress in collective consciousness through the practice of the Transcendental Meditation technique by one percent of the population, individuals throughout society become more positive in their thinking, and the trends of life become more positive, more evolutionary:

The whole society becomes more positive in its trends, more positive in its thinking. The awareness of the whole population is influenced tremendously. That is why the criminals change; negativity changes. A man thinking like that today, he thinks in a different way tomorrow. So all the non-evolutionary procedures of thinking get transformed. Non-evolutionary thinking becomes evolutionary thinking. That means thinking becomes spontaneously in accord with the laws of nature. (Maharishi Mahesh Yogi, 1975, p. 59)

In other words, society becomes more positive because with the enlivenment of the unified field of natural law by Transcendental Meditation practitioners, the thinking and behavior of everyone in society become more in tune with natural law (Maharishi Mahesh Yogi, 1978, p. 198).

In 1975, after introducing the more powerful TM-Sidhi program, Maharishi predicted that the same beneficial effects on society would be produced through the practice of the Transcendental Meditation and TM-Sidhi programs by a single group comprising as few as the square root of one percent of the population (Maharishi European Research University, 1979, p. 160). While the Transcendental Meditation technique enables the conscious mind to contact the field of pure consciousness, the TM-Sidhi program trains the individual to think and act on the lively ground of pure consciousness and amplifies the positive effects enjoyed through the Transcendental Meditation practice (see Gelderloos & Berg, 1989).

Creating coherence in individual and collective consciousness. According to Maharishi Vedic Science, the Transcendental Meditation and TM-Sidhi programs produces increased coherence in individual consciousness, as reflected, for example, in increased coherence of brain
functioning as measured by EEG activity (Dillbeck & Bronson, 1981; Orme-Johnson & Haynes, 1981). Maharishi explains that the coherence produced in individual consciousness by the practice of this technology spontaneously extends to collective consciousness, purifying collective consciousness and enlivening natural law in society (Maharishi European Research University, 1982b, p. 13).

There are many examples of physical systems in which the more coherent and orderly functioning of even a small proportion of the units of the system will induce a transition to more orderly behavior of the system as a whole. In a laser, for example, quantum-mechanical coherence between a number of individual photons proportional to the square root of the total causes the entire system to undergo a phase transition in which all the photons begin to interact coherently, thus generating laser light. Analogous to principles of quantum field theory in physics, physicist John Hagelin (1987, p. 65) suggests that the spreading of coherence from the TM-Sidhi group to the whole of society through the Maharishi Effect is consistent with a field-theoretic model of consciousness in which constructive interference due to the coherent superposition of wave amplitudes generates a field effect with intensity proportional to the square of the number of participants.

**How the influence of coherence travels throughout society.** The process whereby increased coherence in individual consciousness leads to increased coherence throughout society corresponds to the property of “infinite correlation” in quantum fields. Infinite correlation means that the “correlation range” becomes infinite—an impulse anywhere in the quantum field instantaneously influences all other points in the omnipresent field (Maharishi European Research University, 1982b). The purification of national consciousness through the group practice of the Transcendental Meditation and TM-Sidhi programs simultaneously purifies world consciousness of which it is a part (Maharishi Mahesh Yogi, 1986, pp. 73–74). This influence of positivity travels, Maharishi adds,

...through the same channels used by the evolutionary power of nature. From the most quiet, transcendental level, nature performs, and it performs within itself. It is the self-referral activity of natural law that is responsible for absolute order in creation . . . . It transcends all activity of natural law in the relative field, but yet is always lively as the basis
of the classical, physical world. It is the most refined level of quantum-
mechanical activity of nature, from where absolute orderliness controls,
commands, and governs all affairs of the universe. This transcendental
level of nature’s functioning is the level of infinite correlation. When
the group awareness is brought in attunement with that level, then a
very intensified influence of coherence radiates and a great richness is
created. (1986, p. 75)

In describing how this influence of the abstract field of pure con-
sciousness travels throughout society and to the rest of the world,
Maharishi (1986) explains:

The effect produced is from the level of the unified field. Because the
unified field is the unmanifest basis of the whole creation, the influence
spreads throughout the world. It’s just like the effect when you water
the root and the nourishment reaches every leaf, branch, flower, and
fruit. The unified field is a transcendental reality, and the Technology of
the Unified Field [the Transcendental Meditation and TM-Sidhi pro-
grams] produces lively impulses from that level. It’s a level of infinite
correlation which knows no barrier. . . . When the Governors of the
Age of Enlightenment [practitioners of the Transcendental Meditation
and TM-Sidhi programs] practice this technology, the influence travels
from that level which is omnipresent. (pp. 163–64)

Maharishi further explains that through the group practice of this
technology of consciousness the evolutionary force of natural law gets
enlivened throughout creation, producing positive and life-supporting

Maharishi (1986) notes that the group practicing the Transcendental
Meditation and TM-Sidhi programs together performs “from that most
quiet level to enrich positivity in nature and restore balance in nature’s
functioning,” to restore balance between the creative and destructive
forces of natural law which govern the evolution of all life (p. 76).

**Holistic benefits to society.** In addition to reductions in the crime rate,
accident rate, sickness rate, and other negative tendencies (Maharishi
Mahesh Yogi, 1978, p. 128), improvements in many other dimensions
of the quality of the life are predicted through the Maharishi Effect.
Maharishi (1978) predicts that when national consciousness is brought
into greater attunement with natural law through the Maharishi Effect,
social conflict will decrease, the economy will improve, and the nation's influence in international affairs will increase:

The tensions and disharmonies will be less, the flowering of business will be there, trade and industry will be increasing, people will be happy. . .the economy will be better, the nation's influence in the family of nations will be greater and more appreciated. (p. 66)

Maharishi (1978) further explains that balance in nature increases and "all of nature begins to support the nation's well-being. The seasons come on time, crops are abundant, and there are no calamities" (p. 128). By calamities, Maharishi refers not only to natural catastrophes but to "such disasters as poverty, disease, earthquakes, floods, droughts, famine, the economic or political collapse of the nation, and other collective calamities" (pp. 124–125).

The influence is spontaneously a total influence, which affects all aspects of life. Alliance with natural law [nature's government] means alliance with the total power of nature. All things will be enriched at one time. This is employing nature to work for us. All aspects of human society will grow in balance. Everything is going to be better and better as the light of knowledge grows with the purity of world consciousness. (Maharishi Mahesh Yogi, 1986, pp. 161–162)

According to Maharishi, among other specific improvements in the quality of life produced by the Maharishi Effect are decreased social unrest, turbulence, and terrorism (Maharishi Mahesh Yogi, 1986, p. 162; Maharishi European Research University, 1982a, p. 2); increased harmony and peace in international relations (Maharishi Mahesh Yogi, 1978, p. 105; 1977, p. 5); enhanced cultural integrity (1977, p. 5); more socially responsible thinking and behavior by the individuals in society, and the adoption of more positive social values (1978, p. 163; 1985, p. 206); and enhanced governmental achievements (1985, p. 206; 1977, p. 5).

Using the skilled hand of nature to administer society This holistic improvement in the quality of national life is available to every government through alliance with the government of nature, natural law. According to Maharishi Vedic Science ("Maharishi Offers," 1990), the basic problem facing every government is how to successfully integrate and harmonize the innumerable trends and tendencies in society. Only by creating coherence in the collective consciousness of the nation through
the Maharishi Effect can a government hope to satisfy its entire people and thereby achieve this goal of harmonizing the diverse trends and tendencies of the nation (“Maharishi Offers,” 1990). The group practice of the Transcendental Meditation and TM-Sidhi programs neutralizes collective stress born of the violation of natural law and creates a fully integrated national consciousness which enjoys alliance with the unified field of natural law. This technology of handling the whole national consciousness brings the full support of the nourishing, evolutionary power of natural law to fulfill the desires of everyone (“Maharishi Offers,” 1990).

By making use of the skilled hand of nature to administer society, any government can rise to a supreme level of success and achievement (“Maharishi Offers,” 1990). Maharishi emphasizes that through his Vedic Science and Technology, any head of state can raise the administration of his government to alliance with nature’s perfect government:

Here is a very beautiful, unique, and unprecedented opportunity for every head of state. I invite the leaders of the world to examine this offer of alliance with natural law in the light of the latest discoveries of modern physics—the discovery of the unified field of natural law. It is very easy for anyone with the slightest intelligence to understand that if the unified field of all the laws of nature could be accessible to anyone, nothing would be impossible for him. Through my Vedic Science and Technology—the science and technology of the unified field—any government leader can have easy access to the unified field and raise the administration of his government to be in perfect alliance with the administration of nature’s government. (p. 19)

Maharishi points out that the entire universe is silently governed with supreme economy and efficiency from the level of the unified field of natural law and that any government can rise to this same level of efficiency through alliance with natural law (1986, pp. 124–125; “Maharishi Offers,” 1990). According to modern quantum physics, the unified field of all the laws of nature, like any quantum-mechanical system, functions in accordance with the principle of least action, the universal principle of economy at the basis of nature’s functioning (Hagelin, 1989, pp. 22–23). Because natural law is most economical, the administrator is not seen, but still the universe is well administered. By establishing alliance with natural law, nature’s government,
any government can govern with the same silent perfection with which natural law administers the universe (“Maharishi Offers,” 1990).

According to Maharishi Vedic Science (“Maharishi Offers,” 1990), the technology for ideal government—unified field based administration—is to establish a creating-coherence group in the country which will enliven the unified field in national consciousness and thereby enable government to govern with the same perfection with which the government of nature administers the universe. Through alliance with nature’s government, any government can now create peace, prosperity, and fulfilling progress in the life of its own nation, and enliven these same qualities in national consciousness and thereby bring national government in alliance with nature’s government (“Maharishi Offers,” 1990).

Improving the Economy Through the Maharishi Effect

Enlivening national creativity and productivity. Increased national prosperity and more positive economic trends are among the predicted results of enlivening the unified field of natural law in national consciousness through the group practice of the Transcendental Meditation and TM-Sidhi programs (Maharishi Mahesh Yogi, 1977, p. 8; 1986, p. 142; 1982, p. 4). Maharishi explains that enhanced prosperity will result from increased ability to make use of the infinite creative potential of natural law inherent in the unified field of pure consciousness. Scientific research has shown that the practice of the Transcendental Meditation and TM-Sidhi programs increases the creativity and productivity of the individual (Travis, 1979; Orme-Johnson & Haynes, 1981; Frew, 1974). Because infinite creativity is a property of the unified field of natural law, pure consciousness, enlivening the unified field in national consciousness through the group practice of the Transcendental Meditation and TM-Sidhi programs enlivens greater creativity throughout society. Maharishi explains that “creativity . . . is fully lively in the unified field” and thus “when the unified field is enlivened in national consciousness, infinite creativity is lively in the national economy” (1983, p. 4). As a result, “economic wealth also increases because more creative people make wiser business decisions” (Maharishi Mahesh Yogi, 1982, p. 4).

Enlivening creativity in national consciousness through the Maharishi Effect, therefore, enlivens the basis of all prosperity and progress in national
life, the creativity of its people. Maharishi (1982) explains that the infinite creative potential of its people is the most valuable asset of every nation:

Creative people are the true wealth of any nation . . . . The real basis of a nation’s economic prosperity is the creativity of the people rather than the system of distribution or bringing wealth from outside . . . . The real assets of the nation are its people, every one of whom has infinite creativity inherent in him. (p. 1)

Maharishi (1986) adds that whatever the economic system of the country—communist, capitalist, etc.—productivity and efficiency will increase through the enlivenment in human awareness of the creative potential of natural law, though which, with supreme economy, the unified field creates and governs the entire universe:

Basing the economy of the nation on the level of currency regulation or distribution of wealth, hanging on to either communist or capitalist ideals of economy or to any other system of economy—all these are too superficial to achieve fulfilling economy. With the unified field based system of economic excellence, people will work less and accomplish more. There will be greater efficiency, more production, and more national productivity through increased creativity and proficiency in that style of functioning which is the functioning of nature. (p. 126)

One important aspect of the predicted improvement in the national economy through the Maharishi Effect is the reduction of unemployment. Maharishi explains that although economic conditions certainly contribute to unemployment, a more important factor is lack of creativity in the national consciousness (Maharishi Mahesh Yogi 1985, pp. 171–172).

Maharishi (1985, p. 172) adds that this lethargic influence in collective consciousness can be eliminated through the collective practice of the Transcendental Meditation and TM-Sidhi programs.

Other positive effects on the economy. In addition to the increase in national creativity and productivity through the Maharishi Effect, other related effects of the group practice of the Transcendental Meditation and TM-Sidhi programs will also contribute to enhanced prosperity and economic progress. Among these predicted effects, as noted above, are increased agricultural abundance through greater balance in nature; this will strengthen the vital agricultural sector of the economy and increase
national self-sufficiency in essential food production. Additionally, since the maintenance of peace and internal order are essential for maximum economic progress, the group practice of the Transcendental Meditation and TM-Sidhi programs will greatly enhance national prosperity through reducing and preventing social unrest, turbulence, and terrorism, as well as domestic and international conflict. The prevention of natural disasters and other collective calamities such as drought, famine, and the political or economic collapse of the nation will also obviously contribute to economic growth and stability.

With improvement in the economy through the enlivenment of greater creativity and support of nature in national consciousness, the national government will spontaneously find greater success in its efforts to promote economic progress. Also the increased efficiency and effectiveness of government through the Maharishi Effect, resulting from increased coherence in collective consciousness, will contribute to greater success for all policies and programs of government, including economic policies (see “Maharishi’s Absolute Theory of Government” above). In particular, improved national economic performance through the Maharishi Effect will bring increased government revenues and reduced budget deficits; fewer government resources will be required to deal with problems, allowing more to be used for the promotion of progress (Maharishi Mahesh Yogi, 1985, pp. 179–180; “Maharishi’s Supreme Offer to the World,” 1978, p. 3). Maharishi explains, therefore, that government programs to implement this approach to creating a problem-free society are very cost-effective:

Compared to the spending of a government on defence, health, or unemployment benefits, the cost of bringing enlightenment to every individual and invincibility to the nation is almost nothing, so the government’s treasuries will not feel any pinch. Yet the government’s income will become much greater because the people will become healthier and more orderly, creative, and productive. The government will gain more revenues because of the higher productivity, and will have almost no spending on health, police, and defence. (“Maharishi’s Supreme Offer to the World,” 1978, p. 3)

By using the skilled hand of nature to administer the economic and other affairs of society, the administration of every aspect of society
will become simple, effortless, orderly, and spontaneously evolutionary (Maharishi University of Natural Law, 1982, p. 7).

**Maharishi Vedic Science and the Economics of Human Resources**

**Creativity and human resources in economics.** Maharishi’s description of human creativity as the fundamental economic resource of any nation and his explanation that creativity has its source in a universal field of consciousness at the basis of the physical universe are ideas which have been echoed in the works of economic writer George Gilder. For example, Gilder (1981) remarks: “Our greatest and only resource is the miracle of human creativity in a relation of openness to the divine” (p. 268). Gilder (1989) adds that “wealth comes ... to the liberators of human creativity, not to the conquerors of land, but to the emancipators of mind” (p. 116). Like Gilder, the eminent economist Joseph Schumpeter (1950) emphasized the central role of creative innovators in promoting economic growth and development, as did economist Frederick Harbison (1965). Harbison (1973) concluded that “human resources—not capital, nor income, nor material resources—constitute the ultimate basis for the wealth of nations” (p. 3). Likewise, economist Israel Kirzner (1985) emphasizes that economic activity in the private sector may be seen as an ongoing process of creative discovery in which the “alertness” and creativity of entrepreneurs are the key factors contributing to economic progress.

The central importance of human resources in promoting economic growth and prosperity has also been emphasized by leading exponents of “human capital theory” in economics, such as Theodore W. Schultz (1981), Gary Becker (1975), and Jacob Mincer (1984). Human capital theorists stress that the knowledge, skills, abilities, and health of the population constitute valuable economic resources which contribute to human productivity and economic growth, and may be augmented through investments in such activities as education, training, and health promotion which improve the quality of human resources. Likewise, through such activities as research and development, human creativity generates advances in knowledge which increase the stock of useful knowledge, or “knowledge capital” (Schultz, 1987).

Such expansion of knowledge over the past 200 years has been a driving force of economic growth, especially in the industrialized nations,
and has led to increased productivity and affluence through, for example, technological advances embodied in new “physical capital” such as computers, automated production plants, and other forms of productive plant and equipment (Kuznets, 1966; Maddison, 1982). Nobel laureate economist T.W. Schultz (1987) emphasizes the central importance of human capital and knowledge capital in economic progress:

The common view of capital is confined to material things. Physical capital, however, accounts for a small part of the total stock of capital in countries that have achieved a high level of per capita income. Moreover, physical capital consists in large part of knowledge: for example, advances in knowledge made the computer, modern communications facilities, and the high-yielding crop varieties possible. The vast improvements in the quality of most physical capital over time could not have been made were it not for advances in knowledge. (p. 11)

Physical capital is simply an expressed form, or embodiment, of human knowledge and creativity. Moreover, since all knowledge and human resources have their basis in consciousness or intelligence, it follows that the most basic level of consciousness, pure consciousness, the infinite source of all creativity in man and in nature, is the ultimate economic resource.2 Thus the unfoldment of the full creative potential of human consciousness through Maharishi Vedic Science and Technology offers mankind an unprecedented opportunity to accelerate economic progress throughout the world by making use of our most abundant natural resource, the unlimited creativity of the unified field.

**Bringing fulfillment to economics.** Maharishi Vedic Science and Technology brings fulfillment to human-resource economics by providing a complete and precise description of consciousness and its relation to human creativity, as well as a proven technology for developing the full potential of human resources for the individual and society. From the point of view of human-resource economics, Maharishi’s Transcendental Meditation and TM-Sidhi programs may be seen as a uniquely effective investment in human capital development, which, according to Maharishi, holds the key to the unfoldment of unlimited human productivity and fulfilling prosperity. In particular, the group practice of Maharishi’s Transcendental Meditation and TM-Sidhi programs offers a powerful new tool of government policy for improv-
Improving the national economy—alliance with nature’s government

Improving the economy and promoting the total advancement of the nation by unlocking the full potential of human creativity. Maharishi (1986) explains that total development of the nation involves more than mere economic development, and that the key to promoting this holistic development of the nation lies in maximizing national creativity:

Improving the economy should mean total development of the nation, not just a few dollars and cents more or less in the country, but total advancement of the nation.

Total advancement of the nation means everything in the fulfilling direction, everything aimed at raising self-sufficiency and self-reliance in the nation. This will come through alliance with natural law, which will come through the Technology of the Unified Field [the Transcendental Meditation and TM-Sidhi programs]. Here is a chance for every nation to foster total development, including economic development, simply by making use of the available natural resources. The most precious resource of any nation is the human brain physiology. Train that cosmic computer to function cosmically and inherit the cosmic functioning of the unified field in order that every human brain is as creative as it can be. The whole nation will rise in productivity, creativity, and self-sufficiency. (pp. 127–128)

Maharishi (1986, p. 155) emphasizes that total development includes not only material progress, but also inner growth, the unfoldment of the full potential of human consciousness:

So much emphasis today is being put on economic development. This is not wrong, but there is something more valuable than mere economics. Economics may be helpful for existence, but if life is spent in existing only, the infinite possibilities inherent in human awareness have no meaning. (p. 48)

The practice of the Transcendental Meditation and TM-Sidhi programs naturally unfolds the infinite potential of human awareness and cultivates higher states of consciousness, enlightenment. (For a review of Maharishi’s description of higher states of consciousness, see Alexander and Boyer, 1989.)

Maharishi (1966) emphasizes that the highest goal of economics is to provide both outer and inner affluence, outer material abundance as well as the inner fulfillment, contentment, and bliss of higher states of consciousness:
If man’s contentment is not achieved the very purpose of economics is defeated. It may be stated emphatically that unless a man achieves permanent happiness he will not be contented and satisfied with life. To bring about this permanent contentment is the final aim of economics. (pp. 214–215)

Maharishi Vedic Science and Technology fulfills this highest goal of economics by providing a practical and proven means for bringing individual awareness into alliance with natural law, thus naturally developing higher states of consciousness in the individual and simultaneously promoting the growth of affluence and fulfillment in society by bringing national consciousness into alliance with natural law through the Maharishi Effect.

**Research on the Transcendental Meditation and TM-Sidhi Programs**

Maharishi’s Transcendental Meditation program and the more advanced TM-Sidhi program have been shown by research to be effective in improving the quality of individual life by enhancing creativity, intelligence, happiness, energy, mental and physical health, and resistance to stress (e.g., Chalmers, Clements, Schenkluhn, & Weinless, 1989; Orme-Johnson & Farrow, 1977; Wallace, Orme-Johnson, & Dillbeck, 1991).

The prediction that the quality of life in society may be enhanced through the Maharishi Effect has been empirically investigated in more than 35 studies since 1974. These studies are discussed in Dillbeck et al. (1987), Hagelin (1987), Orme-Johnson and Dillbeck (1987), Orme-Johnson et al. (1988), and Dillbeck, Banus, Polanzi, and Landrith (1988), and reprinted in Orme-Johnson and Farrow (1977), Chalmers et al. (1989), and Wallace et al. (1990). In addition to the effect on economic performance, these studies report evidence of significant improvements in such diverse measures of the quality of life as crime and suicide rates, automobile accidents, notifiable diseases, civil disorder, international conflict, terrorism, and composite indices of life quality. One attraction of Maharishi’s field-theoretic description of consciousness is that it alone seems capable of offering a unified and parsimonious explanation of these diverse research findings.

In the following section we describe the results of empirical research examining the impact of the Maharishi Effect on the national econo-
mies of the U.S. and Canada. This research analyzed the effect of the group practice of the Transcendental Meditation and TM-Sidhi programs on a commonly used measure of national economic performance, Okun’s “misery index” of inflation and unemployment.

**Part 2: The Maharishi Effect and the National Economy: Research on the U.S. and Canada**

Among the predicted results of the Maharishi Effect on the quality of national life are improved economic performance, increased wealth and prosperity, and decreased economic problems, including unemployment (Maharishi Mahesh Yogi, 1978, p. 66; 1985, pp. 171–172). In the research described in this section, statistical time series analysis was used to test the hypothesis that the group practice of the Transcendental Meditation and TM-Sidhi programs by a single, large group in the U.S. significantly contributed to the substantial reduction of a key measure of economic performance, Okun’s misery index, for the U.S. and Canada over the period 1979 to 1988. The misery index (or discomfort index), first proposed by economist Arthur Okun, is defined as the sum of the inflation rate and the unemployment rate. The inflation rate measures the rate of increase of the cost of living (as measured by the consumer price index), and the unemployment rate measures the proportion of the labor force not currently employed. As described below, the misery index also may be viewed as a measure of one of the most important economic dimensions of the quality of life.

The level of the misery index reflects how well the national economy is doing with respect to the three dimensions of economic performance widely regarded as most important by policy makers and economists—unemployment, inflation, and economic growth (Dornbusch & Fischer, 1988, p. 8). The misery index directly measures the degree to which society is plagued by the “twin evils” of inflation and unemployment. But since faster economic growth contributes to lower unemployment, movements in the misery index also reflect the economy’s rate of economic growth. The rate of economic growth here is defined as the rate of growth of total national output after adjusting for inflation, or the growth of “real” gross national product (GNP). Because reduction of inflation and unemployment and the promotion of economic growth
are goals which are typically at the very top of the policy agenda for every national government, the misery index serves as a very useful summary measure of national economic performance.

Some empirical studies of the misery index have been carried out. Tarantelli (1986) employed the misery index as a measure of stagflation in a regression analysis of cross-national economic performance. In another study of cross-national performance, McCallum (1986) reported correlations between the misery index and both the incidence of strikes and a measure of “corporatist” institutional structure. However, neither Tarantelli nor McCallum examined the behavior of the misery index over time for any of the countries in their samples. Thus the research described in this paper, along with the related research discussed below (Cavanaugh & King, 1988; Cavanaugh, King, & Titus, 1989; Cavanaugh, King, & Ertuna, 1989) apparently represents the first in-depth investigation of the time series behavior of Okun’s misery index.

**Historical Behavior of the Misery Index**

For both the U.S. and Canada during the 1970’s and early 1980’s the misery index reached historically high levels because of the simultaneous occurrence of both high inflation and unemployment. Simultaneous high inflation and unemployment, a condition termed “stagflation,” was indisputably the primary economic problem of the 1970’s and early 1980’s in North America and throughout the world (Bruno & Sachs, 1985). 4 As shown in a plot of annual data in Figure 1, the U.S. misery index began rising in the mid-1960’s, and ratcheted up markedly during the 1970s. After peaking in 1980 at a level exceeded only during the Great Depression of the 1930’s, the U.S. index thereafter fell irregularly to near a 15-year low in 1988 as a result of substantial declines in both inflation and unemployment. As shown in Figure 2, the misery index for Canada likewise trended sharply upward beginning in the mid-1960’s, peaked in 1982, and then fell by 1988 to its lowest level since 1972.
Figure 1. Time series plot of Okun’s misery index (inflation rate and the unemployment rate) for the U.S. 1952 to 1988, annual data. After rising sharply beginning in the mid 1960’s, the U.S. misery index peaked in 1980 and then fell to near a 15-year low by 1988.

Figure 2. Time series plot of Okun’s misery index for Canada 1960 to 1988, annual data. After a sustained rise beginning in the mid 1960’s, the misery index peaked in 1982 and then fell by 1988 to its lowest level since 1972.
The sharp upward trend in the misery index for the U.S. beginning in the mid-1960’s was reflected in a growing dissatisfaction with U.S. economic performance and a deterioration in the sense of well-being of the American people (Maisel, 1982, pp. 15–16). In virtually every national Gallup public opinion poll conducted between 1973 and 1983, a majority of the American people felt that inflation, or unemployment, or both were the most serious problems facing the nation, ranking ahead of such quality-of-life issues as crime, environmental pollution, and the threat of nuclear war (Dornbusch & Fischer, 1988, p. 537). The results of these surveys suggest, therefore, that the misery index also provides a measure of an important economic dimension of the quality of life. That the misery index may be associated with broader measures of the quality of life is indicated by research showing a strong correlation between unemployment and several measures of social stress, including increased mental and physical illness, suicide, homicide, cardiovascular mortality, and prison admissions (Brenner, 1979).

The *Transcendental Meditation* and *TM-Sidhi* Group at Maharishi University of Management (Previously Maharishi International University, 1971–1995)

The statistical analysis of the Maharishi Effect examined the influence of the group practice of the Transcendental Meditation and TM-Sidhi programs on the misery index for the U.S. and Canada over the period April 1979 through April 1988. April 1979 marked the founding of the largest permanent Transcendental Meditation and TM-Sidhi group in North America at Maharishi International University (Maharishi University of Management) in Fairfield, Iowa, U.S.A. At that time, a group of experts in the Transcendental Meditation and TM-Sidhi programs at Maharishi University of Management began the practice of this technology of consciousness together twice daily (morning and afternoon) to create the Maharishi Effect for North America. By analogy with the phenomenon of superradiance in physics, through which a phase transition process leads to the emission of coherent light by a laser, the group practicing the Transcendental Meditation and TM-Sidhi programs together to create coherence in collective consciousness has been termed the “Super Radiance group.” A plot of the monthly average size of the...
Super Radiance group for the daily afternoon session is shown in Figure 3. for the period April 1979 to April 1988.5

![Figure 3. Time series plot of the average daily size of the TM-Sidhi group at Maharishi International University, Fairfield, Iowa, U.S.A. The dashed line indicates the predicted critical threshold of 1500 for the size of the group, approximately the square root of one percent of the U.S. population.](image)

Maharishi Vedic Science predicts that a significant improvement in economic performance, and the overall quality of life, will occur when the TM-Sidhi group reaches a critical size approximately equal to the the square root of one percent of the population. For the U.S., the critical √1% threshold for the Super Radiance group during this period ranged from approximately 1500 in 1979 to 1569 in 1988, based on mid-year population estimates (United Nations, 1989). The corresponding theoretical threshold for the effect of the U.S. group on both Canada and the U.S. is the √1% of the total population of North America. This threshold for North America as a whole ranged from 1577 in 1979 to 1650 in 1988. Since the calculation of the theoretical threshold for the size of the TM-Sidhi group ignores the possible influence of several other Super Radiance groups of smaller size in North America as well as the effect generated by the more than one million individual practitioners of the Transcendental Meditation technique or TM-Sidhi program in the U.S. and Canada, the predicted results of
the Maharishi Effect may have possibly begun to be felt, at a threshold value somewhat lower than the theoretical $\sqrt{1\%}$ level.

In the plot of the average size of the Super Radiance group shown in Figure 3 a horizontal line is drawn at the 1500 level, approximately the $\sqrt{1\%}$ of the U.S. population. The two large spikes in the plot of the TM-Sidhi group correspond to two large temporary gatherings of experts in the Transcendental Meditation and TM-Sidhi programs (World Peace Assemblies) at Maharishi University of Management, December 1983 to January 1984, and again in July 1984, when the monthly average size of the group exceeded 3300.

**Behavior of the Monthly Misery Index, 1979–1988**

Shown in Figure 4 is a plot of the monthly U.S. misery index for the period April 1979 through April 1988. The U.S. misery index peaked in January and March of 1980 at 24.5, thereafter falling irregularly to a level of 10.3 in April 1988. Together with the plot of annual data for the misery index in Figure 1, Figure 4 shows a reversal of the rising trend of the 1960’s and 1970’s, with the reversal beginning in January 1980, four to five months after the TM-Sidhi group first exceeded the 1500 threshold in July and August 1979. During the latter two months, the size of the largest TM-Sidhi group in the U.S. reached a peak of 2778 at a World Peace Assembly in Amherst, Massachusetts. The initial reversal of the upward trend in the misery index also followed six consecutive months in which the average size of the Super Radiance group consistently exceeded 1000–1200 for the first time.

Figure 4 also suggests a possible downward shift in the mean level of the U.S. index beginning sometime in 1982, a year in which the average monthly size of the Super Radiance group for the first time exceeded the 1500 critical threshold for five months. Also apparent is the continued decline of the U.S. misery index after 1982 and its ultimate stabilization substantially below its 1979–1980 level as the TM-Sidhi group rose to a level consistently exceeding the critical 1500 threshold. Reflecting this decline in the misery index, by 1986, national public opinion polls indicated that, in marked contrast to the period 1973 to 1983, neither the level of inflation nor unemployment were perceived as major national problems by the American people (Dornbusch & Fischer, 1988, p. 537).
The marked decline in the U.S. misery index during the decade of the 1980’s was a surprising development not widely anticipated by economists and other informed observers. A recent review of U.S. economic performance during this period concluded (Pluckhahn, 1989):

Few who looked at the bleak economic landscape of a decade ago could have known that unemployment would decline from more than 8% to 5.4% and inflation would be cut by almost two-thirds, from 11.3% in 1979 to 4.6% in 1989. . . .Who would have forecast that the economy would grow for the final seven years of the 1980’s, breaking the record for a peacetime expansion? Other milestones include more than 18 million new jobs created in the 1980’s, and manufacturing productivity averaging more than 4% annual growth throughout the decade—the best record of the post-World War II era. (p. 1)

Thus the sharp decline of both inflation and unemployment during this period, as well as a vigorous and prolonged economic expansion—which, as of June 1990, was more than two and one half times as long as the post-war average—was a largely unforeseen development.  

The Canadian misery index shown in Figure 5 displays a similar pattern of persistent rise followed by a steep decline. The plot shows a
continuation of the historical rising trend of the index well into 1981, followed by a leveling out in 1981–1982, and subsequent decline. The decline seems to be associated with the rise of the Super Radiance group to a level frequently exceeding the √1% threshold on a monthly average basis. To facilitate comparison between the plot of the Canadian misery index and the plot of the U.S. Super Radiance group, the latter is repeated as Figure 6. In terms of the annual data shown in Figure 2, the misery index for Canada peaked in 1982, two years after the U.S. In terms of the monthly data, the peak for Canada occurred in June of 1981 at 27.1, thereafter falling to a level of 11.6 by the end of the sample period in April 1988.

Figure 5. Time series plot of Okun’s misery index for Canada, monthly data, April 1979 to April 1988. Reversing the upward trend of the 1960’s and 1970’s, the Canadian misery index peaked in June 1981 at 27.1, thereafter falling irregularly to 11.6 by April 1988.
Figure 6. Time series plot of the average daily size of the TM-Sidhi group at Maharishi International University, Fairfield, Iowa, U.S.A. The dashed line indicates the predicted critical threshold of 1500 for the size of the group, approximately the square root of one percent of the U.S. population.

The plot for Canada also exhibits a possible downward shift in the mean level of the index during 1983 when the average size of the Super Radiance group began to frequently exceed the critical threshold for all of North America. For the period April 1979 to April 1988 the simple contemporaneous correlation between the Canadian misery index and the size of the Super Radiance group is $-0.319$, somewhat smaller than the comparable correlation of $-0.501$ for the U.S.

The weaker relationship between the average size of the Super Radiance group and the misery index for Canada is consistent with Maharishi’s analysis of collective consciousness. Since the theoretical Super Radiance threshold for influencing both Canada and the U.S. is larger than the critical threshold for the U.S. alone, this higher threshold for influencing all of North America was reached fewer times over the period 1979 to 1988 than the lower threshold for the U.S. Similar reasoning may also help to explain why the rising trend of the Canadian index was reversed at a later date than for the U.S. index, and why the proportionate decline of the Canadian index was also less than that of her neighbor to the south.
Part 3:
Summary of the Empirical Results

Research Methods and Results
This section summarizes the results of the statistical tests to determine if the Maharishi Effect had a significant impact on the misery index for both the U.S. and Canada during this period. Further details of the statistical methodology and empirical results are described in Cavanaugh (1990), a revised and updated version of Cavanaugh (1987).

Time series impact assessment analysis (Box & Tiao, 1975; Tiao, Box, & Hamming, 1975) was used to estimate the effect on the misery index of a TM-Sidhi group equaling or exceeding the predicted critical threshold of the √1% of the national population. Impact assessment analysis explicitly controls for the usual pattern of behavior of the misery index over time, as described by the “noise component” of the model. Controlling for the usual time series behavior of the misery index, the analysis seeks to determine whether this behavior was significantly altered during or following periods in which the critical Super Radiance threshold was exceeded. Thus the statistical analysis controls for any systematic patterns of behavior of the misery index—such as trend, seasonal variation, or other cyclical patterns—during periods in which the size of the Super Radiance group was less than the predicted critical threshold.

As described in Cavanaugh (1990), a systematic approach to time series analysis, the linear transfer function (LTF) method (Liu, 1985; Liu & Hudak, 1985; Liu & Hanssens, 1982), was used to fit an impact assessment model of the misery index for both countries. To provide an objective standard for model selection, the LTF method was augmented by use of an objective criterion for choosing between alternative models, the Akaike information criterion (AIC) (Akaike, 1973, 1974; Larimore, 1983). Impact assessment models have been previously applied to the analysis of U.S. inflation by Box and Tiao (1975).

In the case of the U.S., the time series analysis found evidence of statistically significant declines in the misery index 4 to 8 months after periods in which the daily average size of the Super Radiance group ranged between 1500 to 1699 in size for the month, where 1500 is approximately the √1% of the U.S. population. Significant reductions in the U.S. misery index were also found with a shorter lag of 2 to 5
months, following months in which the average daily size TM-Sidhi group was 1700 or more.

The impact assessment analysis for Canada found declines in the misery index with a lag 6 to 8 months after the Super Radiance group ranged from 1500 to 1699 in size, and 5 to 8 months after the group equalled or exceeded 1700. Thus for both the U.S. and Canada increases in the average size of the Super Radiance group to a level above the 41% threshold consistently led the subsequent declines in the misery index, with larger groups having a somewhat more immediate effect. In empirical studies of the dynamic relationship between economic variables believed to be causally related, lagged effects of this order, or higher, are commonly found (e.g., see Carlson, 1980).

These estimated reductions in the U.S. misery index are measured relative to the mean value of the index (15.91 points) during months in which the average group size was below the approximate critical threshold of 1500. Likewise, for Canada, the estimated declines in the misery index are measured relative to the mean level of the Canadian index (18.13) during those months in which the average size of the TM-Sidhi group was below 1500.

A test of the hypothesis that the Super Radiance group had no effect on the misery index during this period found that this hypothesis must be rejected for both the U.S. ($p < .01$) and Canada ($p = .00004$). Thus the overall estimated effect of the Super Radiance group on the misery index for each country was highly statistically significant. These $p$ values give the probability of obtaining these estimated effects of the Super Radiance group on the misery index merely by chance. This probability is quite small for both countries, thus indicating a statistically significant impact of the Super Radiance group on the misery index for the U.S. and Canada.

As explained in Cavanaugh (1990), all diagnostic tests indicate that each model was satisfactory. In particular, the residuals for each model displayed behavior consistent with the hypothesis of a serially uncorrelated “white noise process,” indicating that the model in each case satisfactorily modelled all the systematic behavior of the misery index, including any seasonal, or other, cycles and trends.

Of particular importance in assessing the magnitude of the impact of the Maharishi University of Management group on the misery index
is the “long-run multiplier” for each Super Radiance variable. The long-run multiplier for a TM-Sidhi group of 1500 to 1699, for example, gives the estimated long run change in the misery index resulting from a sustained increase in the size of the Super Radiance group to a level between 1500 and 1699. The long-run multiplier for the larger group-size category of 1700 or more has an analogous interpretation. The estimated long-run multipliers for both countries are shown in Table 1.

The estimated long-run decline in the U.S. misery index was 4.23 points for a Super Radiance group of 1500 to 1699, and 5.62 points for a group of 1700 or more. The negative sign of these multipliers confirms the prediction of a decline in the misery index through the Maharishi Effect. The estimated declines in the misery index shown in Table 1 are very large. As a proportion of the total decline of 14.1 points in the U.S. misery index from its peak in 1980 to the end of the sample period in 1988, the reduction of 4.23 points for the group of 1500–1699 represents 30.0 percent of the total decline in the index. For the larger group, the comparable proportionate decline is 39.9 percent.

All long-run multipliers were negative in the case of Canada as well. As shown in Table 1, the estimated long-run multiplier for a group of 1500 to 1699 was –4.14 points, and –4.55 points for a TM-Sidhi group averaging 1700 or more. These estimated reductions represent 26.7 percent and 29.3 percent, respectively, of the total decline of 15.5 points in the Canadian misery index from its peak of 27.1 in June 1981 to the end of the sample period in 1988.

### Table 1

<table>
<thead>
<tr>
<th>Average Group Size</th>
<th>United States</th>
<th>Canada</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Long-Run Multiplier</td>
<td>% of Total Decline</td>
</tr>
<tr>
<td>1500–1699</td>
<td>–4.228</td>
<td>30.0</td>
</tr>
<tr>
<td>1700+</td>
<td>–5.619</td>
<td>39.9</td>
</tr>
</tbody>
</table>

*Long-run multiplier as percent of total decline in U.S. misery index (14.1 points) from its peak

*Long-run multiplier as percent of total decline in Canadian misery index (15.5 points) from its peak
For both the U.S. and Canada, the negative long-run multipliers for Super Radiance groups of 1500 or more in size are consistent with the hypothesis that economic performance of the U.S. and Canada was significantly improved through the collective practice of the Transcendental Meditation and TM-Sidhi programs by a group equalling or exceeding the square root of one percent of the U.S. population. For both countries, the estimated long-run multipliers were larger in absolute value for the larger group of 1700 or more, and the larger group had a more immediate effect.

It is also noteworthy that the estimated multipliers for the U.S. are larger in absolute value than the corresponding multipliers for Canada, especially in percentage terms. Proportionately larger long-run reductions in the misery index for the U.S. may reflect the fact that the theoretical √1% threshold for the U.S. was exceeded more frequently during the sample period, and at an earlier date, than the larger theoretical threshold for all of North America.

The results described above are consistent with those of an earlier analysis of the misery index for the U.S. and Canada using a somewhat shorter sample period, November 1980 to January 1987 (Cavanaugh, 1987). Using the same statistical methodology, comparable reductions in the misery index for both the U.S. and Canada were found, and the estimated effect of the Super Radiance group on the misery index again was highly significant for both the U.S. ($p = 5.5 \times 10^{-6}$) and Canada ($p = 5.7 \times 10^{-10}$). By examining the influence of three different Super Radiance threshold levels defined by quartiles of the size of the TM-Sidhi group, the latter analysis also found evidence for both countries of a sharp decrease in the misery index attributed to the effect of the Super Radiance group beginning at an average group size of approximately 1500. This latter finding, like those reported above, is strikingly consistent with the hypothesis of a sudden improvement in economic performance when the Super Radiance group equals or exceeds the √1% of the national population.

**Discussion**

The statistical tests reported above lend strong support to the hypothesis that the group practice of the Transcendental Meditation and TM-Sidhi programs significantly contributed to a substantial improvement
in national economic performance for both the U.S. and Canada during the period 1979 to 1988. Using recently developed tools of time series analysis, impact assessment analysis of monthly data for this period found evidence of statistically significant reductions in Okun’s misery index for both the U.S. and Canada attributable to the influence of the largest TM-Sidhi group in North America. These reductions were found to occur, on average, 2 to 8 months after periods in which the average size of the Super Radiance group exceeded the predicted critical threshold of approximately the √1% of the U.S. population. For both countries, the estimated reductions are highly statistically significant: the null hypothesis of no effect of the Super Radiance group on the U.S. and Canadian misery index must be rejected at conventional significance levels. These findings, therefore, lend strong support to the hypothesis of a significant reduction in the misery index through the Maharishi Effect.

Further support for the hypothesis of a causal relationship between the misery index and the collective practice of the Transcendental Meditation and TM-Sidhi programs is given by the finding that the proportionate reduction in the Canadian misery index, while very large, was smaller than the corresponding reduction in the U.S. index. As noted above, this result is consistent with Maharishi’s theory of collective consciousness, which suggests that the predicted Super Radiance threshold for influencing both Canada and the U.S. is larger than the critical threshold for the U.S. alone. The same reasoning can also explain why the rising trend of the Canadian index was reversed at a later date than for the U.S. index.

The case for a causal interpretation of these findings is strengthened by the findings of Cavanaugh, King, and Ertuna (1989) who found an even larger and more significant effect of the Super Radiance group on the U.S. misery index after statistically controlling for the impact of key economic influences on the index over the same sample period. There is wide agreement among economists that the behavior of inflation and unemployment over the period of this study was critically influenced by fluctuations in energy, food, and other crude materials prices (e.g. see Bruno & Sachs, 1985; Gisser & Goodwin, 1986; Helliwell, 1988; Beckerman & Jenkinson, 1986). Monetary growth has also been accorded a highly important role in influencing macroeconomic performance, especially inflation, over this period (e.g., see Bruno & Sachs,
1985; Friedman, 1988; Poole, 1988). Also it is well known that both inflation and unemployment are highly correlated with business-cycle fluctuations, and this period was characterized by major business-cycle movements—e.g., two U.S. recessions in close succession (January to June 1980, July 1981 to November 1982) followed by the longest peacetime economic expansion in U.S. history (92 months, as of June, 1990, versus a postwar average of 34 months).

Using sophisticated time series methods (multiple-input transfer function analysis), Cavanaugh, King, and Ertuna (1989) statistically controlled for the effect on the misery index of these three major economic factors—crude materials prices, monetary growth, and business-cycle fluctuations. Their statistical analysis of the effect of the Super Radiance group on the misery index controlled for the influence of these factors on the misery index by explicitly incorporating measures of monetary growth, the rate of change of an index of crude materials prices, and a measure which closely reflects business-cycle fluctuations, the rate of growth of industrial production.

While the economic factors included in the study of Cavanaugh, King, and Ertuna did significantly contribute to the explanation of movements in the U.S. misery index, the estimated effect of the Super Radiance group continued to be highly statistically significant ($p = 3.2 \times 10^{-9}$). Also, the estimated reductions in the misery index attributed to the Super Radiance group continued to be very large. For a Super Radiance group averaging 1500 to 1699, the long-run multiplier was $-7.61$ points. This decline represents 54.0 percent of the total decline of 14.1 points in the misery index from its peak to the end of the sample period in 1988. For a Super Radiance group averaging 1700 or more, the multiplier was $-7.65$ points, equivalent to 54.2 percent of the total decline of the index from January 1980 to April 1988. Later research by Cavanaugh and King (1990) found somewhat larger and highly significant effects of the Super Radiance group on the U.S. misery index after controlling additionally for movements in an index of U.S. exchange rates. That the Super Radiance multipliers reported in Cavanaugh, King, and Ertuna and in Cavanaugh and King are both larger than those found for the U.S. in the current study indicates that the results reported in Table 1 are conservative estimates of the effect of the Super Radiance group on the U.S. misery index. Thus the multiplier estimates based on the impact assessment
methods used in this study were not upwardly biased (in absolute value) by the exclusion of these economic explanatory variables.

Further evidence supporting a causal interpretation of these findings is provided by Cavanaugh and King (1988) who found that the Super Radiance group significantly contributed to large reductions in the rate of change of crude materials prices over the period 1979 to 1988 ($\rho = 2.6 \times 10^{-5}$). In the long run, a Super Radiance group of 1500 to 1699 was estimated to reduce the percent rate of growth of crude materials prices by 8.79 percentage points, with an estimated reduction of 13.68 points for a group of 1700 or more. This result suggests that the Maharishi Effect may have helped to dampen the negative “supply-side shocks” that are widely believed to have been the leading cause of the worldwide high inflation and unemployment in the 1970’s and early 1980’s (Bruno & Sachs, 1985; Helliwell, 1988). Such reductions in the very rapid rate of growth of food and energy prices, which significantly contributed to the decline in both inflation and unemployment in the U.S. and Canada, together with the remarkably sustained economic growth in North America since 1983 following the rise of the Maharishi University of Management Super Radiance group to a level consistently exceeding the $\sqrt{1\%}$ of the U.S. population, are fully consistent with Maharishi’s prediction of economic improvement due to greater support from natural law through the Maharishi Effect.

Additional support for the hypothesis of a causal effect of the TM-Sidhi group on the misery index is provided by Cavanaugh, King, and Titus (1989), who found evidence of a significant unidirectional influence of the Super Radiance group on the misery index, with no significant influence of the misery index on the size of the group. Their findings demonstrate that fluctuations in the size of the Super Radiance group temporally led the misery index, while the reverse is not true. Also supporting a causal interpretation is the fact that more than 35 other studies of the Maharishi Effect using other measures of the quality of life have similarly rejected the null hypothesis of no effect of the Super Radiance group.

Particularly powerful support for a causal relationship between the Super Radiance group and the misery index is provided by prospective, quasi-experimental studies of the Maharishi Effect. In such prospective studies (e.g., Orme-Johnson et al., 1988; Davies & Alexander, 1989), pre-
cise predictions of the effect of a planned gathering of experts in Transcendental Meditation and TM-Sidhi programs were publicly lodged with independent bodies and the press prior to assembling the Super Radiance group. The latter two studies, based on daily data, also featured many separate experimental periods which were randomly distributed through time, further strengthening the evidence for a causal effect.

Finally, a causal interpretation of these findings is supported by the fact that the time series methodology used in all of the studies of the misery index described above, Liu’s linear transfer function method, has been found through simulation studies to be very effective in detecting the lack of relationship between variables which are, in fact, unrelated (Liu, 1985). This property of the LTF method, by contrast with several other influential time series methods, minimizes the chance of spurious findings.

Taken together, the findings of these studies of the influence of the group practice of the Transcendental Meditation and TM-Sidhi programs on Okun’s misery index of inflation and unemployment, therefore, provide strong support for the conclusion that Maharishi Vedic Science and Technology offers economic policy makers an effective new instrument of economic policy. The empirical results discussed in this paper suggest that by promoting coherence in national consciousness and bringing collective consciousness in alliance with the full potential of natural law, nature’s government, the practice of the Transcendental Meditation and TM-Sidhi programs by a single group comprising the √\( \frac{1}{1}\% \) of the national population provides the foundation for the success of governmental efforts to improve national economic performance. The weight of existing evidence clearly supports the conclusion that any government seeking to improve the national economy and simultaneously lower inflation and unemployment would be prudent to make support for the group practice of this technology of consciousness an integral part of its national economic policy.

Acknowledgements

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Endnotes

1 The economic importance of improvements in the quality of human resources is highlighted by the increasing importance of so-called “knowledge industries” and “knowledge workers” in advanced industrial economies like the U.S. and Japan (Machlup, 1987). Production processes, like goods and services, are becoming more “knowledge intensive”, thus increasing the demand for a more skilled, educated, and creative workforce. The rates of growth of knowledge industries and knowledge occupations in the U.S. and Japan have substantially exceeded the growth rate of GNP and of the labor force, respectively. (Machlup, 1987)

2 According to an influential World Bank study (1980, p. 36) of human resources and economic development, the natural resources of a country are not consistently correlated with either its level of natural output or its rate of economic growth. Also, where natural resources have contributed significantly to growth, the discovery, utilization, and management of those resources has ultimately been based upon the application of human intelligence and creativity.

3 The negative relationship between the unemployment rate and the rate of economic growth is given by “Okun’s law”. More precisely, the empirical regularity known as Okun’s law states that the unemployment rate will decline by 0.4 percentage points for every 1 percentage point of annual real GNP growth above its trend rate of growth (Dornbusch and Fischer, 1988, pp. 573–574). Likewise, many economists believe that the inflation rate and the unemployment rate are negatively related in the short run. The hypothesized negative short-run relation between inflation and unemployment is described by the so-called “Phillips curve” (Dornbusch and Fischer, 1988, p. 573). The widely accepted Phillips curve theory implies that, other things being equal, attempts to reduce unemployment through stimulating economic growth tend to generate increased inflation in the short run; thus the net effect of the misery index will depend on whether the increase in inflation is greater than the reduction in unemployment. During the current U.S. economic expansion, however, the longest peacetime expansion in U.S. history has been associated with substantial declines in both inflation and unemployment.

4 The term “stagflation” refers to the simultaneous occurrence of economic stagnation (economic recession) and inflation.
5 On three occasions when the size of the Maharishi University of Management group was briefly exceeded by that of temporary TM-Sidhi groups (World Peace Assemblies) in Washington, D.C., and Amherst, Massachusetts, the size of the larger group was used in the calculation of the monthly average size of the Super Radiance group.

6 In calculating the misery index series for the U.S., the rate of inflation was computed from the month-to-month percent change in the consumer price index for all urban consumers (CPI), seasonally adjusted, BCD series 320c, as reported in Business Conditions Digest, March 1988 (p. 98) and July 1988 (p. 84). The compound annualized inflation rate, in percentage units, was calculated as $100[(1+d)12-1]$ where $d$ is the monthly percent change in the CPI (in decimals). Unemployment was measured by the civilian unemployment rate, seasonally adjusted, BCD series 43, from Business Conditions Digest, July 1988 (p. 62) and February 1988 (p. 99).

7 Through June of 1990, the U.S. economy had experienced 92 months of uninterrupted economic expansion, beginning in November 1982. The average for all six previous peacetime post-World War II expansions was 34 months (U.S. Department of Commerce, July 1988, p. 102). Canada likewise enjoyed a remarkably sustained economic expansion of roughly the same duration which began near the end of 1982. Although the small number of data points makes it difficult to statistically test the hypothesis that the unprecedented longevity of the current U.S. economic expansion is related to the rise in the size of the Super Radiance group to a level consistently exceeding the square root of 1% threshold, it is perhaps more than an intriguing coincidence that (1) both the U.S. and Canadian economic expansions began a few months after the Super Radiance group at Maharishi University of Management first began to frequently exceed the predicted critical threshold for the U.S. on a monthly average basis beginning in the spring of 1982, and (2) that the U.S. expansion continued unabated, despite widespread and repeated predictions of its imminent demise (Pluckhahn, 1989, p. 1), during the portion of the last decade in which the Maharishi University of Management group exceeded the predicted $\sqrt{1\%}$ critical threshold on a consistent basis.

8 While progress has been slower in resolving some important remaining economic problems, principally the large U.S. trade and federal budget deficits, both of these “twin deficits” have declined as a
proportion of GNP since the mid-1980’s; for example, America’s total budget deficit for all levels of government (the most economically relevant measure) fell from 3.5% of GNP in 1986 to approximately 1.5% in 1989 (The Economist, 1990, p. 73). Also, contrary to many repeated forecasts, neither deficit prevented the substantial decline and ultimate stabilization of both inflation and unemployment or aborted the unprecedented economic expansion. Just as much of the dire predicted effects of the trade and budget deficits have yet to materialize, some other widely predicted problems, such as alarming predictions of basic materials shortages in the 1980’s, never emerged (Pluckhahn, 1989). One economist asked to summarize the economic lessons of the 1980’s concluded: “The pessimists are usually wrong “(Pluckhahn, 1989, p. 1).

For Canada, the rate of inflation was approximated by the first difference of the natural logarithm of the monthly consumer price index, not seasonally adjusted, multiplied by a factor of 1200 to annualize the rate and express it in percentage units. It is well known that for sufficiently small percentage changes in the untransformed series, the first difference of the natural logarithm closely approximates the continuously compounded rate of change of the original series. Canadian unemployment was measured by the civilian unemployment rate (seasonally adjusted) as reported in Main Economic Indicators, Historical Statistics 1960–1979 (Organisation for Economic Co-operation and Development, 1980, p. 29) and in the following issues of Main Economic Indicators (Organisation for Economic Co-operation and Development, December 1979, p. 69; December 1980, p. 69; December 1981, p. 81; December 1982, p. 81; December 1983, p. 83; December 1984, p. 87; December 1985, p. 87; December 1986, p. 87; December 1987, p. 89; December 1988, p. 91; February 1989, p. 95).

The test that the Super Radiance group had no effect on the misery index during this period was based on a likelihood ratio test of the hypothesis that the impact assessment parameter estimates for each country were all equal to zero. For the U.S., the likelihood ratio test statistic was $\lambda = 16.88$, where $\lambda$ is approximately distributed as a chi-square variable with 6 degrees of freedom. For Canada, $\lambda = 25.35$, with 4 degrees of freedom. See Cavanaugh (1990) for further details.
Technically, this probability is conditional on the adequacy of the time series models, but the diagnostic checks of model adequacy indicate that the model for both the U.S. and Canada were satisfactory.

References


Maharishi’s Formula
For a Prevention Wing in the Military—
Applied and Found Successful in Mozambique:
Case Study, 1993–1994

Lieutenant General Tobias Dai
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**ABSTRACT**

Prior to its historic peace agreement in 1992, the nation of Mozambique had experienced 16 years of civil war, at great cost to every level of national life. Government leaders at the time implemented the Transcendental Meditation and TM-Sidhi programs in the military to combat the highly stressful military lifestyle and to support the nation’s precarious peace. In addition, thousands of citizens were instructed in the capital city of Maputo, in Quelimane, and in the province of Manica. During the first quarter of 1993 crime decreased 20% in Maputo, 20% in Quelimane, and comparably in Manica. When troop movements reduced the number of daily participants in an area, the crime indices increased. Traffic accidents remained constant during 1993, despite an approximate 3–4 times increase in the number of cars, while deaths due to traffic accidents were significantly lower than in 1992. During 1993, the economy was expected to grow 6%, but in fact grew 19%, in part due to the early and unexpected arrival of rain throughout the country, following the worst drought of the century.

**Address**

Maharishi, Mr. President of Maharishi Vedic Universities, honorable guests, ladies and gentlemen. Mozambique, after a disturbed period of war during the past 16 years, signed a General Peace Agreement in Rome in October 1992. The damage in terms of human life and material property was very high, and the country remained in a very precarious situation. After the signing of the General Peace Agreement, there was still a long way to go before the general elections could be held in the country. Uncertainty about the success of the implementation of the General Peace Agreement and questions about the ability to maintain peace until the elections, shadowed the first happiness in the hearts of the Mozambicans following the signing of the peace agreement. The proposed future UNO mission also was not a guarantee of the maintenance of peace—as has been seen in many countries in the world.

It was at this time that we were contacted by the representatives of Maharishi Vedic University who gave a detailed exposition of their technologies and their effects. In the genuine search for possible solutions to the problems in the country, individuals at high levels in the country’s hierarchy, together with their families, began the practice of
the Transcendental Meditation and TM-Sidhi Programme. After seri-
ous and critical study of the technologies that were being offered, the
Joint Chiefs of Staff of the Armed Forces of Mozambique were charged
with analyzing and studying the possibilities of its implementation in
the Armed Forces.

After having completed a thorough evaluation of the proposal, the
Joint Chiefs of Staff decided to implement the Transcendental Medita-
tion and TM-Sidhi Programme, including Yogic Flying, in the Armed
Forces of Mozambique with the aim to create the Maharishi Effect
in the country. It was a matter of decision, either to try it or to leave it
aside. Our decision was to try. This occurred before the arrival of the
UNO forces in Mozambique.

Thus started the huge work of teaching Transcendental Meditation
in the different military units of the country, involving the Ground,
Naval, and Air Forces. During the year 1993, about 15,000 people were
taught in the provinces of Maputo, Sofala, Manica, Zambezia, Namp-
ula, Niassa, and Cabo Delgado. In 1994, 1,000 more were taught. Also,
schools of police training, pertaining to the Ministry of Home Affairs,
began the programme. In all, more than 3,000 people were trained in
the TM-Sidhi Programme.

In the life of a military man, in a period of war, there are innumer-
able situations that create stress. His nervous system is deeply affected
by these situations, and it is necessary for the nervous system to repair
itself to avoid serious psychosomatic diseases. The war situation is the
greatest source of stress: it does not allow mistakes under the risk of
huge losses, mainly human lives. The precarious living conditions, the
need for a constant state of alertness, worry about compliance with
orders, relationships with colleagues, news of deaths, defeats, etc., are
all sources of stress.

Even in the total absence of war, in the day-to-day life of the mil-
itary man, there may arise situations that can create stress. Military
training in itself is a way to test the capacity of each individual. It is
aimed at developing dynamism and determination, discipline and a
high degree of alertness in the individual. In a military career there are
many possible sources of stress, such as concerns about salaries, pro-
motions, adaptations to one’s functions, relationships with superiors,
relationships with subordinates, new activities, fear of not succeeding in the mission, etc.

The implementation of the Transcendental Meditation and TM-Sidhi Programme in the Armed Forces of Mozambique produced an immediate improvement in many problems that arise from a nervous system being under stress for many years. The relief of insomnia was a result experienced in general. In addition, many Commanders also reported greater control of hypertension and improved digestion.

The group participation in the daily sessions stipulated by the directives of the Chief of Staff fluctuated due to the troop movements to the Gathering Centres for Demobilization in the different sites of the country. It was possible to notice that these fluctuations in participation had a direct influence on the intensity of the predicted results of the Maharishi Effect.

The results of the Maharishi Effect were predicted prior to the implementation of the programme. We were told that the increase of coherence in the collective consciousness created by the Maharishi Effect was going to maintain the peace; bring improvements in the crime index; decrease the number of car accidents; bring an unprecedented improvement of the economy; and even an improvement in the balance in nature, to be seen in the coming of the rains after 5 years of the worst drought of the century in Southern Africa. This last prediction, we must confess, we took with some scepticism.

When thousands of people were taught in Maputo, it was possible to assess a decrease of 20% in the crime index during the first quarter of 1993. This situation was totally anomalous, because, at the end of the war, an increase of crime would be expected. The same thing happened in the city of Quelimane (decrease of 20%) and in the province of Manica. When the groups stopped practicing due to the troop movements and to the demobilization of the troops, the crime indices increased again.

During the year 1993, the number of cars in the country increased by approximately 3–4 times and the circulation of these vehicles in the country increased dramatically. For the first time in 28 years it was possible to travel by road freely all around the country. In spite of this, the number of car accidents remained practically the same as in the
previous year and the number of deaths due to car accidents decreased compared with 1992.

Also in 1993, an economic growth of 6% was expected, but in fact growth was 19%—completely unexpected. This increase in growth was due, in great measure, to a greater support of nature in the coming of regular rains. The coming of the rains in 1993 supports the idea that large groups of individuals practicing the TM-Sidhi Programme bring balance to nature, the support of natural law. The rains were only expected in the month of July, but they came six months in advance, in the month of February, immediately after thousands of people were taught the Transcendental Meditation and TM-Sidhi Programme. On the other hand, as soon as the big groups stopped practicing (last week of January 1994), there was a predicted and almost immediate cessation of the rains (last week of January 1994). This kind of affirmation, which generates certain incredulity in those who don’t have knowledge in this matter, will be confirmed in a more exact way after the elections, when we are expecting to begin again the big coherence-creating groups in the new Armed Forces for the Defence of Mozambique.

What is very clear is that once the positive effect is created, if group practice is stopped the previous tendencies of higher collective stress, as determined from the crime indices and the tense situations in the country, begin to rise again. In 1994, there was a remarkable decrease in coherence in the country as a result of decreased participation in the group practice of the Transcendental Meditation and TM-Sidhi Programme. This was due to the demobilization of the troops practicing the programme and the anticipated ending of police courses, which included the programme, two months before the elections. This decrease had an immediate effect on the electoral process, as has been reported in the world press. For example, the guerilla party (REN-AMO) declared a boycott of the elections three hours before they began. The whole country held its breath. One day later, RENAMO decided to re-enter the electoral process.

Until now, although with several difficulties, the maintenance of peace has been possible during these two years, and free and just elections have been carried out—the only successful UNO mission in the world.
Our conclusion is that the implementation of the Transcendental Meditation and TM-Sidhi Programme, with Yogic Flying, in the Armed Forces of Mozambique was worth the effort, and that the results were in line with what was predicted. We expect to begin again the big coherence-creating groups in the country as soon as possible, in order to continue enjoying the benefits of the Maharishi Effect.

Thank you very much.
U.S.-Soviet Relations and the Maharishi Effect:

A Time Series Analysis

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Paul Gelderloos (Ph.D.) received his doctorate at the University of Nijmegen, the Netherlands. In 1983 he joined the faculty of Maharishi University of Management. It was during this time that he conducted the research on the Maharishi Effect and its impact on the U.S. quality of life as well as the international relationship between the U.S. and the former Soviet Union. Two papers resulted, included in this volume. He also published several studies on the Transcendental Meditation and TM-Sidhi programs and psychological measures such as field independence and psychological health; as well as theoretical papers on the development of consciousness. He spent time in India, Thailand, and Russia, where he taught almost 5,000 people the Transcendental Meditation technique. He then returned to the Netherlands, his home country, and became a very successful businessman in the Internet industry. In recent years he has focused on creating invincibility for the Netherlands and for India, by organizing groups of practitioners of the TM and TM-Sidhi programs, by acquiring schools in Holland and by supporting the Maharishi Vedic Pandit project in India.
ABSTRACT

This paper empirically tests the hypothesis that over the years 1979 through 1986, the climate of superpower relations was significantly improved through the reduction of global stress and tension produced by four large global “World Peace Assemblies” of experts practicing the Transcendental Meditation and TM-Sidhi program. In these Assemblies, the number of participants approached or exceeded the predicted critical threshold for a global effect: the √1% of the world’s population, approximately 7000. Consistent with theoretical prediction, time series analysis found evidence of a significant increase in cooperation and a reduction in conflict for Soviet behavior directed toward the US, as measured by monthly content-analyzed data from the Zürich Project on East–West Relations. This improvement in Soviet behavior was found both during and shortly following the Assemblies.

The empirical analysis was based on a transfer function model that included a binary intervention variable to measure the impact of the global Assemblies. Maximum likelihood estimates of the model found both a significant immediate impact of the Assemblies on Soviet behavior toward the US (p = .0034) as well as delayed effects at lags 2 (p = .0125) and 4 months (p = .00004). The null hypothesis that the Assemblies had no effect on Soviet behavior was also rejected by a likelihood ratio test of the joint significance of all three intervention parameters (p = .0029). The estimated long-run improvement in Soviet actions (“steady state gain”) was substantial, equivalent to 2.45 standard deviations of the ratings of Soviet behavior. Thus these results were practically, as well as statistically, significant.

Sensitivity analysis and diagnostic tests found that the impact of the Assemblies could not be explained by seasonal or other cyclical patterns in Soviet behavior, trends in the data (including the “spurious regression phenomenon”), or extreme outliers. Also, the estimated impact of the Assemblies remained large and statistically significant (p = .0117) after adding a variable to the model to measure the impact of Mikhail Gorbachev on Soviet foreign policy. While a significant positive estimate was found for the Gorbachev variable (p = .00004), the improvement in Soviet behavior attributed to the Assemblies was 1.71 times larger. Also, from the standpoint of the theoretical framework underlying this research, the transformation in Soviet policy toward the West under Gorbachev can be interpreted as the endogenous result of decreased stress and tension in world consciousness due to the impact of the global Assemblies.
Introduction

US-Soviet relations have been the dominant influence on the global political climate since 1945. Given the long history of Soviet-American confrontation it has been difficult for most analysts to explain the remarkable and sudden warming of relationships between the superpowers since the mid-1980s, along with the consequent transformation of the global political climate. For example, in reviewing the remarkable events of 1989—including the opening of the Berlin wall and the largely peaceful fall of hard-line communist governments throughout Eastern Europe—McGeorge Bundy (1990: 197–199) characterized 1989 as “the best year for East-West relations since World War II.” The year 1989, he said, brought “one splendid surprise after another,” and he added “I know of no one, expert or not, who foresaw these events.”

Although developments in superpower relations in the mid- to late 1980s were particularly surprising, political scientists have long been frustrated in their attempts to understand and predict the development of superpower relations (Pipes, 1984). Numerous systematic explanations of superpower relations have been proposed (Ruloff and Frei, 1985), including trend models (Arbatov, 1981), cyclical models (Maddox, 1973; Wolfe, 1979), and stimulus-response models (Frei, 1980).

Several theorists have also emphasized the subjective nature of the East-West conflict and the role of stress, emotions and cognitions. High levels of societal stress and tension have been associated in many ways with increased risk of international or domestic violence (Lebow, 1981; George and Smoke, 1974; Wright, 1942). Such factors have also impeded steps toward arms control and disarmament by the superpowers (Frei, 1986). White (1984) has also argued that none of the traditional approaches to improved superpower relations can be effective in the absence of a concurrent program to drastically reduce psychopolitical tension.

The purpose of this paper is to evaluate the influence on East-West relations of the group practice of the Transcendental Meditation (TM) and TM-Sidhi program. The theoretical framework underlying this research predicts that the group practice of these subjective technologies by a sufficiently large group of participants can reduce global stress and tensions, resulting in reduced conflict and increased cooperation.
and harmony in international relations, a phenomenon termed the “Global Maharishi Effect.” Previous research on these technologies has reported significant reductions in international conflict, war deaths and injuries, and international terrorism, as well as intra-societal violence and crime (for a review, see Orme-Johnson and Dillbeck, 1987). Using events data from the Zürich Project on East-West Relations, this empirical study investigated the hypothesis that the group practice of these technologies of consciousness significantly contributed to more cooperative and less conflictive Soviet foreign policy actions toward the US over the period 1979 through 1986.

The theory underlying the Maharishi Effect hypothesis holds that the Transcendental Meditation and TM-Sidhi program tend to neutralize collective stress in the surrounding population, generating a more positive atmosphere of “coherence” in collective consciousness and behavior. This coherent influence is expressed as greater harmony among diverse interests and tendencies, resulting in the prevention or reduction of violence and conflict and the enhancement of more constructive trends and tendencies in society (Maharishi Mahesh Yogi, 1976, 1986). The model further predicts that increased harmony within the nation produced by reductions in societal stress and increased coherence in national consciousness will result in more positive and harmonious relations with other countries. Increased coherence and harmony will inspire more cordial responses from other nations: “Even enemies will want to become friends” (Maharishi Mahesh Yogi, 1978: 105–106).

The Maharishi Effect hypothesis predicts that measurable improvements in the quality of life in society and in the harmony of the country’s international relations will occur when as few as 1% of the individuals in society practice the Transcendental Meditation technique. The same results are predicted when approximately the √1% of the population practice the more powerful TM-Sidhi program together in a single group (Maharishi Mahesh Yogi, 1978, 1986). The beneficial societal impact of these technologies of consciousness has been called the “Maharishi Effect” in honor of the founder of the Transcendental Meditation and TM-Sidhi program, Maharishi Mahesh Yogi, who predicted this phenomenon as early as 1960. The theoretical paradigm underlying the Maharishi Effect has its roots in the most ancient tradition of human
knowledge, the Vedic tradition of India. This paradigm, described in greater detail in Dillbeck, et al. (1987), holds that the most fundamental level of consciousness, “pure consciousness,” is a field that may be enlivened throughout society by means of specific subjective technologies of consciousness. This “field effect” is said to result in the dissolution of societal stress and tensions, promoting increased harmony and an improved quality of life.

Experimental intervention studies have been conducted throughout the world (e.g., Lebanon, Israel, India, Philippines, Puerto Rico, and the US) during which participants in the Transcendental Meditation and TM-Sidhi program assembled to practice their program in a single group for limited periods. Data were recorded over extended periods during and outside the intervention period, so that time series analysis could be employed to control for pre-existing cycles and trends. Two studies of the conflict in Lebanon found significant developments towards peace and significant decreases in war fatalities during periods when a TM-Sidhi group in Israel included a sufficient number of participants (Davies and Alexander, 1989; Orme-Johnson, Alexander et al., 1988). Larger assemblies were found to have an effect over a proportionally larger distance (Davies and Alexander, 1989), and assemblies with approximately 7,000 TM-Sidhi participants (the √1% of the world’s population) were observed to have a global effect of reduced international conflict and terrorism (Orme-Johnson, et al., 1989).

In 1979 a permanent group of Transcendental Meditation and TM-Sidhi experts was established at Maharishi International University (now Maharishi University of Management) in Fairfield, Iowa, for the purpose of enhancing the quality of life in the US and promoting peace and harmony in international relations. Several studies have investigated the long-term effects of this “coherence creating group,” which in 1983 began to consistently exceed the predicted critical threshold for the US. A study of the effect of this permanent group over a 25-year period (Orme-Johnson, Gelderloos, and Dillbeck, 1988) found sharp improvements in the quality of life, as measured by a composite index of eleven social indicators, corresponding to the increase in group size since 1983. Structural equation modeling supported a causal interpretation.

A study of US-Soviet relations found that the quality of these relations, as reflected in public statements made by the President of the
US, improved as predicted in weeks when the size of the TM-Sidhi group in the US was larger (Gelderloos, Frid, Goddard, Xue and Löliger, 1988; Gelderloos, Frid and Xue, 1989). Extending these findings, Gelderloos, Cavanaugh, and Davies (1990a, 1990b) empirically examined the impact of the TM-Sidhi group in the US on Soviet-US interactions over the period 1979 to 1986 using simultaneous transfer function analysis of monthly, content-analyzed events data. To assess the influence of the TM-Sidhi group on US-Soviet relations, a binary impact-assessment (intervention) variable representing quartiles of the average daily size of the Transcendental Meditation and TM-Sidhi group was added to each of the two equations of the transfer function model. The time series analysis found a significant improvement in US actions toward the Soviet Union, controlling for Soviet actions toward the US, during or shortly following months in which the average daily number of participants in the Transcendental Meditation and TM-Sidhi group was 1500–1700. For these months, the average size of the group exceeded the predicted √1% critical threshold for the US, approximately 1500 (the median for these data). Larger groups of 1700 (third quartile) or more were found to lead to greater improvement in US behavior. Likewise, a sizeable and significant improvement in Soviet actions toward the US, controlling for US actions toward the USSR, was found during and after months in which the average daily number of participants was approximately 1700 or more.

The current study extends the analysis of Gelderloos, Cavanaugh, and Davies (1990a, 1990b) by examining the effect on Soviet behavior toward the US of the four largest assemblies of experts in the Transcendental Meditation and TM-Sidhi program that have been held to date. In these four global “World Peace Assemblies” held in the US and Holland, the number of participants approached or exceeded the predicted √1% threshold of approximately 7000 participants required to produce an influence on a global scale. The four global Assemblies were held December 27, 1983 to January 6, 1987 (about 8000 participants in Fairfield, Iowa); July 1 to 13, 1984 (about 5000 participants in Fairfield, Iowa); December 28, 1984 to January 6, 1985 (over 6000 participants in the Hague, Holland); and July 9–17, 1985 (about 5500 participants in Washington, D.C).
As their name suggests, these global World Peace Assemblies were organized for the expressed purpose of reducing global stress and thereby promoting greater harmony and peace in international relations, especially improved relations between the superpowers. The purpose of the assemblies, including predictions of increased cooperation and reduced violence and conflict in international relations, were lodged in advance with the press, government officials, and independent scholars. Thus these four global World Peace Assemblies may be viewed as a prospective quasi-experiment (Cook and Campbell, 1979) in international conflict resolution.

The impact of these four global World Peace Assemblies on Soviet foreign policy behavior toward the US is the focus of this study. Given the delicate balance of US-Soviet interactions and the importance of external “shocks” in this relationship (as noted by Ruloff and Frei, 1985), it was predicted that the effect of the Assemblies would include significantly improved Soviet behavior toward the US as indicated by increased cooperation and decreased conflict.

**Method**

The relationship between the United States and the Soviet Union from 1979 through 1986 was assessed using events data obtained from the Zürich Project on East-West Relations directed by Daniel Frei and Dieter Ruloff. These data were derived using Azar’s (1982) Conflict and Peace Data Bank (COPDAB) coding rules and scaling procedures in which each international event is rated on a 15-point scale from extreme cooperation to extreme conflict. The data sources used by Frei and Ruloff (1988) were the New York Times and Keesing’s Contemporary Archives.

The COPDAB scales can be converted from ordinal to interval scales using Azar’s (1982) weighting scheme, with neutral events (level 8) scored as zero and conflictive events weighted negatively. The daily ratings were aggregated into two monthly “indices”: (1) the Soviet-US “index,” with the Soviet Union as actor and the US as target; and (2) the US-Soviet “index,” with the US as actor and the Soviet Union as target.

A time series transfer function (TF) model was used to analyze the foreign policy actions of the USSR directed toward the US, controlling for the impact of US actions toward the Soviet Union. It was hypoth-
esized that a significant improvement in Soviet behavior toward the US would occur when the critical global threshold for the size of the TM-Sidhi group (approximately the √1% of the world’s population) was approached or reached. Impact-assessment analysis was felt to be the most appropriate time series methodology to test for such nonlinear threshold effects (Box and Tiao, 1975; McCleary and Hay, 1980).

An appropriate impact-assessment (intervention) component was added to the TF model to test the hypothesis that the global World Peace Assemblies led to improved Soviet behavior toward the US. The binary intervention variable took the value 1.0 for each of the six different months of the sample period during which the size of the TM-Sidhi group approached or exceeded the predicted critical threshold of approximately the √1% of the world’s population, 7000 participants. The variable was otherwise equal to zero. To control for the influence of US behavior on Soviet actions, the index of US actions toward the Soviet Union was used as an independent, or “input,” variable in the TF equation.

The model examined in this study is given by the following TF equation with intervention component:

$$\text{USSR}_t = c + \beta_1(B)\text{US}_t + \beta_2(B)\text{I}_t + \text{N}_t$$

In this model, $c$ is a constant term, $\text{USSR}_t$ is the monthly index of Soviet actions directed toward the US at time $t$, and $\text{US}_t$ is the monthly index of US actions toward the USSR. The latter two variables were found to be contemporaneously related by Gelderloos et al. (1990a, 1990b). $I_t$ is the binary indicator variable for the global World Peace Assemblies. The $\beta_i(B)$ are Box-Jenkins transfer functions that describe the dynamic relationship between the input variables and the dependent variable (Box and Jenkins, 1976). $B$ is the backshift operator where $B^kY_t = Y_{t-k}$.

In general, the TF component for each independent variable is given by

$$\beta_i(B) = \omega_i(B)/\delta_i(B),$$

where $\omega_i(B)$ is a polynomial of “numerator parameters”

$$\omega_i(B) = \omega_{i0} + \omega_{i1}B + \omega_{i2}B^2 + \ldots + \omega_{is}B^s$$

and $\delta_i(B)$ is a polynomial of “denominator parameters”

$$\delta_i(B) = 1 - \delta_{i1}B - \delta_{i2}B^2 - \ldots - \delta_{ir}B^r.$$
$N_t$ is a stochastic noise component, to be empirically determined, which may take the form of any stationary and invertible autoregressive moving average (ARMA) process.

The linear transfer function (LTF) method was used to empirically identify the transfer function model (Liu, 1985, 1986; Liu and Hudak, 1986; Pankratz, 1991). The LTF procedure is a refinement of the “least-squares” approach to the identification of transfer function models, which has been shown to outperform the standard “pre-whitening” identification procedure based on cross correlations (Liu and Hanssens, 1982). A major advantage of the LTF procedure is that, unlike the prewhitening procedure, it is readily generalized to multiple input series (Pankratz, 1991). It can also be applied to the identification of transfer functions for binary intervention variables. A further advantage of the LTF method is that simulation studies have shown it to be very effective in detecting the lack of relationships between variables which are, in fact, unrelated, thus reducing the probability of spurious findings (Liu, 1985).

Using the LTF approach, initial estimates of the impulse response weights for each input variable were based on maximum likelihood estimates of the TF equation after approximating each transfer function by a linear polynomial of impulse response weights $V_i(B)$ (Liu, 1985). The impulse response weights were given by the estimated coefficients of the following polynomials

$$V_i(B) = v_{i0} + v_{i1}B + v_{i2}B^2 + \ldots + v_{im}B^m, \quad i = 1, 2$$

with the maximum lag $m$ set to four months. For the endogenous input variable $U_{St}$, the lag-zero (contemporaneous) impulse response weight $v_{i0}$ was set equal to zero in order to avoid possible simultaneous equation bias (Liu and Hudak, 1985).1

The noise component was initially specified as a first-order autoregressive process since there was no suggestion of annual seasonality in the estimated autocorrelations for the dependent variable $USSR_t$. The tentative, initial assumption of an AR(1) noise process—which may be modified at a later stage, if appropriate—allows a check for the possible necessity of differencing and will generally improve the efficiency of the initial estimates of the impulse response weights (Liu, 1985).2 A formal test for mean nonstationarity was also applied to both the dependent variable $USSR_t$ and the independent variable $US_t$. The Phillips-Perron unit root test (Phillips and Perron, 1988) was used for this purpose.
The next step in the LTF method was tentative identification of the form of the noise model based on the autocorrelation (ACF), partial autocorrelation (PACF), and extended autocorrelation functions (EACF) of the noise process for the initially estimated model (Liu and Hudak, 1986). The choice between alternative estimated noise models suggested by the ACF, PACF, and EACF was based on the minimization of an objective criterion of model selection, the Akaike information criterion ($AIC$) described below.

After tentative identification of the noise model, the LTF equation was then re-estimated in order to obtain more efficient estimates of the impulse response weights. Once satisfactory estimates of the impulse response weights were obtained, the pattern of the impulse response weights was examined to identify the form of the transfer function for each input variable. All estimated impulse response functions for the models discussed in this paper displayed a “cutoff” pattern, suggesting that each transfer function was linear, consisting only of numerator parameters (Liu, 1985; Vandaele, 1983). This finding was also confirmed by the non-significance of estimated first and second order denominator parameters included in the TF model as a diagnostic “overfitting” exercise.

Using the tentatively identified transfer functions and noise model, the TF equation was then estimated by maximum likelihood, and diagnostic checks were used to suggest possible alterations in the model. Non-significant TF coefficients were deleted from the model, with higher-order coefficients generally being deleted first (Vandaele, 1983: 314).

An objective criterion of model selection, minimization of the $AIC$, was employed to choose between alternative estimated noise models in the LTF identification process. Alternative models, often non-nested, frequently present tradeoffs between residual variance (goodness of fit) and number of model parameters (parsimony). The $AIC$ criterion seeks to provide an optimal balance between the competing goals of parsimony and precision of model fit (Akaike, 1974; Larimore and Mehra, 1985). Larimore (1983) has demonstrated the optimality of the $AIC$ for choosing the model order and structure most likely to describe another sample of the same process (“predictive inference”). In this context, the optimality of the $AIC$ was shown to be based on the fundamental sta-
tistical principles of repeated sampling, sufficiency, and an asymptotic version of the likelihood principle.

The $AIC$ is defined as $AIC = n \log_e (s^2) + 2k$, where $n$ is the number of sample observations used in model estimation, $\log_e$ is the natural logarithm, $s^2$ is the maximum likelihood estimate of the residual variance for the model, and $k$ is the number of model parameters. In choosing between alternative noise models, the model with lower $AIC$ was selected, provided that it satisfied standard diagnostic checks for adequacy.

Because the $AIC$ is proportional to the sample size used in estimation, all alternative models were estimated using the same number of effective observations to allow precise comparison across model structures. The 93 observations used for estimation spanned the months April 1979 (when the first permanent TM-Sidhi group was established in the US) through December 1986, the same sample used by Gelderloos, Cavanaugh, and Davies (1990a, 1990b).

All TF estimates were calculated using the method of maximum likelihood. Because positive effects of the TM-Sidhi group on Soviet actions were predicted on theoretical grounds, one-tailed tests were used for the estimated intervention parameters.

**Results**

The time series plot of the dependent variable $USSR_t$ is shown in Figure 1. For the index of Soviet behavior, Figure 1 suggests the possibility of an upward level shift beginning around the fall of 1984. The index of US actions toward the Soviet Union, $US_t$, is shown in Figure 2, and the monthly average daily size of the TM-Sidhi group in the US, including the global World Peace Assemblies, is shown in Figure 3. In the latter plot, the four positive spikes in the 1983–1985 period correspond to the global World Peace Assemblies.

In the case of both $USSR_t$ and $US_t$, several large fluctuations are apparent, but the time series plots do not indicate that differencing or variance-stabilizing transformation would be necessary or useful. For both series, the sample ACF and PACF also did not indicate that differencing was necessary to induce stationarity. In both cases, the autocorrelations decay rapidly and cut off at low lags. Neither ACF displays the very slow decay that is characteristic of time series that are nonstationary in the mean.
Mean stationarity for both the dependent variable $USSR_t$ and the independent variable $US_t$ was also indicated by a formal unit root test, the Phillips-Perron (PP) test. The Phillips-Perron test for a variable $y_t$ involves estimating the following time series regression equation using ordinary least squares and testing whether the estimate for the coefficient $\gamma$ is equal to zero: 

$$\Delta y_t = \alpha y_{t-1} + \gamma t + u_t.$$ 

Figure 1: Time series plot of the aggregated monthly ratings of Soviet actions toward the United States.

Figure 2: Time series plot of the aggregated monthly ratings of U.S. actions toward the Soviet Union.
In this equation, $y_t$ is the variable to be tested for nonstationarity, $\Delta y_t$ is the first difference of $y_t$, $\alpha$ is the regression intercept, $\gamma$ is a slope coefficient for $y_{t-1}$, $\delta$ is a slope coefficient for the time trend variable $t$, and $u_t$ is a stochastic disturbance (which need not be serially uncorrelated or identically distributed). Under the null hypothesis of a unit root in $y_t$, the estimate for $\gamma$ should be zero. Under the null hypothesis of a unit root in $y_t$, significance tests for the estimated value of $\gamma$ were based on critical values calculated for sample size $n = 93$ using the MacKinnon (1991) response surface method. As shown in Table 1, the null hypothesis of a unit root was rejected at the .01 level for both $USSR_t$ and $US_t$.

Table 1 shows PP test statistics derived from three alternative specifications of the PP regression equation. Column two shows the test statistic for the two PP regressions that included both trend and intercept. For both $USSR_t$ and $US_t$, the trend terms in these regressions were found to be non-significant based on the tabled critical values in Dickey and Fuller (1981). Column three shows the test statistic for the two PP regressions with trend terms omitted. In both of these regressions the intercept was not significant. Finally, column four gives the test statistic for the PP regressions without trend and intercept. Because the power of the test is reduced by the inclusion of superfluous parameters, the PP test has maximum power in the case of the regressions without the non-significant trend and intercept terms. The PP test
for each variable rejected the null hypothesis of a unit root in the case of all three regressions, including those with the superfluous trend and intercept parameters, for which the power of the test was lower.

Transfer Function Estimates.
The iterative model identification and estimation procedure described above led to the following unrestricted reduced-form TF model:

$$USSR_t = c + (\omega B)USt + (\omega_{20} + \omega_{22} B^2 + \omega_{24} B^4)It + N_t,$$

with noise model

$$N_t = 1/(\phi B + \phi_5 B^5 + \phi_6 B^6 + \phi_{11} B^{11})a_t,$$

where $N_t$ is an autoregressive process with coefficients $a_t$ lags 1, 5, 6, and 11, and $a_t$ is a white noise random error term.

Table 1:
Tests for Mean Stationarity:
Phillips-Perron Unit Root Tests

<table>
<thead>
<tr>
<th>Variable</th>
<th>Test Statistic With Trend and Intercept</th>
<th>Test Statistic With Intercept</th>
<th>Test Statistic Without Trend or Intercept</th>
</tr>
</thead>
<tbody>
<tr>
<td>USSR_t</td>
<td>-5.5694**</td>
<td>-4.9335**</td>
<td>-4.4072**</td>
</tr>
<tr>
<td>US_t</td>
<td>-8.2625**</td>
<td>-7.6614**</td>
<td>-7.5267**</td>
</tr>
</tbody>
</table>

** Null hypothesis of a unit root is rejected at the .01 significance level

Notes:
The Phillips-Perron (PP) test is based on ordinary least squares regression estimates of the following equation:

$$\Delta y_t = \alpha + \gamma y_{t-1} + \delta t + u_t.$$

In this equation, $y_t$ is the variable to be tested for a unit root, $\Delta y_t$ is the first difference of $y_t$, $\alpha$ is the regression intercept, $\gamma$ is a slope coefficient, $\delta$ is a slope coefficient for the time-trend variable $t$, and $u_t$ is a random disturbance term that need not be serially uncorrelated and identically distributed. Under the null hypothesis of a unit root, $\gamma$ should be equal to zero. Critical values for testing the null hypothesis $\gamma = 0$ were calculated by MacKinnon's (1991) response surface method for alternative specifications of the PP regression equation. The 5% (1%) critical values for sample size $n = 93$ are as follows:

- Equation with trend and intercept: -3.4581 (-4.0591)
- Equation with intercept: -2.8925 (-3.5015)
- Equation without trend or intercept: -1.9436 (-2.5880).

In all PP regressions, the lag truncation for the Newey-West serial correlation correction was 3 lags (Bartlett kernel).

Using Dickey and Fuller's (1981) tabled critical values, the trend and intercept terms were not significant at the .05 level for the Phillips-Perron test regressions, indicating that tests based on regressions without trend or intercept (column four) will have greatest power.
Maximum likelihood estimates for the model are shown in Table 2. Under the assumption of normally distributed disturbances, the maximum likelihood (ML) estimates of Box-Jenkins models and time series regressions are consistent and asymptotically normally distributed (Harvey, 1990; Brockwell and Davis, 1987). The same properties of the ML estimates have been shown to hold, under very mild conditions, in the case of non-normal residual errors (Harvey, 1990; Li and McCleod, 1988; Brockwell and Davis, 1987). Since the sample size for this study is \( n = 93 \), the \( p \)-values for all reported asymptotic \( t \)-statistics are based on the standard normal approximation.

For the estimated AR noise model, the roots of the AR polynomial lay outside the unit circle, consistent with invertibility of the noise model and mean stationarity for the dependent variable. The quality of estimates was high, with uniformly low correlation among estimated parameters.

**Table 2: Transfer Function Model Parameter Estimates**

**Estimation Model:**

\[
USSR_t = c + (\omega_1 B)US_t + (\omega_{20} + \omega_{22} B^2 + \omega_{24} B^4)I_t + N_t
\]

\[
N_t = \frac{1}{(\phi_1 B + \phi_5 B^5 + \phi_6 B^6 + \phi_{11} B^{11}) a_t}
\]

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Variable</th>
<th>Parameter Type</th>
<th>Lag</th>
<th>Parameter Estimate</th>
<th>Std. Error</th>
<th>( t ) Value</th>
<th>( p ) Value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 ( \omega_{22} )</td>
<td>US</td>
<td>Num.</td>
<td>1</td>
<td>0.214</td>
<td>0.071</td>
<td>3.02</td>
<td>0.0026</td>
</tr>
<tr>
<td>2 ( \omega_{20} )</td>
<td>I</td>
<td>Num.</td>
<td>0</td>
<td>27.830</td>
<td>10.251</td>
<td>2.71</td>
<td>0.0034</td>
</tr>
<tr>
<td>3 ( \omega_{22} )</td>
<td>I</td>
<td>Num.</td>
<td>2</td>
<td>23.770</td>
<td>10.620</td>
<td>2.24</td>
<td>0.0125</td>
</tr>
<tr>
<td>4 ( \omega_{24} )</td>
<td>I</td>
<td>Num.</td>
<td>4</td>
<td>39.794</td>
<td>10.087</td>
<td>3.94</td>
<td>0.0000</td>
</tr>
<tr>
<td>5 ( c )</td>
<td>USSR</td>
<td>Const.</td>
<td>0</td>
<td>–19.129</td>
<td>10.501</td>
<td>–1.82</td>
<td>0.0688</td>
</tr>
<tr>
<td>6 ( \phi_1 )</td>
<td>USSR</td>
<td>AR</td>
<td>1</td>
<td>0.558</td>
<td>0.089</td>
<td>6.29</td>
<td>0.0000</td>
</tr>
<tr>
<td>7 ( \phi_5 )</td>
<td>USSR</td>
<td>AR</td>
<td>5</td>
<td>0.417</td>
<td>0.097</td>
<td>4.30</td>
<td>0.0000</td>
</tr>
<tr>
<td>8 ( \phi_6 )</td>
<td>USSR</td>
<td>AR</td>
<td>6</td>
<td>–0.383</td>
<td>0.099</td>
<td>–3.86</td>
<td>0.0001</td>
</tr>
<tr>
<td>9 ( \phi_{11} )</td>
<td>USSR</td>
<td>AR</td>
<td>11</td>
<td>0.148</td>
<td>0.077</td>
<td>1.94</td>
<td>0.0524</td>
</tr>
</tbody>
</table>

* In the case of all intervention parameters for the variable \( I_t \), reported \( p \)-values are for a one-tailed test of the directional hypothesis of a positive impact on the dependent variable \( USSR_t \). All other reported \( p \)-values are for a two-tailed test.
Consistent with the theoretical prediction of more positive Soviet actions toward the US during and following the months of the global World Peace Assemblies, all estimated intervention parameters were positive and both individually and jointly significant. The estimates at lag zero (27.830), lag two (23.770), and lag four (39.794) were all individually significant at the .05 level or better, based on one-tailed tests ($t = 2.71, p = .0034; t = 2.24, p = .0125; t = 3.94, p = .00004$, respectively). All three estimates were also jointly significant, as indicated by a likelihood ratio test of the null hypothesis that all are equal to zero: $\lambda = 14.0335$, d.f. = 3, $p = .0029$ (Nelson, 1976). Thus, on the basis of the individual and joint tests for statistical significance, the null hypothesis of no effect of the global World Peace Assemblies on Soviet actions toward the US was rejected.

The estimated long-run effect of the global World Peace Assemblies on Soviet actions is given by the “steady state gain” or “long-run multiplier” for the binary variable $I_t$. The steady state gain gives the estimated long-run impact on Soviet behavior if the intervention were to be sustained indefinitely. For this TF model the steady state gain is 91.394, the sum of the three intervention parameters reported in Table 2. This estimated long-run impact is quite sizeable, equivalent to an increase of 2.45 standard deviations in the dependent variable $USSR_t$ (which has standard deviation 37.387). Alternatively, this represents an increase of 3.41 residual standard errors for the TF model.\textsuperscript{18} Because the monthly ratings of Soviet actions do not constitute a ratio scale of measurement, it is not meaningful to express the improvement in these ratings as percentage changes in $USSR_t$. The relative magnitude of these effects, however, can be meaningfully characterized as a proportion of either the standard deviation of $USSR_t$ or of the standard deviation of residuals (residual standard error) for the TF model.

The steady state gain for the global World Peace Assemblies is 1.63 times larger than the comparable steady state gain (56.181) found by Gelderloos et al. (1990a, 1990b) for the same sample and dependent variable (Figure 4). The intervention variable used in the current paper is a subset of that used in the 1990 study. The latter found a significant impact of the US TM-Sidhi group on $USSR_t$ for months in which the average daily size of the group was in the top quartile, approximately
1700 participants or more. This earlier study also found a significant positive impact of the group at lags zero, two, and four.

For the variable $US_t$, a significant parameter estimate at lag one was found ($0.214$, $t = 3.02$, $p = .0026$) which was positive in sign. This estimate indicates a significant leading effect of US actions on Soviet behavior. The magnitude, sign, and time lag of this estimate are consistent with the results reported in Gelderloos et al. (1990a, 1990b). The positive sign of the estimate implies reciprocity on the part of the USSR in responding to US actions. The magnitude of the reciprocity, however, is modest.19

Diagnostic checks for the model were satisfactory. The residual series appeared to be uncorrelated white noise, and no significant residual autocorrelations were found at lags 1 to 24. The null hypothesis that all residual autocorrelations were zero could not be rejected using the Ljung-Box Q (LBQ) test (Ljung and Box, 1978) for lags 1 to 12 ($\chi^2(8) = 4.7$, $p = .789$) or lags 1-24 ($\chi^2(20) = 10.5$, $p = .958$).

Examination of the plot of the standardized residuals from the TF model (residual divided by standard deviation of residuals) did not reveal any extreme outlying values that would be likely to severely distort parameter estimates, a conclusion confirmed by sensitivity analysis.20 The largest residual was 3.01 standard deviations above the mean, a residual corresponding to the November 1985 Gorbachev-Reagan summit. The largest negative residual was 2.79 standard deviations below the mean. This spread of the residuals was consistent with that of a sample drawn from a normal distribution as shown by the studentized range (SR) test ($p > .10$) (David et al., 1954).21

The histogram showed the distribution of residuals to be unimodal, negatively skewed, but not grossly non-normal in appearance.22 While normality was not rejected using the SR test, which is based on the spread of the residuals, normality was rejected using the Jarque-Bera test (Jarque and Bera, 1987), an asymptotic test based on the coefficients of skewness and kurtosis ($\chi^2(2) = 9.300$, $p = .01$). Thus there is evidence, albeit mixed, that the sample residuals may be drawn from a non-normal distribution. In this case, statistical inferences for model parameter estimates can be based on the asymptotic normality of the maximum likelihood estimates even in the presence of non-
normal disturbances (Harvey, 1990; Brockwell and Davis, 1987; Li and McCleod, 1988). 23

**Sensitivity Analysis: The Seasonal Pattern Hypothesis.**

One potential alternative explanation for the impact of the global World Peace Assemblies reported in Table 2 is that these intervention effects may be coincidental, merely reflecting a recurrent seasonal pattern in Soviet behavior toward the US. The potential plausibility of this explanation is enhanced by the fact that the global Assemblies were held every December, January, and July for the period December 1983 through July 1985.

To empirically examine the “seasonal pattern hypothesis,” a TF model was estimated in which the World Peace Assembly intervention variable $I_t$ was replaced with an alternative “seasonal” intervention variable. The latter took the value 1.0 for December, January, and July over the years of the sample prior to the first global World Peace Assembly (December 1983), and the binary variable was otherwise equal to zero.

For the estimated TF equation, the only significant parameter estimate for the seasonal variable was found at lag one, but the estimate was negative, rather than positive, in sign ($-20.183$, $t = -2.28$, $p = .023$). This result is inconsistent with the “seasonal pattern” hypothesis: Soviet behavior toward the US over the period 1979–1983 prior to the first global Assembly significantly worsened, on average, rather than improved, during the specific calendar months in which the global Assemblies were subsequently held. For this seasonal TF, none of the lags for the variable $USt$ were significant, and the variable was therefore dropped from the model.

The noise model with minimum $AIC$ was autoregressive, with significant coefficients at lags 1 and 5, and all roots were outside the unit circle. 24 There were no significant autocorrelations at lags 1–24, and the Ljung-Box statistic confirmed the lack of significant residual correlation. 25 A large residual 3.94 standard deviations above the mean for the residual series indicated the desirability of adjustment for outliers (Wei, 1990; Chang, Tiao, Chen, 1988), as did the studentized range test ($SR = 6.692$, $p < .01$). The null hypothesis that the residuals came from a
normal distribution was also rejected by the Jarque-Bera test ($x^2(2) = 24.760, p < .0001$).

Normality of the residuals, however, was not rejected for an outlier-adjusted TF model that incorporated the “seasonal” intervention variable (Jarque-Bera test: $x^2(2) = 1.311, p = .519$). For the adjusted model, the parameter estimate for the seasonal intervention was again negative and significant at lag one ($-18.3308, t = -2.71, p = .0067$). All residual diagnostics for the model were satisfactory. The quality of estimates was high for both the unadjusted and outlier adjusted model.

Thus the estimates for both the adjusted and unadjusted TF models indicate that the “seasonal pattern” hypothesis is not supported by these data. The significant estimated impact of the global World Peace Assemblies reported in Table 2 cannot be attributed to the coincidental effect of an established seasonal pattern in Soviet behavior toward the US.

**Sensitivity Analysis: The Gorbachev Hypothesis.**

Another possible alternative explanation for the findings reported in Table 2 is that the effect of the Assemblies merely reflects an improvement in Soviet actions toward the US that occurred as a result of the coming to power of Mikhail Gorbachev in March 1985. One obvious difficulty with this alternative hypothesis is that five of the six months in which the global World Peace Assemblies were held occurred prior to March 1985, and only one (July 1985) after Gorbachev came to power.

To quantitatively assess the Gorbachev hypothesis, a binary intervention variable was added to the TF model that took the value 1.0 for the months of the sample from March 1985 on. This variable was equal to zero prior to that date. As shown in Table 3, the parameter estimate for the Gorbachev variable was 44.138 and highly significant ($t = 4.11, p = .00004$). Thus Gorbachev was found to have a positive impact on Soviet behavior toward the US over the period March 1985 through the end of the sample. This estimate controls for US behavior toward the USSR, as measured by the significant lag-one parameter estimate for $USt$ ($0.204, t = 2.91, p = .004$).

After adding the Gorbachev variable to the model, a large and statistically significant impact of the global World Peace Assemblies continued to be found. This result is stronger than that reported by Gelderloos.
et al. (1990a, 1990b). They reported that when the same Gorbachev variable was added to the model, the impact of the TM-Sidhi group (1700 participants or larger) on Soviet behavior remained significant in the analysis of the weekly, but not monthly, data.

The estimated steady state gain for the global World Peace Assemblies was 75.401. The latter is equivalent to an increase of 1.99 standard deviations in the ratings of Soviet behavior (or 2.91 residual standard errors for the TF model). This estimated long-run impact of the World Peace Assemblies was 1.71 times larger that for the Gorbachev variable. The three intervention parameters at lags zero, two, and four remained sizeable and jointly significant as indicated by the likelihood ratio test ($\lambda = 11.013, d.f. = 3, p = .0117$). As shown in Table 3, the parameter estimates at lag zero ($24.213, t = 2.48, p = .0066$) and four ($34.950, t = 3.59, p = .0002$) were both individually significant. The estimate at lag two ($16.239, t = 1.59, p = .0559$) continued to have the predicted sign and was nearly significant at the .05 level. Because the three interven-

### Table 3:

**Transfer Function Model Parameter Estimates for Model with Gorbachev Variable Estimated Model:**

$$USSR_t = c + (\omega_{11} B)USS_t + (\omega_{20} + \omega_{22} B^2 + \omega_{24} B^4)I_t + \omega_{30} Gorb + N_t$$

$$N_t = 1/(\phi_1 B + \phi_5 B^5 + \phi_6 B^6 + \phi_{11} B^{11}) a_t$$

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Variable</th>
<th>Parameter Type</th>
<th>Lag</th>
<th>Parameter Estimate</th>
<th>Std. Error</th>
<th>$t$ Value</th>
<th>$p$ Value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 $\omega_{11}$</td>
<td>US</td>
<td>Num.</td>
<td>1</td>
<td>0.204</td>
<td>0.070</td>
<td>2.91</td>
<td>0.0036</td>
</tr>
<tr>
<td>2 $\omega_{20}$</td>
<td>I</td>
<td>Num.</td>
<td>0</td>
<td>24.213</td>
<td>9.753</td>
<td>2.48</td>
<td>0.0066</td>
</tr>
<tr>
<td>3 $\omega_{22}$</td>
<td>I</td>
<td>Num.</td>
<td>2</td>
<td>16.239</td>
<td>10.203</td>
<td>1.59</td>
<td>0.0559</td>
</tr>
<tr>
<td>4 $\omega_{24}$</td>
<td>I</td>
<td>Num.</td>
<td>4</td>
<td>34.950</td>
<td>9.722</td>
<td>3.59</td>
<td>0.0002</td>
</tr>
<tr>
<td>5 $\omega_{30}$</td>
<td>Gorb,</td>
<td>Num.</td>
<td>0</td>
<td>44.138</td>
<td>10.734</td>
<td>4.11</td>
<td>0.0000</td>
</tr>
<tr>
<td>6 $c$</td>
<td>USSR</td>
<td>Const.</td>
<td>0</td>
<td>-31.239</td>
<td>5.771</td>
<td>-5.41</td>
<td>0.0000</td>
</tr>
<tr>
<td>7 $\phi_1$</td>
<td>USSR</td>
<td>AR</td>
<td>1</td>
<td>0.450</td>
<td>0.091</td>
<td>4.93</td>
<td>0.0000</td>
</tr>
<tr>
<td>8 $\phi_5$</td>
<td>USSR</td>
<td>AR</td>
<td>5</td>
<td>0.307</td>
<td>0.099</td>
<td>3.09</td>
<td>0.0020</td>
</tr>
<tr>
<td>9 $\phi_6$</td>
<td>USSR</td>
<td>AR</td>
<td>6</td>
<td>-0.417</td>
<td>0.092</td>
<td>-4.53</td>
<td>0.0000</td>
</tr>
<tr>
<td>10 $\phi_{11}$</td>
<td>USSR</td>
<td>AR</td>
<td>11</td>
<td>0.124</td>
<td>0.078</td>
<td>1.60</td>
<td>0.1096</td>
</tr>
</tbody>
</table>
tion parameters were jointly significant, the latter parameter was retained in the model (its retention also resulted in a lower $AIC$).

The roots for the AR noise model were well outside the unit circle, and the quality of the model parameter estimates was high. The AR estimates at lags 1, 5, and 6 were significant, while the parameter at lag 11 was not quite significant at the .10 level (0.124, $t = 1.60$, $p = .1096$). The latter was retained in the noise model to minimize the AIC and improve residual diagnostics.

All residual diagnostics for the model were satisfactory. The plot of residuals appeared consistent with an uncorrelated white noise series with stable variance. No autocorrelations for the residuals were significant at lags 1–24, and the LBQ test was likewise non-significant for both lags 1–12 and 1–24. No extreme outliers were found that would be likely to severely distort parameter estimates. For the standardized residuals, the largest negative value was -3.03, while the largest positive residual was 2.63, a result consistent with normality ($SR = 5.650$, $p > .10$). Likewise, the null hypothesis of normality was not rejected using the Jarque-Bera test ($X^2(2) = 5.067$, $p = .080$).

In sum, this analysis of the Gorbachev hypothesis indicates that the positive estimated effect of the global World Peace Assemblies remained substantial and significant after incorporating a second intervention variable in the model to measure the impact of Mikhail Gorbachev on Soviet behavior toward the US. In this expanded model, the effect of the Assemblies was also found to be substantially larger than that attributed to Gorbachev.

**Discussion**

This study found evidence of a statistically significant impact of the group practice of the Transcendental Meditation and TM-Sidhi program on content-analyzed ratings of Soviet behavior toward the US.
during the period 1979 through 1986. Specifically, this study examined the impact on Soviet foreign policy behavior of four “global World Peace Assemblies” in the US and Holland, in which large numbers of experts gathered to practice these technologies of consciousness. In these global Assemblies, which were spread over six different months during the sample period, the number of participants approached or exceeded the predicted critical threshold of 7000, approximately the √1% of the world’s population. Consistent with the Global Maharsi Effect hypothesis, the time series analysis found a substantial and significant improvement in Soviet actions toward the US during and shortly following the months of these Assemblies.

The empirical analysis of Soviet behavior was based on a transfer function model that included an intervention variable to measure the impact of the global Assemblies. To statistically control for the impact of US actions on Soviet foreign policy behavior, the time series model also included an independent variable measuring US actions toward the USSR. Maximum likelihood estimates of the model indicated a significant positive effect of US actions on Soviet actions with a one-month lag, suggesting a modest lagged reciprocity on the part of the USSR in responding to US actions. This result is consistent with that reported by Gelderloos et al. (1990a, 1990b).

Parameter estimates for the impact of the global World Peace Assemblies revealed an immediate impact on Soviet behavior as well as delayed effects at lags of two and four months. The estimated parameters at lag zero ($p = .0034$), lag two ($p = .0125$), and lag four ($p = .00004$) were all statistically significant, indicating rejection of the null hypothesis of no effect of the Assemblies on Soviet behavior. The null hypothesis of no effect of the Assemblies was also rejected by a likelihood ratio test of the joint significance of all three intervention parameters ($p = .0029$). Diagnostic checks supported the adequacy of the TF model.

The estimated impact of the World Peace Assemblies was practically, as well as statistically, significant. The estimated long-run improvement in Soviet actions implied by these intervention estimates was substantial (91.394) measured in units of the content-analyzed ratings. This long-run impact of the global Assemblies (“steady state gain”) was equivalent to an improvement of 2.45 standard deviations in the ratings of Soviet behavior. This is a very large impact by the standards of
social science research. Treatment effects equivalent to 0.8 standard deviations are generally considered large (Cohen, 1988). Measured in an alternative metric, the estimated improvement in Soviet behavior was equivalent to an increase of 3.41 residual standard errors for the transfer function model.

These results lend further support to those of Gelderloos et al. (1990a, 1990b), who analyzed the same Soviet data using a related, but more inclusive, intervention variable. This earlier study reported significant positive effects on Soviet behavior at the same lags using a binary intervention variable representing months in which the Transcendental Meditation and TM-Sidhi group in the US averaged approximately 1700 daily participants or more. While the estimated long-run impact on Soviet behavior of the latter intervention was found to be quite substantial (56.181), the impact of the global Assemblies found in the current study is 1.63 times larger (Figure 4). Taken together, the findings of the current study plus the earlier results of Gelderloos et al. (1990a, 1990b) suggest that larger TM-Sidhi groups had a larger impact on Soviet behavior. The finding that larger groups had a bigger effect on Soviet behavior is consistent

Figure 4: The long-run improvement in Soviet foreign policy behavior toward the U.S. was substantially greater for the months of the Global World Peace Assemblies (2.45 standard deviations) than for months in which the number of participants in the U.S. TM-Sidhi group averaged 1700 or more (1.51 standard deviations)
with earlier results for US behavior toward the USSR over the same sample period (Gelderloos et al., 1990a, 1990b).

That larger groups were found to have a bigger impact on the quality of US-Soviet relations is also consistent with earlier research on US presidential statements concerning the Soviet Union (Gelderloos, Frid, Goddard, Xue and Löliger, 1988; Gelderloos, Frid and Xue, 1989). This finding of a “dose-response” relationship in multiple studies, with different dependent variables, lends further credence to the hypothesis of a causal influence of the TM-Sidhi group.

Further support for a causal interpretation is also provided by the finding of a significant leading, as well as contemporaneous, impact of the Assemblies on Soviet behavior. This finding is also consistent with the results reported by Gelderloos et al. (1990a, 1990b). The latter study also found a leading impact of the group on US behavior toward the USSR. Further strengthening the plausibility of a causal influence is that simulation experiments have shown—in contrast with some other influential time series methods—that the statistical procedure of model identification used in this study is very effective in detecting the lack of a significant relationship between unrelated variables (Liu, 1985: 11).

Lending additional credibility to the findings of this study are the results of related research on the Maharishi Effect. Several other studies have also reported significant reductions in international conflict as well as war deaths, war injuries, and international terrorism (Orme-Johnson, Alexander, et al., 1988; Orme-Johnson et al., 1989; Davies and Alexander, 1989; Orme-Johnson and Dillbeck, 1987). In these studies, larger groups were found to have an effect at greater distance. These related Maharishi-Effect studies include an analysis of the impact of the three largest global World Peace Assemblies examined in the current study. Using Box-Jenkins impact-assessment analysis, Orme-Johnson et al. (1989) found significant reductions in international conflict, as measured by content-analyzed data, as well as a significant decrease in international terrorism during or shortly following the three global Assemblies.

The results of more than 30 other studies of the Maharishi Effect also lend additional support to the findings of the current paper. These studies have likewise been able to reject the null hypothesis of no effect of the group practice of the Transcendental Meditation and TM-Sidhi
program on intra-societal violence and conflict as well as on a wide range of other quality of life variables (e.g., Dillbeck, 1990; Dillbeck et al., 1987).

Alternative Explanations. One possible alternative interpretation of the results reported in this paper is that the significant estimated effect of the Assemblies on Soviet behavior may simply reflect a spurious correlation. In this view, the finding of a significant effect of the Assemblies may arise from the coincidental association of instances of improved Soviet-US relations with the four periods (totaling six months) in which the number of participants in these Assemblies approached or exceeded the 1% global threshold.

The plausibility of the view that these results may be simply due to coincidence is open to question given that these four Assemblies were organized several months in advance for the declared purpose of promoting world peace, including more harmonious relations between the superpowers. The purpose of the Assemblies and specific predictions about their effect in promoting an improved international climate were publicly lodged with the press, government officials, and the scientific community. Thus the empirical findings presented in this paper may be seen as the analysis of the outcome of a prospective quasi-experiment in international relations (Cook and Campbell, 1979).

Spurious correlation could also arise from improper treatment of trends or cycles in the statistical time series analysis. Successful modeling of any trends or cyclical patterns in the behavior of the ratings of Soviet behavior, however, was indicated by diagnostic checks indicating that the residuals from TF model were uncorrelated white noise. Likewise, formal tests for mean stationarity (unit root tests) indicated that no significant deterministic or stochastic trends were found in the ratings of Soviet or US behavior. The rejection of non-stationarity for both the US and Soviet ratings ($p = .01$) indicates that the results of this study were not affected by the well-known “spurious regression” phenomenon (Granger and Newbold, 1986: 205–15). The latter can give rise to spurious indications of a significant relationship between unrelated, nonstationary variables and invalidate all statistical tests.

Diagnostic tests indicated the possibility that the residuals from the unadjusted model shown in Table 2 were not drawn from a normally distributed population. In this case, statistical inferences for
model parameter estimates can be based on the asymptotic normality of the maximum likelihood estimates, a result which holds even in the case of non-normal disturbances (Harvey, 1990; Brockwell and Davis, 1987; Li and McCleod, 1988). In addition, sensitivity analysis found that normality could not be rejected for the residuals from the model after adjustment for possible outliers, and the estimated positive effect of the TM-Sidhi group on Soviet actions remained large and significant in the outlier-adjusted model ($p = .0001$). Likewise the findings of all other sensitivity analyses (discussed below) were found to be quite robust to the possible presence of outlying observations and possibly non-normal disturbances.

A special case of the “spurious correlation” interpretation of these results is the “seasonal pattern hypothesis.” The latter implies that the significant improvement in Soviet behavior may be attributable not to the effect of the Assemblies, but rather to a pre-existing seasonal pattern of recurrent improvement in Soviet behavior toward the US during and following the specific months of the Assemblies: December, January, and July. As noted above, however, no evidence of cyclical or other seasonal patterns was evident in the residuals from the TF model.

To investigate more fully whether such a seasonal pattern existed in Soviet behavior, a modified TF model was estimated in which the intervention variable for the Assemblies was replaced with an appropriate “seasonal” intervention variable. The empirical results found that during the 1979–1983 period prior to the first global Assembly in December 1983, Soviet behavior toward the US significantly worsened ($t = -2.28$, $p = .023$), on average, rather than improved, during the months of December, January, and July. The positive impact of the Assemblies, thus, was shown to be directly counter to the previous pattern of deteriorating relations during the specific calendar months in which the Assemblies were subsequently held. This sensitivity analysis, therefore, lends no support to view that the significant estimated impact of the global World Peace Assemblies may be the coincidental result of an established seasonal pattern in Soviet behavior toward the US.

**The Role of Gorbachev.**
The study also empirically evaluated the hypothesis that the significant improvement in Soviet foreign policy actions toward the US was
due simply to the influence of Mikhail Gorbachev. One difficulty with the Gorbachev hypothesis is that three of the four global World Peace Assemblies (all but July 1985), including five of the six months in which Assemblies were held, occurred before Gorbachev came to power in March 1985.

To formally test the Gorbachev hypothesis, a binary intervention variable was added to the TF model to measure the impact of Gorbachev on Soviet behavior toward the US. This variable took the value 1.0 from March 1985 through the end of the sample period and was equal to zero prior to that date. After adding this intervention variable to the model, the estimated effect of the Assemblies on Soviet behavior remained significant ($p = .0117$, likelihood ratio test), a result confirming the finding of Gelderloos et al. (1990a, 1990b) for the weekly (but not monthly) data. A significant positive impact of the Assemblies was found at lags zero ($p = .0066$) and four ($p = .0002$), with the positive estimate at lag two being nearly significant at the .05 level ($p = .0559$).

The steady state gain for the Assemblies remained substantial (75.401), equivalent to an improvement of 1.99 standard deviations in the Soviet ratings. While Gorbachev was found to have a large (44.138) and significant ($p = .00004$) positive effect on Soviet foreign policy behavior after March 1985, the estimated impact of the global Assemblies was 1.71 times larger. All residual diagnostics for the model were satisfactory, including normality of the residuals.

This empirical investigation of the Gorbachev hypothesis treated the Soviet leader’s influence as an exogenous factor in the analysis. But from the perspective of the Global Maharishi Effect hypothesis, the softening of Soviet foreign policy toward the West under Gorbachev can be interpreted as an endogenous event, consistent with theoretical prediction. Gelderloos et al. (1990a, 1990b) point out that the “new thinking” of the Gorbachev administration, as reflected in a more cooperative and less confrontational foreign policy toward the US, is fully consistent with the predictions of the Global Maharishi Effect. The theoretical framework underlying the Maharishi Effect explains that the statements and actions of government leaders are always a reflection of the quality of national consciousness, which, in turn, is influenced by (and reciprocally influences) the quality of world consciousness (Maharishi Mahesh Yogi, 1978, 1986). When stress and tension in national and world conscious-
ness are reduced through the Maharishi Effect, rising coherence and harmony in national consciousness is predicted to contribute to more harmonious and cooperative behavior in international affairs.

This change in foreign policy behavior is predicted to occur either through new policy initiatives on the part of existing leaders or through the rise of new leadership committed to a more cooperative and peaceful foreign policy. One advantage of viewing the transformation of Soviet policy toward the US as an endogenous result of the global Maharishi Effect is that this theoretical perspective is more parsimonious and comprehensive than one that adds the new Soviet leadership as an additional explanatory variable.

In the context of this theoretical perspective, it is significant that new Soviet leadership, committed to easing East-West tensions, came to power in March 1985 in the wake of three global World Peace Assemblies held over the period December 1983 through January 1985. These global Assemblies were predicted to have a powerful purifying effect on world consciousness, reduce global stress and tension, and thereby provide a foundation for more peaceful international relations. It is also significant that on July 3, 1985, during the fourth global World Peace Assembly, agreement was reached to hold the first summit meeting between Reagan and Gorbachev in Reykjavik, Iceland during November 1985, a meeting which marked a turning point in US-Soviet relations.

Further empirical support for the theoretical perspective on government outlined above was provided by related research on President Reagan’s public statements toward the Soviet Union. Gelderloos et al. (1988, 1989) analyzed weekly content-analyzed data on US presidential statements concerning the Soviet Union for the period April 1985 to December 1987. A statistically significant softening of President Reagan’s public statements on the USSR was found during weeks in which the size of the permanent TM-Sidhi group in the US was larger. This group, established in the US in 1979, gradually grew in size until, from approximately September 1983 on during the period of this study (Figure 3), the average daily size of the group for the month consistently exceeded the predicted critical threshold for the US of approximately 1500 participants.

In sum, the findings of this study lend strong empirical support to the hypothesis that large assemblies of experts in the Transcendental Meditation and TM-Sidhi program in the United States and Holland
contributed to a significant improvement in superpower relations over the period December 1983 through 1986. This improvement was measured by increased cooperation and decreased conflict in Soviet behavior toward the US. The finding of a favorable impact of the group practice of these technologies on US-Soviet relations is further supported by earlier related research. These earlier studies found a significant impact of the permanent TM-Sidhi group in the US on American presidential statements concerning the Soviet Union as well as on US foreign policy actions toward the USSR (Gelderloos et al. 1990a, 1990b; Gelderloos et al., 1988, 1999).

One possible implication of this body of research on US-Soviet relations is that the influence of the group practice of these technologies of consciousness may have helped to dissipate perhaps the most serious danger of nuclear war between the superpowers since the Cuban missile crisis of 1962. According to a high-ranking Soviet defector, KGB Colonel Oleg Gordievsky, the superpowers came perilously close to nuclear war in 1983–1984. President Reagan’s virulently anti-Soviet rhetoric after he assumed office in 1981 and the subsequent US buildup of nuclear arms led the Kremlin leadership, including Soviet leader Yuri Andropov, to conclude that the US was actively preparing for nuclear war (Andrew and Gordievsky, 1990: 581–605).

The Kremlin fear of US nuclear attack was heightened in the tense atmosphere generated by the Soviet downing of a Korean Airlines passenger jet in September 1983 and the deployment of US Pershing missiles in Europe in November 1983. According to Gordievsky, Soviet paranoia about surprise nuclear attack reached its peak during NATO exercises November 2–11, 1983. During these military exercises, the KGB concluded (falsely) that American forces had been put on alert and might have begun the countdown for nuclear war. Without realizing it, in the fall of 1983 the world had come frighteningly close to nuclear war, “certainly closer than at any time since the Cuban missile crisis of 1962” (Andrew and Gordievsky, 1990: 605).

During this period of tense superpower relations in the early fall of 1983, a group of several hundred experts in the Transcendental Meditation and TM-Sidhi program was established just a few blocks from the White House in Washington, D.C. Preparations were begun for the first global World Peace Assembly to be held beginning in Decem-
ber 1983 at the campus of Maharishi International University in Fairfield, Iowa. More than 8000 experts in these technologies from all over the world participated in the December 1983–January 1984 Assembly, reaching for the first time the predicted global critical threshold of approximately 7000.

Following this Assembly, in February 1984, the Kremlin leadership’s fear of imminent nuclear war reportedly began to ease (Andrew and Gordievsky, 1990). Yuri Andropov passed away on February 9, 1984 and was succeeded by Konstantin Chernenko. A second global Assembly was held in the US in July of 1984 for the purpose of further easing international tensions. By the summer of 1984, reported Gordievsky, the anxiety of the Soviet leadership over threat of nuclear surprise attack had visibly declined (Andrews and Gordievsky, 1990: 604–605). By October 1984, the Western press was reporting that a rising young member of the Soviet Politburo, Mikhail Gorbachev, favored “urgent measures to get back to the negotiating table” (Andrews and Gordievsky, 1990: 605). In the wake of the global World Peace Assembly held in Holland during December 1984–January 1985, Gorbachev was named to the top Soviet leadership position in March 1985 and given the opportunity to put his “new thinking” on East-West relations into effect.

In conclusion, the empirical findings presented in this paper, together with earlier related research, suggest that the group practice of the Transcendental Meditation and TM-Sidhi program significantly contributed to transforming the quality of Soviet-US relations in the direction of reduced conflict and confrontation and increased cooperation and peace. This evidence of a significant contribution to improved superpower relations, together with other research on the reduction of conflict and violence through the Maharishi Effect, suggests that this unique approach to conflict resolution may offer fulfillment to the search for a “science of peace” (e.g., see Rapoport, 1989: 585–592) that is capable of offering scientifically validated means for the reduction and prevention of international conflict and violence.
Acknowledgements

We would like to express our thanks to Professors Dieter Ruloff and Daniel Frei for providing us with their events data, and also to the Center for International Development and Conflict Management for providing the COPDAB files.

Endnotes

1 Previous analysis of this data found evidence of a contemporaneous endogenous relation between the variables USSR, and US (Gelderloos, Cavanaugh, and Davies, 1990a, 1990b).
2 Differencing of all variables in the model would be indicated if the estimated AR(1) parameter were very close to 1.0 (or if the root of the AR polynomial were on or inside the unit circle), suggesting nonstationarity (Liu, 1985).
3 If the estimated impulse response function displays a decay pattern, the corner method may be used to help identify the form of the rational transfer function (Liu and Hanssens, 1982; Liu and Hudak, 1986).
4 A criterion such as the AIC is useful because there are usually multiple noise models that yield white noise residuals.
5 The maximum likelihood estimate of the residual variance is the residual sum of squares divided by the sample size n, with no correction for degrees of freedom.
6 As suggested by some investigators (Duong, 1984; Brockwell and Davis, 1987), models with AICs within some value c of the minimum (with c set equal to 2.0, a typical value) were considered as competitive in terms of the AIC criterion. Selection from the set of competitive models was then made on the basis of diagnostic checks for model adequacy as well as model simplicity (parsimony).
7 COPDAB data on US-Soviet interactions for 1978 were used to provide any pre-sample data points required by the SCA program to calculate starting values needed for estimation.
8 The spike for April 1986 corresponds to another large assembly that, unlike the global WPAs, did not at any point during the month approach or exceed the predicted critical threshold to produce a global effect.
9 The unit root hypothesis was also rejected using another standard test, the augmented Dickey-Fuller (ADF) test (Dickey and Fuller, 1979,
1981). The ADF test was based on the ADF regression without trend or intercept. The latter two parameters were found to be not significant using tabled critical values in Dickey and Fuller (1981) (n = 100). The insignificance of the trend and intercept implies that maximum power for the ADF test will be obtained using the regression excluding these parameters. To correct for serial correlation, five lagged first-differenced terms for the dependent variable were included in the ADF regression for the \( \text{USSR}_t \), and two lagged terms for the ADF regression for \( \text{US}_t \). Lagrange Multiplier tests for residual autocorrelation at lags 1–2 and lags 1–12 were not significant for both ADF regressions.

10 Unlike the ADF test, which rests on the assumption of independent and identically distributed residual errors in the ADF regression, the Phillips-Perron generalization of the Dickey-Fuller procedure remains appropriate even under the weaker assumption that the errors are weakly dependent and heterogeneously distributed (Phillips and Perron, 1988).

11 In the Phillips-Perron procedure, the \( t \)-statistic of the estimated regression coefficients are corrected for possible serial correlation in the disturbance \( u_t \) using the Newey-West method for adjusting the standard errors (Newey and West, 1987). Using a formula suggested by Newey and West, the truncation lag \( q \) was set equal to 3 in the Bartlett kernel used to approximate the dynamics of the residuals for the purpose of correcting for serial correlation. This parameter defines the number of autocorrelations using in the adjustment procedure and was calculated as \( q = 4(n/100)^{2/9} \).

12 These tabled critical values are the same for both the Phillips-Perron and the augmented Dickey-Fuller tests.

13 To maximize the power of the test to reject the null hypothesis of nonstationarity, a sequential testing procedure (Doldado, Jenkinson, and Sosvilla-Rivero, 1990) may be used if the null hypothesis of a unit root is not rejected for the initial PP (or ADF) regression that includes both trend and intercept terms.

14 Maximum likelihood estimates were calculated using SCA Statistical System software for the PC.

15 Since the \( t \)-distribution approaches the standard normal as sample size increases, use of \( p \)-values based on the \( t \)-distribution for sample size \( n = 93 \) would not materially change any of the statistical inferences.
in this study. In any event, all inferences in times series modeling are based on asymptotic results.

16 Although it was significant at only the .10 level \( p = .0688 \), the constant term was retained in the TF model because the AIC was higher without it.

17 With one exception (a correlation between the lag 5 and 6 AR noise parameter estimates of \( -.45 \)), all correlations between parameter estimates were 0.34 or less in absolute value.

18 As reported in Table 2, the residual standard error is 26.804. The steady state gain is also 1.71 times the interquartile range (third quartile minus first quartile) for USSR. The interquartile range (53.613) is the span of the middle 50 percent of the data, a variability measure more robust to outlying observations than the standard deviation.

19 Controlling for the effect of the World Peace Assemblies, an increase of one unit in the index of US behavior toward the USSR was followed one month later, on average, by an increase of 0.214 units in the rating of Soviet actions toward the US. Analysis of daily or weekly data might conceivably reveal evidence of stronger reciprocity that is not detectable using monthly data. Although the single equation analysis of this paper does not directly examine the issue of possible contemporaneous US-Soviet interactions in the monthly data, evidence for such significant interaction was found in the context of a simultaneous equation TF analysis of this data by Gelderloos et al. (1990a, 1990b).

20 Sensitivity analysis found that the intervention results in Table 2 were robust to the possible presence of outlying observations. SCA's automated outlier identification and estimation procedure (Scientific Computing Associates, 1990) was used to estimate a TF model including components to model detected outliers. The default values for the SCA software’s oestim procedure were used. For the outlier-adjusted model, the estimated intervention parameters at lags 0, 2, and 4 remained sizeable and highly significant \( t = 3.94, p = .00004; t = 3.80, p = .0001; t = 4.85, p = 6 \times 10^{-7} \) respectively. The three intervention parameters were also jointly significant, as indicated by the likelihood ratio test \( \lambda = 21.983, d.f. = 3, p = .0001 \). The steady state gain for the Assemblies was 78.699. All diagnostic tests were satisfactory for the outlier-adjusted model. The null hypothesis of normally distributed residuals could not be rejected using the Jarque-Bera test \( \chi^2(2) = .615, p = .735 \).
The SR statistic (SR = 5.782 for these residuals), is defined as the sample range divided by the standard deviation (residual sum of squares divided by $n = 1$). A two-tailed test was used, based on tabled values of the SR statistic. The interpolated upper tail .95 critical value for $n = 93$ was 5.8405.

Skewness was $-0.541$ (standard error 0.250) and excess kurtosis 0.998 (standard error 0.495).

As reported above, sensitivity analysis also found very similar results to those reported in Table 2 for an outlier-adjusted model that had residuals for which normality could not be rejected using either the SR or Jarque-Bera tests.

The AR(1) parameter estimate was $0.501$ ($t = 5.60, p = .000$), and the AR(5) estimate was $0.185$ ($t = 2.05, p = .040$). The residual standard error was 29.070 and $R^2 = .378$.

The LBQ statistic was insignificant for lags 1–12 ($\chi^2(10) = 7.0, p = .725$) and for lags 1–24, ($\chi^2(22) = 13.5, p = .918$).

Three negative outliers were detected: April 1981 ($t = -3.30$), September 1983 ($t = -3.76$), and February 1984 ($t = -4.45$). One positive IO outlier was detected for November 1985 ($t = 4.89$).

The minimum $AIC$ noise model was AR(1), stationary and invertible. The AR(1) estimate was $0.537$, $t = 5.83$, $p < .0001$. There were no significant autocorrelations at lags 1–24 and the LBQ statistic was not significant for lags 1–12 ($\chi^2(11) = 5.6, p = .899$) and for lags 1–24 ($\chi^2(23) = 16.4, p = .838$). The residual standard error was 22.879. The plot of residuals was consistent with a white noise series with stable variance and no large outliers.

For the unadjusted model, the only significant correlation between parameters was $-0.26$. For the outlier-adjusted estimates, the maximum correlation between estimates was $-0.17$, with none being statistically significant.

The correlations between parameter estimates were nearly all 0.30 or lower in absolute value, while the highest correlation ($-0.47$) was that between the constant term and the Gorbachev intervention parameter.

For lags 1–12 the Ljung-Box Q statistic was $X^2(8) = 3.1, p = .928$, and for lags 1–24, $X^2(20) = 7.2, p = .996$.

This was confirmed by sensitivity analysis. After outlier detection and adjustment using the default values of the SCA oestim procedure, the
Gorbachev variable was smaller but remained significant 31.620 ($t = 3.37, p = .0008$). For the binary World Peace Assembly variable, the three intervention parameters at lags zero (15.392, $t = 2.28$, $p = .011$), two (23.385, $t = 3.37$, $p = .0004$), and four (18.670, $t = 2.81$, $p = .0025$) had the predicted positive sign, and all were individually significant. These three parameters also continued to be jointly significant ($\lambda = 17.5747$, $d.f. = 3$, $p = .0005$). The steady state gain for the Assemblies was 57.446, equivalent to 1.54 standard deviations of USSR. The parameter estimate at lag one for the variable measuring US actions was larger, 0.252, and highly significant ($t = 5.45$, $p = 5 \times 10^{-8}$). All residual diagnostics for the model were satisfactory.

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Preventing Disasters and Distress
through the *Transcendental Meditation*
and *TM-Sidhi* Programs

Charles N. Alexander, Ph.D.
David W. Orme-Johnson, Ph.D.
Kenneth G. Walton, Ph.D.
ABOUT THE AUTHORS

Dr. Charles “Skip” Alexander, Ph.D., (1950-1998), showed theoretically that four higher states of consciousness described by Maharishi Vedic Psychology logically extend the developmental sequence delineated by twentieth-century psychology. His empirical research found that the Transcendental Meditation technique provides the direct experience of Transcendental Consciousness (the first higher state, which is the silent basis of the mind) and that this practice accelerates development in children, “unfreezes” development in prison inmates, advances ego development in adults, increases productivity in businesses, decreases blood pressure, increases longevity, effectively treats substance abuse, and reduces prison recidivism. Skip and colleagues were the first to discover the EEG signature of Cosmic Consciousness (the second higher state), and he showed that developmental advances in individuals impact the larger society via a common field of collective consciousness, including decreasing armed conflicts and improving the quality of life. Dr. Alexander was Chairman of the Department of Psychology at Maharishi University of Management.

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ABSTRACT

The Maharishi Transcendental Meditation and TM-Sidhi program is proposed as a new civil defense strategy capable of breaking the vicious cycle in which stress contributes to human error, which can lead to disasters, subsequent panic and further stress at both the individual and societal levels. At the individual level, meta-analyses show the distinctive effectiveness of this program in alleviating physiological, psychological and social manifestations of stress. At the societal level, striking findings from over 50 sociological studies indicate that when a very small proportion of a social system collectively practices this program, harmony is increased and stress is alleviated in society as a whole. Statistically significant reductions in accidents, violent crime, war deaths, terrorist events, and other indicators have been consistently shown at the city, state, national and even international levels when sufficiently large groups practiced this technology together. The theory of the Maharishi Effect, supported by empirical data, indicates that the effect operates on the most fundamental, unified field level of natural law. Here, based on insights from quantum mechanics, we extend the principle of the Maharishi Effect as a defense strategy by proposing that it could also be used to prevent the occurrence of natural disasters that plague the human condition.

Introduction

The consequences of natural and technological (man-made) disasters at the psychosocial, environmental and economic levels are truly devastating for the individual and society. For this reason we applaud the United Nations’ declaration of the 1990s as the International Decade for Natural Disaster Reduction. The objectives of this initiative are to promote effective planning for, responding to, recovering from, and amelioration of the consequences of an emergency or disaster (Perez de Cuellar, 1990). These objectives are oriented toward preventing the worst effects of disasters rather than preventing disasters from occurring in the first place. For example, constructing buildings which provide greater resistance to heat and seismic shock, training in emergency medicine, improving evacuation strategies, and counteracting terrorist activities are important technical advances, but they are primarily oriented toward preventing the consequences, not the causes, of disasters (Moore, 1996).
Although there are many factors which play a causative role in disasters, the major contribution of human stress to disasters and the role of stress reduction in preventing disasters have not been sufficiently investigated. Psychosocial and environmental stress hampers not only the recovery and amelioration phases of a disaster but in many cases directly creates the disaster. This is particularly clear in disasters that are obviously man-made, such as major accidents, escalating crime, wars, and terrorist activities. We further hypothesize that collective human stress could also play a causative role in natural disasters. But first we will consider the more usual realm of disasters caused by human behavior.

The central role of stress can be seen in a diagram of the “vicious” cycle characterizing disasters (Figure 1). Psychosocial stress, including fear, anger, tension, fatigue and confusion, can contribute to human error or negative behavior, potentially precipitating a disastrous event. The disaster in turn produces panic and other forms of emotional distress leading to post-traumatic stress disorder or other long-lasting functional abnormalities in survivors. These conditions further contribute to the total stress in society, increasing the probability of new mistakes leading to new disasters, in a self-perpetuating cycle. Although disasters are typically defined as sudden, calamitous events causing great damage or hardship, from our perspective, chronic societal problems such as violent crime can be considered “extended disasters” to which society unfortunately has become habituated.

![Figure 1. Vicious Cycle for Disasters. Psychosocial stress contributes to human error, which can lead to disastrous events and their negative consequences.](image-url)

The Transcendental Meditation (TM) and TM-Sidhi program represents a totally unique civil defense strategy, an “antidote” to stress,
which is capable of breaking this vicious cycle either before or after the event. The increase in coherence or harmony produced by this technology on both the individual and societal levels promotes actions free from mistakes. Such actions contribute to the welfare and progress of society, thus further increasing coherence. This technology, and the positive cycle of progress that it fosters, may be a distinctively effective means to prevent further disasters. Or, if a disaster has already occurred, this technology would help to create the degree of cooperation necessary to achieve the laudable goals of the U.N. initiative for mitigating the disaster.

The effects of the Transcendental Meditation and TM-Sidhi program on reducing anxiety and antisocial behaviors, and on enhancing personal well-being, intelligence quotient and productivity, have been documented in over 500 scientific studies conducted by researchers from over 200 universities and research institutes in 30 countries. Of even greater significance, more than 50 sociological experiments have found that when 1% of a population practices the Transcendental Meditation technique—or only the square root of that number practices the more advanced TM-Sidhi program together in a group—a coherent influence is produced in the larger population, defusing the build-up of stress and potential disasters in the whole society (Orme-Johnson & Oates, 2009). Below we summarize the core findings of this research on both the individual and collective levels.

**Definition of the Transcendental Meditation and TM-Sidhi programs, a Consciousness-Based technology:** The Transcendental Meditation technique, derived from the ancient Vedic tradition by Maharishi Mahesh Yogi (“Maharishi”), is a simple, natural procedure practiced for 20 minutes morning and evening while sitting comfortably with eyes closed (Alexander, 1994; Maharishi Mahesh Yogi, 1986, 1996; Travis, 2001a, 2001b). Over six million people worldwide, of all ages, cultures, religions, and educational levels, have learned this technique. The technique is easy to practice and does not require change in beliefs, behavior, or lifestyle. During the technique awareness is said to settle down to a silent state of restful alertness—termed “Transcendental Consciousness”. Within the individual’s awareness, the division between the subject (knower) and object (known) is transcended, and an underlying, unified state of awareness is experienced. Research indicates
that during this unique state of deep rest, brain waves become more coherent between cortical areas, accumulated effects of stress are removed, and the nervous system is revitalized (Alexander, Robinson, Orme-Johnson, Schneider, & Walton, 1995; Barnes & Orme-Johnson, 2006; Dillbeck & Orme-Johnson, 1987; Jevning, Wallace, & Biedebach, 1992; Orme-Johnson, Barnes, & Schneider, 2011; Travis & Arenander, 2006; Travis, Haaga, Hagelin, Tanner, Nidich, et al., 2009; Travis & Shear, 2010; Walton & Levitsky, 2003; Walton, Schneider, Nidich, Salerno, Nordstrom, et al., 2002).

The TM-Sidhi program is an advanced practice that develops the ability to think and act from the level of Transcendental Consciousness, bringing greater achievement in activity with less effort and strain. Practiced in a group, the TM-Sidhi program appears to produce an influence of coherence and positivity in collective consciousness (the consciousness of society as a whole) which is many times greater than that produced by the same number of persons practicing the Transcendental Meditation technique in separate locations (see below).

**Ability of the Transcendental Meditation and TM-Sidhi program to reduce individual stress:** Because psychosocial stress produces negative psychophysiological effects that contribute to technological disasters and interfere with any emergency management, a program with proven ability to reduce stress would be a valuable addition to civil defense strategies. The most natural way to relieve stress may be through profound rest to the body. Several types of evidence indicate that the level of rest gained during the Transcendental Meditation technique is distinct from simple eyes-closed rest or sleep, and also that the effects are both more profound and longer lasting than those produced by other restful behaviors. For example, a statistical meta-analysis of 32 different physiological studies found that the Transcendental Meditation program reduced somatic arousal significantly more than eyes closed rest, as measured by decreases in basal skin conductance, respiratory rate and plasma lactate (a stress-related metabolite) (Dillbeck & Orme-Johnson, 1987). This meta-analysis also found differences persisting outside the practice: compared to controls, those who had practiced the Transcendental Meditation technique for some time exhibited significantly lower baseline levels for heart rate, spontaneous skin resistance changes, respiratory rate and plasma lactate, suggesting that lowered...
somatic arousal is a cumulative effect.

Other physiological indicators provide additional evidence that the Transcendental Meditation program is distinctive in its ability to lower stress level. For example, levels of the hormone cortisol are acutely as well as longitudinally affected by stress. Chronic stress tends to elevate baseline and average cortisol, which in turn causes or exacerbates numerous bodily and mental ills, including cardiovascular disease, alcohol and drug abuse, aggression and antisocial behaviors, and depression. Studies indicate that the Transcendental Meditation technique lowers baseline and average cortisol both during the practice and longitudinally, without interfering with the ability of cortisol to increase in emergencies, where an increase is useful for optimally meeting the challenge (MacLean, Walton, Wenneberg, Levitsky, Mandarino, et al., 1997; Schneider, Alexander, Salerno, Rainforth, & Nidich, 2005; Schneider, Bairey-Merz, Salerno, Nidich, Walton, et al., 2002; Walton, Pugh, Gelderloos, & Macrae, 1995).

Lowering the average level of arousal, and increasing efficiency of adaptive mechanisms in the individual, such as those involving cortisol, are expected to have significant effects on stress-related health problems. We have received two large, four-year grants from the U.S. National Institutes of Health to assess the effects of the Transcendental Meditation technique on lowering high blood pressure and hypertensive heart disease in African Americans living under stressful, inner-city conditions. Short-term and long-term randomized, controlled study in this population showed reductions in blood pressure comparable to those obtained with pharmaceutical treatments and substantially larger than those for progressive relaxation, a physical technique for stress reduction (MacLean, Walton, Wenneberg, Levitsky, Mandarino, et al., 1997; Schneider, Alexander, Salerno, Rainforth, & Nidich, 2005; Schneider, Bairey-Merz, Salerno, Nidich, Walton, et al., 2002; Walton, Pugh, Gelderloos, & Macrae, 1995; Schneider, Alexander, Staggers, Orme-Johnson, Rainforth, et al. 2005). Meta-analyses of randomized studies have found that the Transcendental Meditation program reduces blood pressure more than other methods of relaxation (Rainforth, Schneider, Nidich, Gaylord-King, Salerno, et al. 2007) and more than other controls (Anderson, Liu, & Kryscio, 2008). Other findings by this group, in collaboration with other universities, include reduction in carotid
atherosclerosis (Castillo-Richmond, Schneider, Alexander, Cook, Myers, et al., 2000), improved quality of life and physical function in patients with congestive heart failure (Jayadevappa, Johnson, Bloom, Nidich, Desai, et al., 2007), reduced metabolic syndrome (Paul-Labrador, Polk, Dwyer, Velasquez, Nidich, et al., 2006), enhanced longevity (Schneider, Alexander, Staggers, Rainforth, Salerno, et al., 2005) (for pdf of these papers, see NIH-Funded Scientific Research on Transcendental Meditation, 2010.)

With this evidence for physiological anti-stress effects of the Transcendental Meditation program, similar effects on mental health also would be expected. In fact, a meta-analysis of 146 independent outcomes and studies found that the Transcendental Meditation technique significantly reduced trait anxiety—a measure of chronic stress—compared to progressive relaxation, other muscle relaxation techniques and other meditation techniques (Eppley, Abrams, & Shear, 1989). This study statistically controlled for strength of experimental design, researcher bias, expectancy, treatment length, and other potential sources of systematic error. Lower trait anxiety predicts reduced experience of stress, and consequently less severe impairment of performance in emergency situations.

Excessive use of alcohol, nicotine and drugs is frequently associated with chronic stress. Here also, the effectiveness of this program in preventing such abuse is evident from a meta-analysis comparing many approaches. Based on 19 studies on the Transcendental Meditation technique and the results of previous meta-analyses (198 independent outcomes in all), abstinence rates in Transcendental Meditation program participants for alcohol, nicotine and drugs over a 12 to 18-month period ranged from 51% to 89%, which is two to ten times greater than the effect of other major prevention and treatment strategies (Alexander, Robinson, & Rainforth, 1994).

The distinctive effectiveness of the Transcendental Meditation program in improving emotional functioning is further indicated by a meta-analysis of its effects on self-actualization, a measure of positive mental health (Alexander, Rainforth, & Gelderloos, 1991). Results based on 42 available independent outcomes showed effect sizes three times larger in the Transcendental Meditation studies than in those from other meditation and relaxation approaches. Even in a highly intrac-
table population such as maximum security prisoners, the Transcendental Meditation program has been shown to markedly reduce anger, anxiety, hostility and other indicators of personal difficulties, leading to 40-50% lower return rates up to 15 years after release from prison (Alexander, Rainforth, Frank, Grant, Von Stade, et al., 2003; Bleick & Abrams, 1987; Rainforth, Bleick, Alexander, & Cavanaugh, 2003). In a randomized, controlled study of posttraumatic stress disorder in Vietnam veterans, another disorder for which effective treatments have been difficult to find, the Transcendental Meditation technique significantly reduced multiple indicators of psychopathology compared to the psychotherapy control group (Brooks & Scarano, 1985).

Offering evidence of effectiveness on a large scale, an epidemiologic study by the Swedish National Health Board found that the rate of psychiatric hospital admissions for the 35,000 practitioners of the Transcendental Meditation program in Sweden was less than 1% of the national rate (Ottoson, 1977; Suurkula, 1989), and a study of 2,000 Transcendental Meditation practitioners in the U.S. showed 50% lower rates of inpatient and outpatient medical use over a 5-year period compared to a control group matched on demographic variables (Orme-Johnson, 1987). In addition, a national case-study of 34,000 survivors instructed in the Transcendental Meditation program after the major 1988 earthquake in Armenia found both psychological and physiological benefits of the program. Before this program was introduced, there had been no way to alleviate the enormous psychological trauma and its expression in various physiological disorders.

**Effects of group practice of the Transcendental Meditation and TM-Sidhi program on societal problems and disasters:** The ancient Vedic text, the *Yoga Sutras of Patanjali*, proclaims that, “In the vicinity of yoga (coherence and union) hostile tendencies do not arise” (Maharishi Mahesh Yogi, 1986, 1996). Maharishi has proposed that Transcendental Consciousness (yoga) is the direct experience of a unified field of consciousness at the basis of subjective and objective existence. He also has said that the unified field as recently described by quantum field theorists provides a glimpse of this same underlying universal field from the objective perspective of modern physics. This proposal is discussed at length by Hagelin, a leading unified field theorist (J.S. Hagelin, 1987, 1989).
Vernon Katz writes that when he first knew Maharishi in 1960 he was saying that great changes in society would take place if just a small percentage of the population began to meditate (Katz, 2011). Moreover, Dr. Katz documents that “Maharishi is on record in an Innsbruck, Austria newspaper, Tiroler Tageszeitung, 23 July 1962, as saying that while ten percent would be ideal, even if only one percent of the world’s population meditated it would be sufficient to do away with the hatred that causes war” (p. 60, fn 3). The first scientific test of this prediction occurred in the mid-1970s, and its positive results have now been confirmed in more than 40 other sociological experiments. When as little as 1% of a population practiced the Transcendental Meditation technique, measurable reductions in negative trends were observed in society. This phenomenon was named the “Maharishi Effect”, after its discoverer. Below we describe some of the major confirming studies.

An early study found that the first 24 U.S. cities to reach 1% practicing the Transcendental Meditation technique (in 1972) declined 24% in crime rate during 1973, compared to the 24 control cities matched for population size, proportion of college students, and geographic region (Figure 2) (Dillbeck, Landrith III, & Orme-Johnson, 1981). Also, the trend in crime rate in the 1% cities remained lower than for the control cities over the next five years. Two further studies using cross-lagged panel analysis involved random samples of 160 U.S. cities and 80 Standard Metropolitan Statistical Areas, comprising approximately half the U.S. urban population. Consistent with a causal role of the Transcendental Meditation program, these studies found that increases in the percentage of Transcendental Meditation program practitioners in these cities predicted crime reduction in subsequent years, statistically controlling for four demographic variables found to be significantly associated with crime rate (Dillbeck, Banus, Polanzi, & Landrith III, 1988).
In 1976 Maharishi introduced a more advanced technology of consciousness, the TM-Sidhi program. The most powerful component of this program is termed, “Yogic Flying,” which has been shown in controlled studies to enhance EEG coherence and mind-body coordination even more than the Transcendental Meditation program alone (Travis & Orme-Johnson, 1990). EEG coherence has been shown to be significantly correlated with fluid intelligence, moral reasoning, emotional stability, reduced state and trait anxiety, neural reaction time and other parameters with positive implications for social behavior (Dillbeck, Orme-Johnson, & Wallace, 1981; Nidich, Ryncarz, Abrams, Orme-Johnson, & Wallace, et al., 1983; Orme-Johnson & Haynes, 1981; Travis & Arenander, 2006; Dillbeck, Landrith III, & Orme-Johnson, 1981). It was predicted that when as little as the square root of 1% of the population practiced this advanced procedure in a single group that a powerful influence of coherence and harmony would radiate throughout the field of collective consciousness to affect society as a whole (Maharishi Mahesh Yogi, 1986). This prediction was based on a principle which applies to physical fields governed by wavelike interactions; in such physical systems the radiation strength of elements that are interacting coherently is proportional to the square of their number,
preventing disasters and distress

while the influence of elements that are interacting incoherently is proportional only to their number (Hagelin, 1987).

Supporting this prediction, studies using Box-Jenkins impact assessment and transfer function analyses have shown consistently that group practice of the TM-Sidhi program by as little as the square root of 1% of the population is significantly associated with reduced negative trends in society. For example, two key studies have been conducted in the Washington D.C. area, one of the highest violent crime areas in the world. First, from October 1981 to mid-1983, a group of experts in the TM-Sidhi program was located in the District of Columbia. The study found that during weeks when the group size exceeded the square root of 1% of the population, violent crimes significantly decreased, controlling for weather, population age changes, police coverage, and Neighborhood Watch programs (Dillbeck, Banus, Polanzi, & Landrith III, 1988). Over the entire period, total violent crime cumulatively decreased 40%, or 8% per year. After the group left the area, however, violent crime again increased, by approximately 10% per year, until the summer of 1993, when the second experiment was conducted.

The Institute of Science, Technology and Public Policy conducted a widely publicized demonstration project in Washington, D.C. from June 7 through July 30, 1993. An independent Project Review Board comprised of scientists, civic leaders, and representatives of the Metropolitan Police Department reviewed and finalized predictions, measures, and methods at the beginning of the demonstration. The number of TM-Sidhi experts in the group increased in three stages—for the first month the number averaged 1000, for the next two weeks 2,500, and for the final two weeks, about 3,800. The results showed gradual reductions in crime rate corresponding to the graduated build-up in the number of participants in the group (see Figure 3). Based on weekly D.C. data for violent crime and temperature for the prior 6 months, a time series model of expected violent crime was estimated. Actual violent crime during the demonstration decreased 21.1% below the predicted rate, a highly significant decrease. This finding was robust statistically, withstanding changes in the assumptions involved in building the model, and controlling for changes in police watch and community anti-crime activities. As an additional control, the same analysis was conducted using data from the same period in the prior year, in which
there was no creating coherence group. As expected, no significant reduction in violent crime was observed during the prior year. Furthermore, it was possible to estimate the cumulative effect of maintaining a group of 4,000 TM-Sidhi experts for an indefinite time period. Using a conservative approach in the estimation, a reduction of violent crime of 42% compared to the weeks before the demonstration was predicted for a permanent group of this size (Hagelin, Rainforth, Orme-Johnson, Cavanaugh, Alexander, et al., 1999).

A later, long-term study conducted over a 17-year period showed that during months when a relatively large TM-Sidhi group in Fairfield, Iowa, exceeded the square root of 1% threshold (1600 for North America), a behavioral quality of life index rose significantly in the U.S. and Canada compared to months when the number was below threshold (Dillbeck & Rainforth, 1996; Orme-Johnson & Gelderloos, 1988). The major indicators comprising the behavioral index were motor vehicle fatalities, deaths due to other accidents, suicides, homicides, notifiable diseases, apparent alcohol consumption, and cigarettes
taxes. These findings replicated and extended results from a previous study of the influence of the Fairfield, Iowa, group on violent deaths in North America (Dillbeck, 1990).

A short-term (61-day), prospective experiment conducted in Israel in 1983 showed that a group of TM-Sidhi program participants located in Jerusalem significantly affected the quality of life in Israel and the war in Lebanon (Orme-Johnson, Alexander, & Davies, 1990; Orme-Johnson, Alexander, Davies, Chander, & Larimore, 1988; Orme-Johnson & Oates, 2009). In this study, predictions were lodged in advance with independent scientific review boards in both the U.S. and Israel. On multiple occasions during the experiment, the group size rose above the predicted threshold for Israel (approximately 200 individuals). During these subperiods the quality of life in Israel markedly improved, as indicated by changes in official daily statistics, including decreases in crime rate, traffic accidents, and fires, and an increase in the national stock market (see Figure 4). At the same time, the intensity of fighting in Lebanon significantly decreased, including a reduction in war deaths of 76%. As in other studies, time series methodology controlled for weekends, holidays, daily temperature, and other trends or cycles in the data that might have caused spurious correlations. Consistent with a causal interpretation, increases in group size corresponded to or led the improvements in quality of life.

Figure 4. Reduced Conflict in Lebanon and Improved Quality of Life in Israel. Increasing numbers of participants in group practice of the TM-Sidhi program led to improved quality of life in Israel on a composite measure of quality of life which included level of fighting in the war in Lebanon over a 61-day period.
A subsequent re-analysis of this study in Israel examined cultural/political events as alternative explanations for the results (Orme-Johnson & Oates, 2009). The events were the resignation of the prime minister, redeployment of the Israeli troops in Lebanon, religious holidays, and summer heat. The study found that these events could not explain the results, as indicated by (1) simple inspection of the published data; (2) statistical analyses controlling for these events; (3) analyses of reduced data sets that completely eliminated the days of the events from the analyses; and (4) analyses of six random samples of 50% of the data. Some of these cultural/political events did have a significant effect on a quality of life index of crime, traffic accidents, fires, war intensity, stock market, and national mood. The quality of life increased during holidays and decreased during the period between when the prime minister announced he would resign and when he did resign. It also decreased on the hottest summer days. This finding validated the index by showing that it was sensitive to major events in a society in an interpretable way. However, these effects were independent of the effect of the meditators and could not explain it. The paper made a case that Maharishi’s theory of collective consciousness provides a unifying framework that explains these results through a logical structure of clearly defined, operationalized terms, grounded in physiological and behavioral research, which makes specific quantifiable and socially important predictions that have been extensively replicated.

In a study which replicated the above findings, results indicated a dramatic reduction in war deaths in Lebanon on seven other occasions over a 2 1/4 year period each time an assembly of TM-Sidhi program participants was sufficiently large to have a predicted impact on the war. Daily data from nine international and regional news sources were coded using a reliable standard scoring system by a Lebanese professional rater who was blind to the experimental hypothesis, thus making the ratings highly objective. The study found that during the seven assemblies, war fatalities decreased by an average of 71%, war injuries decreased by 68%, and cooperation among antagonists increased by 66%. The combined probability that these results were due to chance was extremely small—less than $10^{-19}$ (Davies & Alexander, 2005).

Similar striking results were found on the global level during the three major assemblies attended by approximately 7000 practitioners of
the TM-Sidhi program, the square root of 1% of the world’s population (Orme-Johnson, Dillbeck, & Alexander, 2003). On these occasions daily levels of international conflict decreased on average by more than 30% compared to periods of 52 to 121 days before and after the assemblies. Daily casualties and injuries from international terrorist events decreased by 72%, using data compiled by the Rand Corporation, compared to a three-year period before and after the assemblies (see Figure 5). In contrast, no significant reductions were seen for the identical periods in five prior years for either international conflict events or terrorism when large groups were not present.

Figure 5. Global Reduction of International Conflict and Terrorism. In three assemblies, when the number of participants practicing the TM-Sidhi program approached or exceeded the square root of 1% of the world’s population, there were significant decreases in international conflict and casualties and injuries from international terrorism.

These examples all fall in the category of technological or man-made problems, but the same principles may apply to so-called natural disasters as well. There is a thin line between man-made and many natural disasters. For example, due to human effects on the ecosystem, there is polluted water and air, soil erosion, acid rain, a thinning ozone layer, and so forth, each of which is a natural disaster in the making. Nature may eventually display calamitous responses to such “violations of natural law” (Maharishi Mahesh Yogi, 1986). Maharishi has proposed that the build-up of stress in the field of collective consciousness can burst out in the form of natural as well as man-made disasters (Maharishi Mahesh Yogi, 1986, 1996). Therefore, it is predicted that alleviating stress in society will be associated with more favorable conditions in our natural environment as well. If, as the theory proposes, the effect
is on the unified field level, then group meditation should effect inanimate detectors as well as the larger society. Preliminary research has shown that persons practicing the Transcendental Meditation technique can directly influence quantum mechanical processes (Farwell & Farwell, 1995) and that group meditation influences random generators placed near the group (Mason, Patterson, & Radin, 2007). There are also encouraging preliminary data indicating positive effects of TM-Sidhi groups on natural phenomena as fires (Orme-Johnson, Alexander, Davies, Chandler, & Larimore, 1988) and droughts (Anklesaria & King, 2003), but more research is needed in this area.

Rationale for how the Maharishi Effect Could Avert Natural Disasters

The idea that human consciousness and behavior can effect natural phenomena and prevent natural disasters is present in many indigenous traditions. Indeed, the suggestion that individuals interact directly at a distance through an underlying common field of consciousness has a long history. It is embedded in the “perennial philosophy,” the term Aldous Huxley first applied to the universal system of thought that has persisted throughout history in all parts of the world (Huxley, 1944/2009) and which continues to be seriously discussed by major thinkers (Shear, 1994). The key tenets of the perennial philosophy can be stated as: (1) the phenomenal world is a manifestation of an unmanifest transcendental ground, a field of consciousness or Being, which is the infinite organizing power structuring all forms and phenomena in the universe; (2) the human mind also has a transcendental ground, which is the silent level of transcendental consciousness at the basis of all thought and perception; (3) transcendental consciousness is the direct experience by the individual of the transcendental ground of the universe; and (4), this experience organizes individual and collective life to be fully evolutionary, creative, harmonious, and problem-free.

From this perspective, the key to creating an ideal society is a technology that promotes transcending from the waking state mind to experience transcendental consciousness (Maharishi Mahesh Yogi, 1977). As noted earlier, the physiological correlates of transcendental consciousness through Maharishi’s Transcendental Meditation technique have been extensively studied (Badawi, Wallace, Orme-Johnson,
preventing disasters and distress


In some cultures, the transcendental ground of the universe is conceived of in terms of a God concept, while in others, like Taoism and Vedanta, it is simply regarded as an abstract field of pure consciousness. In our modern scientific culture, it could be regarded as the unified field of natural law (Hagelin, 1987). Many of the founders of modern physics have expressed their insights that, like the perennial philosophy, the ultimate reality is a field of consciousness. Although the remarks of great scientists are not formally a part of science, it is significant that those who understand the scientific paradigm most clearly have made such statements. For example, Sir James Jeans (1932), the eminent British physicist and mathematician who was the first to propose that matter is continuously created throughout the universe, said:

Thirty years ago, we thought, or assumed that we were heading towards an ultimate reality of a mechanical kind . . . . Into this wholly mechanical world . . . . life had stumbled by accident . . . . Today there is a wide measure of agreement, which on the physical side of science approaches almost unanimously, that the stream of knowledge is heading towards a non-mechanical reality; the universe begins to look more like a great thought than a great machine. Mind no longer appears as an accidental intruder into the realm of matter; we are beginning to suspect that we ought rather to hail it as the creator and governor of the realm of matter—not of course our individual minds, but the mind in which the atoms of which our individual minds have grown exist . . . . (1932, pp. 185–186)

Jeans further said,

When we view ourselves in space and time, our consciousnesses are obviously the separate individuals of a particle-picture, but when we pass beyond space and time, they may perhaps form ingredients of a single continuous stream of life. As it is with light and electricity, so may it be with life; the phenomena may be individuals carrying on separate existences in space and time, while in the deeper reality beyond
space and time we may all be members of one body. (1932, c.f. Dossey, 1989, p. 125)

Eugene Wigner, Nobel laureate and pioneer of measurement theory, explains this change in science’s perspective on consciousness as follows:

When the province of physical theory was extended to encompass microscopic phenomena, through the creation of quantum mechanics, the concept of consciousness came to the fore again: it was not possible to formulate the laws of quantum mechanics in a fully consistent way without reference to consciousness . . . . (1967, pp. 172, 186)

Max Planck, the first physicist to discern the quantized nature of the apparently physical world, was led by the implications of his studies to state, “I regard consciousness as fundamental. I regard matter as derivative from consciousness” (Klein, 1984). More recently, H.P. Stapp, a physicist at the Lawrence Berkeley Laboratory, long acknowledged for his contributions to the S matrix approach to quantum mechanics, concluded his book, Mind, Matter and Quantum Mechanics, by saying that quantum “particles” and their interactions are “idea-like” rather than “matter-like” (Stapp, 1993).

This view has been similarly expressed by other eminent physical scientists, for example, Sir Arthur Eddington’s “mind stuff” and Wolfgang Pauli’s “unity of all being” (cited in Dossey, 1989, p. 124). In an article on quantum mechanics appearing in Scientific American, French physicist Bernard d’Espagnat summarized the field by stating,

The doctrine that the world is made up of objects whose existence is independent of human consciousness turns out to be in conflict with quantum mechanics and with the facts established by experiment. (1979, p. 158)

Quantum mechanics recognizes that the nervous system of the observer, the observed, and the measuring device all form a single quantum mechanical system (Farwell, 1996). The question is, at what point does the system become a classical, discrete Newtonian observation with the definite attributes and locations of our ordinary world of appearances? At what point does the abstract wave function of probabilities collapse into a single result? One of the world’s foremost mathemati-
cians and fathers of computer science, John von Neumann, traced the process from the objective system under observation—the observed—which is quantum mechanical, to the measuring device, which is also quantum mechanical, to the nervous system, which is yet still quantum mechanical. Von Neumann concluded that only in the consciousness of the observer do we have a classical observation. He wrote, “Indeed, experience only makes statements of this type: an observer has made a certain (subjective) observation; and never any like this: a physical quantity has a certain value” (von Neumann, 1955, p. 420). On this point, Maharishi quotes the Rik Veda as saying, “Knowledge is structured in consciousness,” commenting that our conceptualization of “objective” reality is structured in the consciousness of the observer (Maharishi Mahesh Yogi, 1994).

Similarly, Erwin Schrödinger, who received the Nobel prize for his development of the Schrödinger equation, the most widely used mathematical tool in quantum theory, put it this way,

> Mind has erected the objective outside world of the natural philosopher out of its own stuff . . . . The reason why our sentient, percipient and thinking ego is met nowhere within our scientific world picture can easily be indicated in seven words: because it is itself that world picture. (1958/1985, p.131, 138)

Supporting this view, modern neuroscience recognizes that size, shape, color, texture, visibility, and all other qualities of an object of experience are not uniquely determined by the external world but are features of subjective experience (Farwell, 1996; Farwell & Farwell, 1995).

Schrödinger also argued for the primacy of consciousness from an analysis of volitional action:

> So let us see whether we cannot draw the correct, non-contradictory conclusion from the following two premises:

(i) My body functions as a pure mechanism according to the Laws of Nature.

(ii) Yet, I know, by incontrovertible direct experience, that I am directing its motions, of which I foresee the effects, that may be fateful and all-important, in which case I feel and take responsibility for them.
The only possible inference from these two facts is, I think, that I—I in the widest meaning of the word, that is to say, every conscious mind that has ever said or felt ‘I’,—am the person, if any, who controls the ‘motion of the atoms’ according to the Laws of Nature. (1944, 1985, pp. 92–93, quoted in Farwell, 1996)

The conclusion from quantum mechanics is that our perceptual reality of the material world as well as our voluntary action upon that world is not structured “out there” but is structured “in here” in the mind. The apparent stability of the observed world and the high degree of agreement that is achieved between observers is because the most fundamental level of consciousness where perception is constructed, transcendental consciousness, is universal and eternally non-changing, infinitely stable.

With recent developments of unified field theory, several physicists have noted that at fundamental scales, much of the objective character of macroscopic, classical physics begins to disappear and characteristically subjective qualities begin to emerge (P. Davies, 1992, pp. 104–112; Llewellyn-Smith, 1981). Physicist John Hagelin, an expert in superstring theory, has advanced this discussion by pointing out structural and functional parallels between the unified field theory and pure consciousness, as described in the Vedic tradition of India (Hagelin, 1987). Hagelin’s and colleagues’ core papers on superstring theory are among the most cited references in the physical sciences (Antoniadis, Ellis, Hagelin, & Nanopoulos, 1987; Antoniadis, Ellis, Hagelin, & Nanopoulos, 1988; Ellis, Hagelin, Nanopoulos, Olive, & Srednicki, 1984; Ellis, Hagelin, Nanopoulos, & Tamvakis, 1993) and he is directly familiar with transcendental consciousness from over 30 years of practice of the Transcendental Meditation program. In addition, he has spent hundreds of hours discussing modern physics and consciousness with Maharishi, the world’s foremost expert in consciousness and in the Vedic tradition of knowledge (Maharishi Mahesh Yogi, 1963, 1967, 1977, 1986, 1994, 1996). Hagelin points out that while the details of the superstring and its precise mathematical formulation remain lively areas of research and debate, there is little dissension among theorists as to the veracity of the overall picture that natural law is unified at the Planck scale (Hagelin, 1987; Hagelin, 1989).
Hagelin writes,

In the last few decades scientists realized that with the progression towards finer distance scales an increasing unification of the laws of nature takes place so that previously separate quantum fields turn out to be merely different components of underlying unified quantum fields. This process of unification culminates in the complete unification at the level of the Planck scale (10^{-33} \text{ cm}). Various force and matter fields are unified into one single unified field—the holistic transcendental field underlying all manifest creation. (in Maharishi, 1996, pp. 159, 160)

Hagelin points out that if, as is proposed in current quantum field theory, the unified field is the source of all phenomena, it should be the source of subjective as well as objective existence. Indeed, since the unified field is the only dynamical degree of freedom present at the superunified scale, at that level the observer and observed both would be found within the same self-interacting dynamics of the unified field, hence it would be formally as much a field of subjectivity as of objectivity (Hagelin, 1987). Hagelin cites research on the effects of Transcendental Meditation program on social indicators as the chief empirical evidence available for a field theoretic view of consciousness and for the connection between consciousness and the unified field (Dillbeck, 1990; Dillbeck, Banus, Polanzi, & Landrith III, 1988; Dillbeck, Cavanaugh, Glenn, Orme-Johnson, & Mittlefehldt, 1987; Goodman, Orme-Johnson, Rainforth, & Goodman, 1997; J.S. Hagelin, Rainforth, Orme-Johnson, Cavanaugh, Alexander, et al., 1999; Hatchard, Deans, Cavanaugh, & Orme-Johnson, 1996; Orme-Johnson, Alexander, & Davies, 1990; Orme-Johnson, Alexander, Davies, Chandler, & Larimore, 1988; Orme-Johnson, Dillbeck, & Alexander, 2003; Orme-Johnson & Oates, 2009).

This research has: (1) statistically controlled for a wide range of demographic variables; (2) used causal cross-lagged analysis methods, which have indicated that increasing numbers practicing the Transcendental Meditation program are followed by improvements in society; (3) employed time series analyses to control for seasonality, trends, drifts, and rival hypotheses, and to demonstrate temporal relationships among variables that support a causal model; and (4) experimentally created large groups of Transcendental Meditation and Transcendental Meditation-Sidhi program participants in various populations to
demonstrate positive changes on specific social indicators predicted in advance, and controlled for other social, political, and climatic events that might pose an alternative hypothesis. In the absence of a viable alternative hypothesis, the most parsimonious explanation for the Maharishi Effect is that it operates on the level of the unified field.

In addition to these controls for alternative explanations, several aspects of the data accord with the interpretation that it operates at the level of the unified field. For example, the finding that the effect is very general, affecting a broad range of indicators, for example economic indicators, crime and accident rates, presidential statements, war variables, and health-related variables, suggest causation from a common, unified level. Second, several experiments have found that the effect is stronger when measured by composite indices of several variables that by any of the individual component variables. This suggest signal averaging of a common underlying influence. Third, the observed action-at-a-distance effects cannot be explained by any of four known fundamental quantum fields—electromagnetism, gravity, strong interaction or weak interaction, but can be explained by the unified field (Hagelin, 1987; Orme-Johnson, Alexander, Davies, Chandler, & Laramore, 1988).

If, as Schrödinger has so eloquently reasoned, the human mind, or that which is universal to all minds, constructs physical reality, then it is only a small extension of his reasoning to think that collectively we can alter natural disasters. It may be inconceivable on the level of classical physics in which we live to think that humans minds can in any way alter the motion of tectonic plates that give rise to such natural disasters and earthquakes and tsunamis, or that we can alter the ocean currents, sun spots, and other natural forces that determine hurricanes, and other weather disasters. But from a fundamental quantum mechanical perspective, the world, and indeed, the whole universe is a wave function, a unified matrix of interconnected resonant energies. In principle, since everything is interconnected on that level, change in one part of the system could cause change in the system as a whole, especially if it induced coherent effects at the most fundamental level. The research on the Maharishi Effect suggests that humans, perhaps uniquely in the animal kingdom, have the ability by virtue of the complexity and design of our nervous systems, to function on that fundamental level of
natural law and alter the course of course of physical events in favor of human life and well being.

Conclusion
There is clearly a need not only for additional ways to mitigate the consequences of disasters and to speed mental and physiological recovery of survivors but also for preventing human-made and natural catastrophes from occurring in the first place. The consciousness-based approach described here is radically different from other approaches, because it holds that by reducing stress and enhancing coherent functioning of individual and collective consciousness, human error and consequent disasters can be averted. This technology is non-intrusive, highly cost-effective, complementary to other approaches, and does not necessitate the formation of new administrative entities. For example, prior research indicates that, in a country the size of Italy, approximately 1000 individuals regularly practicing the TM-Sidhi program together in one place should be sufficient to greatly reduce the risk of disasters and chronic social problems. Such a group could be created by forming a special “prevention wing” within existing entities such as the military, police, or civil defense organizations. Given the enormous monetary and human loss resulting from disasters, policy makers must be alert to implement new civil defense strategies shown to be effective in preventing such unnecessary suffering and loss. We are prepared to offer our assistance to any governmental or nongovernmental organization interested in establishing such a coherence creating group, and would welcome the opportunity to collaborate with local researchers in assessing its long-term effects on human made as well as natural disasters.
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The Effects of the Maharishi Technology of the Unified Field on the U.S. Quality of Life (1960–1984)

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Paul Gelderloos (Ph.D.) received his doctorate at the University of Nijmegen, the Netherlands. In 1983 he joined the faculty of Maharishi University of Management. It was during this time that he conducted the research on the Maharishi Effect and its impact on the U.S. quality of life as well as the international relationship between the U.S. and the former Soviet Union. Two papers resulted, included in this volume. He also published several studies on the Transcendental Meditation and TM-Sidhi programs and psychological measures such as field independence and psychological health; as well as theoretical papers on the development of consciousness. He spent time in India, Thailand, and Russia, where he taught almost 5,000 people the Transcendental Meditation technique. He then returned to the Netherlands, his home country, and became a very successful businessman in the Internet industry. In recent years he has focused on creating invincibility for the Netherlands and for India, by organizing groups of practitioners of the Transcendental Meditation and TM-Sidhi programs, by acquiring schools in Holland and by supporting the Maharishi Vedic Pandit project in India.
Michael C. Dillbeck, Ph.D., received his B.A. summa cum laude from Benedictine College in 1972. He attended Purdue University as a University Fellow, receiving his M.S. in 1973 and his Ph.D. in 1976 in psychology. Dr. Dillbeck has published widely, including papers on the theoretical foundations of Consciousness-Based approaches to psychology and education, including empirical research testing the predictions of this theory on such variables as EEG coherence, perceptual and cognitive flexibility, reduced anxiety, reduction of crime rate, and improved quality of life in society. These papers have appeared in such journals as Memory and Cognition, Journal of Clinical Psychology, Psychologia, The Journal of Mind and Behavior, and International Journal of Comparative and Applied Criminal Justice.

ABSTRACT

This research investigated the predictions of a new model of individual and social behavior which holds that the unified field of natural law underlying all aspects of individual and collective life is a field of pure consciousness. The present study tested the hypothesis that when a sufficient number of people in the U.S. enliven pure consciousness through the practice of the Maharishi Technology of the Unified Field (MTUF)—the Transcendental Meditation and TM-Sidhi program—they would generate coherence throughout society, resulting in improved quality of national life. The hypothesis was supported by regression analysis of the effects of an index of the MTUF on an equally-weighted global index comprised of 11 quality of life indicators for the U.S. (statistical significances ranged from .003 to .0001). Analysis of the interrelationships among variables using the LISRJEL approach found that the MTUF had a significant effect on a general factor of quality of life (p < .001) as well as on a secondary factor (p < .05). Cross correlation analysis and the LISREL structural equation causal model both supported a causal interpretation.

Introduction

Quality of Life

The concept of quality of life arose in the early 1960’s with attempts to assess the quality of human life more broadly than through solely economic indicators. It was observed that the development of modern industrial society not only failed to provide the
expected level of satisfaction, happiness and well-being for individuals, but led rather, in spite of increased material comfort, leisure and easy communication, to a life increasingly beset with problems (Liu, 1974). Social scientists have approached the concept of quality of life from different perspectives in an attempt to find its proper definition. The trend of consensus appears to be that quality of life is a unitary construct involving all of the conditions of a person's life as a whole (Gitter & Mastofsky, 1973). There is general agreement that the quality of life is related to a number of different components—physical, biological, social, economic, cultural—all of which pertain to the individual/environmental interface (Bunge, 1975).

Two main streams of investigation developed in the attempt to measure quality of life: subjective social indicators and objective indicators. Subjective indicators reflect subjective evaluations derived from respondents’ own ratings of their lives, either as a whole or of some aspect of them. Objective indicators usually represent purely external factors such as factual information about the quality of life accumulated in statistical data.

Unexpectedly, a common research finding suggests that improvements in objective indicators are not necessarily correlated with improvements in subjective indicators. Schneider (1975) concludes that, “Despite the often found assumption that objective social indicators data actually reflect the quality of life experienced by people, we have no reason to a priori assume that such a correlation exists.” Actual research findings indicate that there are very large differences between experienced quality of life and the evaluation of objective criteria (Campbell, 1976; Duncan, 1975; Schneider, 1975, 1976). These findings challenge the widespread assumption that the way to improve the quality of life is to improve outer circumstances.

This paper investigates an alternative approach to bringing about social change in the direction of a more harmonious, healthy functioning of the society as a whole while ensuring the optimal well-being of its members. Maharishi Mahesh Yogi (1986) revived traditional Vedic knowledge by developing a set of practices, the Maharishi Technology of the Unified Field (MTUF), consisting of the Transcendental Meditation (TM) and TM-Sidhi program, which are predicted to enliven an underlying field of pure consciousness. In addition, he has articulated
a theory describing how the quality of individual and social life can be enhanced through the increase of coherence in individual and collective consciousness.

**Maharishi’s Unified Field Theory of Consciousness**

According to Maharishi (1986), there exists a field of pure consciousness which underlies all the diverse expressions of nature. His Vedic Science describes this field of pure consciousness as the basis of all aspects of subjective life, as well as the basis of the objective creation.

Creative intelligence is the impelling life force which expresses itself in the evolutionary process, creating and ordering all forms and relationships in the universe. At the basis of creative intelligence is its own unmanifest nature [the unified field], which is pure intelligence, pure existence, pure consciousness, the source and substance of all creation, eternal and non-changing. Its unmanifest nature as consciousness is present in all manifestations. (Maharishi Mahesh Yogi, 1976, p. 6)

For the last ten years, theoretical physicists have developed fully consistent unified field theories, most recently in the form of the heterotic superstring theory, which succeed in unifying all force and matter fields in nature (Hagelin, 1987a). A unified field is postulated to exist at the Planck scale ($10^{-33}$ cm, $10^{-43}$ sec)—beyond classical time and space—and is considered to contain all the required information and energy to structure the diverse aspects of creation. Hagelin suggests that the unified field of physics is in fact the field of pure consciousness as described by Vedic Science.

Maharishi (1986) states that the field of pure consciousness can be directly experienced through the Transcendental Meditation technique, when consciousness is awake only to itself; the experience of this “self-referral” state of consciousness leads to optimal functioning of the individual:

The unified field is the unmanifest basis of the whole creation, the creator and governor of the whole universe. Through Transcendental Meditation it is simple to open our awareness to this state of transcendence. Spontaneously, the conscious mind identifies itself with the self-referral unified field, the fountainhead of all streams of activity in nature. As we gain more familiarity with that self-referral performance, our thoughts
Consciousness-based education and government
and actions spontaneously begin to be as orderly and evolutionary as all
the activity of nature. (p. 97)

Substantial personal benefits have been reported by practitioners of
the technique and have been documented in the scientific literature.
The benefits include improved health (Wallace, 1986; Orme-Johnson,
1987), increased psychological health and well-being (Gelderloos,
1987a), better job performance (Frew, 1974) and improved academic
performance (Kember, 1985). The practice of the Transcendental Med-
itation technique involves effortless settling of mental activity toward
the field of pure consciousness. Through this process of bringing the
attention back to the source of the more excited states of human aware-
ness, the inherent organizing qualities of the unified field are thought
to be made more lively throughout all phases of life, resulting in more
harmonious and successful living.

According to Maharishi (1978), individual and collective conscious-
ness have a common basis—the field of pure consciousness—at which
level there is “infinite correlation” among all diverse constituents, i.e.,
everything is connected to everything else. There exists a reciprocal
relationship between individual consciousness and collective con-
sciousness. Once an individual enriches his consciousness through the
practice of the Transcendental Meditation technique, collective con-
sciousness automatically becomes enriched and in turn influences all
the individuals in the social system.

As individual consciousness grows, collective consciousness rises; and
as collective consciousness, rises, individual consciousness grows.
Individual consciousness is the basic unit of all levels of collective
consciousness—family consciousness, community consciousness,
national consciousness, and world consciousness—influencing them
all and being in turn influenced by them. (Maharishi Mahesh Yogi,
1978, p. 259)

Maharishi suggests that through the continuum between individual
and collective consciousness, an individual may exert a subtle but very
profound and powerful influence on collective life by enlivening pure
consciousness, the unified field, through the MTUF. A critical test of
this model is the prediction that participants in the MTUF causally
influence the social system to which they belong.
The Maharishi Effect
Collective consciousness, like other collective systems, may show change through qualitatively different phases. A new phase in a collective system may develop once a certain critical mass of elements exhibits this new kind of functioning, giving rise to a phase transition. Maharishi predicted in 1960 that if about 1% of a social group practiced the Transcendental Meditation technique, a phase transition to more harmony and fulfillment in that social system would be found (Borland & Landrith, 1977).

Sociological studies have in fact found that when a small proportion of the population practices the Transcendental Meditation technique, an improved quality of life is found in the whole society. This phenomenon has become known as the Maharishi Effect. In 1975, a study of 11 U.S. cities found that when 1% of the population in those cities practiced the Transcendental Meditation technique, a significant decrease in crime rate took place in comparison to 12 control cities (Borland & Landrith, 1977). Since then, this finding of increased order and harmony in society resulting from the practice of the Transcendental Meditation program has been substantiated in several other studies involving larger numbers of cities (e.g., Dillbeck, Landrith & D.W. Orme-Johnson, 1981), using methods of crossed-lagged panel analysis to establish causality (Dillbeck, 1981), and including other variables such as suicides and auto accidents (Landrith and Dillbeck, 1988). For a complete review of the scientific evidence of the Maharishi Effect to date, the reader is referred to D.W. Orme-Johnson and Dillbeck (1987).

The TM-Sidhi program has been found to enhance the effects of the Transcendental Meditation technique. Whereas the Transcendental Meditation technique allows the individual to experience pure consciousness, the TM-Sidhi program provides specific mental exercises to be performed while the individual is established in pure consciousness. This accelerates the integration of pure consciousness with more activated levels of consciousness and psychophysiological functioning. Enhanced outcomes of the TM-Sidhi program have been indicated by a number of studies (e.g., Gelderloos, 1987b; Nidich et al., 1983; D.W. Orme-Johnson & Haynes, 1981; D.W. Orme-Johnson et al., 1982; Wallace et al., 1982; Wallace et al., 1983). Also, the TM-Sidhi program is expected to generate a greater amount of coherence throughout
the environment than does the Transcendental Meditation technique alone, leading to a stronger positive effect on social life (Maharishi Mahesh Yogi, 1978).

In addition, it was theorized that the collective practice of the TM-Sidhi program would enhance the sociological impact even more (Maharishi Mahesh Yogi, 1986). This more powerful effect of the collective practice over individual practice is understood to operate according to a general principle of coherence in nature. The power or intensity of a field is proportional to the square of the amplitude of the field, and it can be increased by the coherent summation of amplitudes from different sources. This is known in physics as the principle of constructive interference (Hagelin, 1987b). Generally, physical systems of many (N) elements displaying wave phenomena will exhibit such overall coherent functioning if the coherent subpopulation (n) is proportional to the square root of N; in other words, the cumulative effect of the coherent elements is proportional to their number squared (n²). Thus, with the Maharishi Effect having been demonstrated by 1% of the population practicing the Transcendental Meditation program, the coherent effect on collective consciousness and behavior created by the group practice of the TM-Sidhi program is predicted to require the participation of only the square root of 1% of the population to improve the quality of life in society (New Horizons in Criminology, 1979, p. 160). Time-series analysis techniques have indicated this Extended Maharishi Effect in several different countries (Alexander et al., 1987; Dillbeck et al., 1987; D.W. Orme-Johnson, Alexander, Davies, Chandler & Larimore, 1988; D.W. Orme-Johnson & Dillbeck, 1987), and recently even on a worldwide scale (D.W. Orme-Johnson et al., 1988) during periods when the required number of TM-Sidhi participants have practiced together at specific assemblies.

Hypotheses
The Transcendental Meditation technique was introduced in the U.S. in 1959; by 1970, about 200,000 people were practicing the technique. The growth in the number of practitioners in the early 1970's was almost exponential, and 1975 saw a dramatic increase, with more than 225,000 new practitioners. By that time, the total number of Transcendental Meditation practitioners had become sufficient to expect that the qual-
ity of life for the society as a whole would start to improve. Maharishi described this new trend as the Dawn of the Age of Enlightenment, which he inaugurated in 1975 (Maharishi Mahesh Yogi, 1976). The first aim of this study is to analyze whether the quality of life in the U.S. has improved since 1975 as a function of the proportion of meditators in the population.

Since April 1979, Maharishi International University (renamed Maharishi University of Management in 1992) in Fairfield, Iowa, has had a program in which the students, faculty, and staff practice the TM-Sidhi program together in a group every day, morning and evening. The goal was to have a group of at least 1600 practitioners, the square root of 1% of the population of the U.S. and Canada, the predicted threshold for creating a phase transition to a higher quality of life in North America (the square root of 1% of the population of the U.S. alone is 1530). In 1982, 1983, and 1984, the size of the group involved in the Maharishi University of Management program reached the 1530 and 1600 thresholds on many occasions so that further impact on the quality of life in the U.S. was expected. Thus, the second aim of this study is to examine whether the collective practice of the TM-Sidhi program at the Maharishi University of Management had affected the quality of life in the U.S. from 1982 to 1984.

**METHOD**

**Independent Variables**
The major independent variable in this study was the Maharishi Effect Index, consisting of the percentage of the population practicing the Transcendental Meditation technique plus the estimated impact of the group of practitioners of the TM-Sidhi program at Maharishi University of Management:

\[
\text{Maharishi Effect Index} = 100(\text{# TM Pract./pop}) + 100(\text{# Coll. TM-Sidhi Pract.})^2/\text{pop}
\]

The construction of this index was based on the theoretical prediction that when 1% of the population practices the Transcendental Meditation program, or when the square root of 1% of the population
collectively practices the TM-Sidhi program, the influence of coherence will be sufficient to create a strong positive effect on the quality of life in the society as a whole. The index was constructed so that when the combined effect of participants in the Transcendental Meditation program and participants in the collective practice of the TM-Sidhi program exceeds one, the predicted necessary level of coherence for the population will have been met, and the occurrence of a phase transition to increased positivity in the quality of life is hypothesized (see Table 1).

This index indicates the overall level of influence of the MTUF for each of the 25 years under study. A separate analysis of the period from 1976 to 1981 was conducted to study the effect of the sharp increase in the number of meditators in the U.S. during the later half of 1975. In addition, the years 1982 to 1984 were considered separately because in these three years the Maharishi Effect Index exceeded one (see Table 1). Data were analyzed using the Interactive Data Analysis and Forecasting program (IDA) on a VAX 11/780 computer, and the LISREL VI program on an IBM PC.

**Dependent Variables**

*Quality of Life Index.* For this study, a quality of life index was constructed which covered different areas of life: crime, health, health habits, economic welfare, creativity, education, marital stability, and safety. These factors were chosen in accord with the common criteria for objective social indicators found in the literature, stating that ideally such factors should possess the characteristics of being: a) sufficiently universal—so that underlying principles would apply to the majority of people in the U.S. today; b) easily understood—representing a general consensus with respect to their selection; c) flexible enough to encompass any lifestyle among individuals at different places and at different points in time; d) adaptable to changing social, economic, political and physical conditions in a dynamic society; e) open to verification according to recognized scientific approaches; and f) focusing on areas in which individuals have an active personal interest (House et al., 1975; Liu, 1974). For the sake of parsimony, an attempt was made to locate the most holistic, central indicator in every field (e.g., GNP for economics), and largely redundant variables were avoided. Experts in the
different fields were consulted, and parameters in previous quality of life studies were considered (Gilmartin et al., 1979; Iowa Development Commission, 1985; US Department of Commerce, 1980; Verwayen, 1984). Only those variables which were uniformly available for the whole period studied, i.e., 1960–1984, were included in the computations:

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<tr>
<th>Selected Areas and Variables</th>
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<tr>
<td>Crime</td>
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<td>1) Crime rate</td>
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<td>Health</td>
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<td>2) Notifiable disease rate</td>
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<td>3) Hospital admissions rate</td>
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<td>4) Infant mortality rate</td>
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<td>5) Suicide rate</td>
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<td>Health Habits</td>
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<tr>
<td>6) Cigarette consumption per capita</td>
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<td>7) Alcohol consumption per capita</td>
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<td>Economic Welfare</td>
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<tr>
<td>8) GNP per capita</td>
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<td>Creativity</td>
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<td>9) Patent application rate</td>
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<td>Marital Safety</td>
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<td>10) Divorce rate</td>
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<tr>
<td>Safety</td>
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<tr>
<td>11) Traffic fatalities rate</td>
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**Crime.** Rate of reported crime is an obvious choice as an index of society’s well-being. Although the number of reported crimes is undoubtedly less than the number of actual crimes (analysis of the National Crime Survey data, based on the interviews of over 125,000 people, actually show that only one in three crimes is reported), the relative changes in crime rate year-by-year can be expected to reflect to some extent the change in the actual crime volume. The Crime Data Survey data would have been preferred but were only collected since 1976.

**Health.** Notifiable diseases could be considered as a sensitive measure of the general health condition of the population. The individual’s vulnerability to disease is correlated with the integration and strength of his physiological system. In addition, the incidence of notifiable diseases is directly linked to the effectiveness of vaccination programs, another indication of the quality of life. The following diseases were virtually uniformly reported since 1960, and therefore were included in this parameter: aseptic meningitis, encephalitis.
(all forms) gonorrhea (civilian population), hepatitis (types A and B), leprosy, malaria, measles (including rubella), meningococcal infections (total), pertussis, syphilis (primary and secondary, civilian) tuberculosis, tularemia, typhoid fever, rabies (animal), and typhus fever (tick-borne RMSF). The rate of hospital admissions was also thought to be a good indicator of the general health level of the population. Finally, infant mortality rate is a widely used standard measure of the level of development of a country, and suicide rate was already used by Durkheim (1951) as a quality of life indicator.

**Health Habits.** Cigarette and alcohol consumption are uniformly accepted to be detrimental to the health of users. Cigarette consumption per capita was based on the total population (including overseas forces) because the total consumption figures available included taxable removals and overseas forces consumption (all other variables except GNP reflected residential statistics). The variable used for alcohol consumption was the apparent consumption of distilled spirits per capita.

**Economic Welfare.** Real gross national product (GNP) per capita is probably the most encompassing variable in the index. Real GNP per capita is the total production of the U.S. and U.S. possessions all over the world, corrected for inflation in 1972 dollars, and based on the total U.S. population estimates, including Americans overseas. Unemployment, although an important social issue, was not included in the index because the GNP is highly inversely correlated with unemployment rate, and therefore unemployment rate was considered to be redundant.

**Creativity.** The number of patent applications per population is taken as an indicator of national creativity and self-confidence. Although there is an obvious lag between the development of an invention and the filing of the patent, the filing itself requires organizing power and confidence in the creation of the new product, and it is the only available indicator of the number of inventions.

**Marital Stability.** Divorce rate has obvious face validity in reflecting the fundamental stability of the social structure.

**Safety.** Traffic fatalities are a major source of mortality in the country.²
The 25 years studied appeared to be a reasonable period for a comparison of trends, and over this period the data were most uniformly reported (for instance, most census data include Hawaii and Alaska from 1960 on). All parameters were studied in terms of rate per population, except infant mortality rate which is the proportion infant deaths to live births. The most recent population estimates of the Bureau of the Census were used (1986), and rates which were not reported according to these figures (e.g., crime) were recalculated on the basis of revised estimates that were consistent with the 1980 Census levels. Only GNP per capita and cigarette consumption were based on the total population including armed forces overseas; the other rates refer to mid-year estimates of the resident population only. The most recent available sources were used. The main variable studied was the average of the annual percentage change in the rates of the different parameters (Quality of Life Change Index).

RESULTS

Quality of Life Change Index
The quality of life data were analyzed using two approaches. The first was to construct a quality of life index combining all the variables using an equal-weights procedure. The second approach was to investigate the Maharishi Effect taking into account the interrelationships of the quality of life variables.

The overall Quality of Life Change Index reflects the average of the annual percentage change in the rates of the 11 variables. The mean of the percentage change in all variables was calculated in such a way that an increase in positivity or a decrease in negativity was represented as a positive value; i.e., the changes for crime, notifiable diseases, hospital admissions, infant mortality, suicides, alcohol and cigarette consumption, divorce, and traffic fatalities were changed to an opposite sign. All the variables were weighted alike. This represents the Quality of Life Change Index which is tabulated in Table 1 and graphed in Figure 1. An inspection of this graph shows that the quality of life in the United States was generally worsening every year from 1960 to 1975. In 1975, when the number of participants in the Transcendental Meditation program began to increase rapidly, this negative trend came to an end. Beginning in 1976, the quality of life in the U.S. began to improve, and the positive trend continued with one minor exception in 1979.
A Quality of Life Cumulative Index was computed over the different years by setting the 1960 level at 100 and successively adding each annual change in the Quality of Life Index to the cumulative total for the previous year. These values are represented in the fourth column of Table 1 and are displayed in Figure 2.
<table>
<thead>
<tr>
<th>Year</th>
<th>Maharishi Effect Index</th>
<th>Quality of Life Change Index</th>
<th>Cumulative Quality of Life Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960</td>
<td>0.004</td>
<td>---</td>
<td>100.000</td>
</tr>
<tr>
<td>1961</td>
<td>0.006</td>
<td>0.075</td>
<td>100.075</td>
</tr>
<tr>
<td>1962</td>
<td>0.007</td>
<td>-1.673</td>
<td>98.402</td>
</tr>
<tr>
<td>1963</td>
<td>0.008</td>
<td>-0.496</td>
<td>97.906</td>
</tr>
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<td>1964</td>
<td>0.009</td>
<td>-2.439</td>
<td>95.467</td>
</tr>
<tr>
<td>1965</td>
<td>0.010</td>
<td>1.117</td>
<td>96.584</td>
</tr>
<tr>
<td>1966</td>
<td>0.018</td>
<td>-1.412</td>
<td>95.172</td>
</tr>
<tr>
<td>1967</td>
<td>0.053</td>
<td>0.021</td>
<td>95.193</td>
</tr>
<tr>
<td>1968</td>
<td>0.088</td>
<td>-1.806</td>
<td>93.387</td>
</tr>
<tr>
<td>1969</td>
<td>0.099</td>
<td>-2.183</td>
<td>91.204</td>
</tr>
<tr>
<td>1970</td>
<td>0.106</td>
<td>-2.507</td>
<td>88.697</td>
</tr>
<tr>
<td>1971</td>
<td>0.129</td>
<td>-2.096</td>
<td>86.601</td>
</tr>
<tr>
<td>1972</td>
<td>0.161</td>
<td>-1.036</td>
<td>85.565</td>
</tr>
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<td>1973</td>
<td>0.210</td>
<td>-0.849</td>
<td>84.716</td>
</tr>
<tr>
<td>1974</td>
<td>0.255</td>
<td>-1.361</td>
<td>83.355</td>
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<tr>
<td>1975</td>
<td>0.358</td>
<td>-2.300</td>
<td>81.055</td>
</tr>
<tr>
<td>1976</td>
<td>0.405</td>
<td>0.705</td>
<td>81.760</td>
</tr>
<tr>
<td>1977</td>
<td>0.418</td>
<td>0.394</td>
<td>82.154</td>
</tr>
<tr>
<td>1978</td>
<td>0.422</td>
<td>0.510</td>
<td>82.664</td>
</tr>
<tr>
<td>1979</td>
<td>0.657</td>
<td>-0.278</td>
<td>82.386</td>
</tr>
<tr>
<td>1980</td>
<td>0.845</td>
<td>0.018</td>
<td>82.404</td>
</tr>
<tr>
<td>1981</td>
<td>0.669</td>
<td>1.195</td>
<td>83.599</td>
</tr>
<tr>
<td>1982</td>
<td>1.186</td>
<td>3.106</td>
<td>86.705</td>
</tr>
<tr>
<td>1983</td>
<td>1.438</td>
<td>2.361</td>
<td>89.066</td>
</tr>
<tr>
<td>1984</td>
<td>1.649</td>
<td>2.425</td>
<td>91.491</td>
</tr>
</tbody>
</table>

U.S. Quality of Life Index and Maharishi Effect Index
Figure 2. The U.S. Quality of Life Index and Maharishi Effect Index

*The drop in the Maharishi Index in 1981 was caused by many participants in the collective practice of the TM-Sidhi program at MIU (Maharishi University of Management) going overseas to do fieldwork.

This graph shows the negative trend throughout the 1960’s and continuing to 1975. It can be seen in this figure that following a large rise by more than 325,000 meditators in 1975 and 1976, bringing the total number in the U.S. to 870,000 (.4 % of the national population), this negative trend was reversed, and the national quality of life began to rise. When the number of meditators stabilized in the late 1970’s, the growth in the Quality of Life Cumulative Index began to level off slightly. When the number of participants in the collective practice of the TM-Sidhi program at MIU started to rise substantially from 1982 to 1984, the U.S. Quality of Life Cumulative Index began to increase dramatically. It is apparent from Figure 2 that changes in the numbers of meditators and participants in the collective practice of the TM-Sidhi program both seem to lead in time the improvement in the national quality of life. The first differential, the velocity of change in the number of participants in the TM-Sidhi program, appeared to stimulate change in the quality of life. It can also be seen in Figure 2 that the number of meditators and the number of TM-Sidhi partici-
pants at MIU each seemed to have had separate effects on the quality of life in the late 1970’s and early 1980’s, respectively.

The combined influence of the meditators and the collective practitioners of the TM-Sidhi program at MIU was analyzed by regression analysis of the Maharishi Effect Index (defined earlier) on the Quality of Life Change Index. The Quality of Life Change Index was more appropriate for regression analysis than the Cumulative Quality of Life Index which had excessive autocorrelations built into the series due to cumulative addition. Table 2 shows the regression analysis of five independent variables on the Quality of Life Change Index. The independent variables are the following: a) Maharishi Effect Index (Analysis 1); b) 1976–81 Trend (Analysis 2); c) Transcendental Meditation Participant Rate (Analysis 3); d) 1982–84 Trend (Analysis 4); and e) Participants in the Collective Practice of the TM-Sidhi Program (Analysis 5).

Table 2: Regression Coefficients

| Analysis 1: Maharishi Effect Index on Quality of Life Change Index |
|-----------------|-----|-----|-----|-----|-----|
| Variable        | SD  | Beta| SE  | t   | p   |
| Maharishi Effect| 0.751 | 0.259 | 0.048 | 5.338 | <.0001 |
| Constant        | 0   | 0   | 0.291 | -4.638 |       |

| Analysis 2: 1976–1981 Trend in Quality of Life Change Index |
|-----------------|-----|-----|-----|-----|-----|
| Variable        | SD  | Beta| SE  | t   | p   |
| 1976–1981 Trend | 0.642 | 1.687 | 0.461 | 3.651 | .0016 |
| Constant        | 0   | -1.263 | 0.246 | -5.127 |       |

**Analysis 1.** With the Maharishi Effect Index as the independent variable, and the Quality of Life Change Index as the dependent variable, the adjusted regression coefficient was \( r = .738 \), which is significant at \( p < .0001 \) (\( t (23) = 5.338 \), see Table 2). The standard deviation of the residuals was 1.0936. The adjusted coefficient of determination \( (r^2) \) was .545 indicating that 54.5% of variance in the Quality of Life Change Index could be accounted for by the Maharishi Effect Index. Diagnostic checks of the residuals suggest that the regression model was satisfactory. To check for the statistical adequacy of the model, an autocorrelation test was run on the residuals from lags 1 to 5, which showed that the residuals were random (Ljung-Box = 6.179, \( df = 4, p = 186 \) A
nonparametric test of autocorrelations, the Runs-about-the-mean test was also not significant: \(-.11, p = .912\). A plot of the residuals showed that they were symmetrical with stationary variance. Checks of skewness, kurtosis, studentized range, and the normal probability plot showed that the hypothesis that the residuals were a serially uncorrected white noise process could not be rejected.

**Analysis 2.** Further regression analysis was used to analyze the change in trend from 1976 to 1981. To test the difference in trend for 1960–1975 compared with 1976–1981, an indicator variable was created by assigning a “0” to the years before 1976 and a “1” to the years 1976 to 1981 (the period 1982–1984 was excluded from this analysis). Regression analysis was run with the indicator variable as the independent variable and the Quality of Life Change Index as the dependent variable. The adjusted \(r^2\) was .383, \((t (20) = 3.661, p = .002)\), indicating that there was a significant change in trends for 1976–1981 as compared with 1960–1975. The standard deviation of the residuals was .954.

It can be seen from the Beta coefficient in Table 2 that the percentage change in the Quality of Life Change Index was 1.687 more per year from 1976 to 1981 as relative to the annual changes from 1960 to 1975, and the Beta coefficient for the constant term shows that the quality of life was decreasing by 1.263% per year from 1961 to 1975. The residuals appeared to represent serially uncorrelated white noise; they were non-autocorrelated (Ljung-Box = 9.264, \(df = 4, p = .055\), Runs-about-the-mean test: 1.70, \(p = .089\), Table 2). Kurtosis, skewness, studentized range, and the normal probability plot indicated that the residuals were normally distributed, confirming that the regression model was statistically adequate.

**Analysis 3.** The correlation between the indicator variable, which reflects improved quality of life since 1975, and the Transcendental Meditation practitioner rate was \(r = .856\). Further regression analysis of the Quality of Life Change Index was conducted using the Transcendental Meditation practitioner rate as the independent variable. The adjusted \(r^2\) in this case was .550, which is significant at the \(p = .003\) level \((r (23) = 3.312, \text{ Table 2})\); the standard deviation of the residuals was 1.353. After extracting the information explained by the meditator rate, the residuals were
tested for autocorrelations (Ljung-Box = 7.735, $df = 4$, $p = .102$; Runs-about-the-mean test = -1.58, $p = .114$, and the departure from the normal distribution was not significant.

The correlations of the Quality of Life Change Index with the indicator variable (Analysis 2) and with the Transcendental Meditation practitioner rate taken together indicate that the quality of national life is directly proportional to the rate of individuals practicing the Transcendental Meditation technique in the U.S. Figure 1 shows that the correlation between the Transcendental Meditation practitioner rate and the Quality of Life Change Index was largely due to a shift in the Quality of Life Change Index from negative to positive values correlated with the rapid rise in the Transcendental Meditation practitioner rate in 1975 and 1976.

The issue of causality was addressed by a cross correlation analysis to see if the rate of individuals practicing the Transcendental Meditation technique leads the Quality of Life Change Index in time. The cross correlation function, shown in Figure 3, indicates that the Transcendental Meditation practitioner rate is a leading indicator on the Quality of Life Change Index: All the cross correlations from lags 0 to 5 were statistically significant ($p < .05$), whereas none of the cross correlations from the negative lags were significant, showing that the Transcendental Meditation practitioner rate could predict the national quality of life over the next five years, but that increase in quality of life did not predict an increase in the Transcendental Meditation practitioner rate (Figure 3). This pattern of cross correlations together with the graphic representation of the data seen in Figure 1 suggests that the increase in meditator rate in 1975 and 1976 caused the transition from a declining trend in the quality of life in the U.S. prior to 1976 to a positive trend seen thereafter.
Cross Correlation Between Meditator Rate and Quality Of Life Change Index.

<table>
<thead>
<tr>
<th>CROSS ORDER CORRELATION</th>
<th>-1</th>
<th>-.75</th>
<th>-.50</th>
<th>-.25</th>
<th>0</th>
<th>.25</th>
<th>.50</th>
<th>.75</th>
<th>+1</th>
</tr>
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<tbody>
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<tr>
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</tr>
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<tr>
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</tr>
<tr>
<td>5</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 3. The Meditator Rate could predict the Quality of Life Change Index over a period of five years (all significant at $p < .05$), whereas the Quality of Life Change Index was unable to predict reliably the fluctuations in rate of Transcendental Mediation program participation.

### Analysis 3: Transcendental Meditator Rate on Quality of Life Change Index

<table>
<thead>
<tr>
<th>Variable</th>
<th>SD</th>
<th>Beta</th>
<th>SE</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meditator Rate</td>
<td>0.577</td>
<td>0.521</td>
<td>0.157</td>
<td>3.312</td>
<td>.0030</td>
</tr>
<tr>
<td>Constant</td>
<td>0</td>
<td>-1.509</td>
<td>0.455</td>
<td>-3.393</td>
<td></td>
</tr>
</tbody>
</table>

### Analysis 4: 1982–1984 Trend in Quality of Life change Index

<table>
<thead>
<tr>
<th>Variable</th>
<th>SD</th>
<th>Beta</th>
<th>SE</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>1982–1984 Trend</td>
<td>0.924</td>
<td>2.207</td>
<td>0.347</td>
<td>6.368</td>
<td>.0002</td>
</tr>
<tr>
<td>Constant</td>
<td>0</td>
<td>0.424</td>
<td>0.200</td>
<td>2.119</td>
<td></td>
</tr>
</tbody>
</table>

### Analysis 5: Participants in the Collective Practice of the TM-Sidhi Program on the Quality of Life Change Index

<table>
<thead>
<tr>
<th>Variable</th>
<th>SD</th>
<th>Beta</th>
<th>SE</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collective Practice Rate</td>
<td>0.723</td>
<td>0.339</td>
<td>0.069</td>
<td>4.910</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Constant</td>
<td>0</td>
<td>-0.904</td>
<td>0.259</td>
<td>-3.489</td>
<td></td>
</tr>
</tbody>
</table>
Analysis 4. From the Maharishi Effect Index, shown in Table 1, a phase transition to a better quality of life in the U.S. was predicted for 1982 to 1984, when the index rose to exceed a numerical value of one, reflecting growth in the number of participants in the collective practice of the TM-Sidhi program at MIU.

To study the change in trends from 1976–1981 to 1982–1984, another indicator variable was created for regression analysis; “1”s were assigned to the experimental years 1982 to 1984, and “0”s were assigned to the years 1976–1981 (the years 1960–1975 were excluded from this analysis). The adjusted regression coefficient was $r = .912$ and the coefficient of determination was .832, which means that the indicator variable could account for approximately 83.2% of the variance ($t (8) = 6.368, p = .0002$). The standard deviation of the residuals was .490. The tests of model adequacy showed non-significant autocorrelation for the residuals from lags 1 to 5, and some directionality in runs about the mean (Ljung-Box = 8.078, $df = 4, p = .088$; Runs-about-the-mean test = –2.49, $p = .013$). However, the normal probability plot showed that the residuals closely followed a random, normal distribution and a plot of the residuals looked symmetrical and stationary with stable variance. Thus, the assumptions underlying the regression analysis were met. The Beta coefficients showed that the quality of life increased yearly by 2.207 percent more in 1982 to 1984 compared with the change over 1976 to 1981, which showed an average increase of .424%, yielding an absolute average annual change of 2.631% for 1982 to 1984 (Table 2). The trend analyses show that the improvement in the quality of life in 1982 to 1984 was unprecedented in the previous 21 years in the United States.

Analysis 5. The “0-1” indicator variable for the Maharishi Effect correlated .919 with the adjusted rate of participants in the collective practice of the TM-Sidhi program at Maharishi University of Management, indicating a large overlap between these parameters. The adjusted rate is $100(\# \text{ Coll. TM-Sidhi Pract.})^2/\text{pop}$. Regression analysis with the adjusted collective practice rate (Table 1) on the Quality of Life Change Index yielded a correspondingly high coefficient ($r = .708, t (23) = 4.910, p < .0001$). The standard deviation of the residuals was 1.145. The residuals in this case were also white noise (Ljung-Box = 4.936. $df = 4, p = .294$; Runs-about-the-means test = .57, $p = .569$, and
other diagnostic tests suggested normality), confirming the statistical adequacy of this regression model.

**LISREL Analysis.** In order to assess the influences of the Maharishi Effect on the multivariate system of the quality of life variables, the method of analysis of covariance structures was employed (e.g., Jöreskog & Srböm, 1979; Long 1983), using the LISREL VI program (Jöreskog & Srböm, 1986). The covariance structure model combines the approaches of factor analysis and structural equation causal modeling to assess the impact of independent variables on a set of latent variables underlying a group of observed variables. The term “covariance structure model” derives from the fact that the covariance matrix of the dependent and independent variables is modeled in this methodology.

The first model considered was that of a single general model factor underlying all 11 dependent variables, with an influence of the independent variable (Maharishi Effect Index) upon that factor. There was a significant positive effect of the independent variable upon the quality of life factor, \( t = 3.42, p < .005 \), and the coefficient of determination for the structural equation was .96. However, the single-factor measurement model must be assumed to be fundamentally wrong, since a negative coefficient of determination for the factor model was calculated by the program (Joreskog & Sorbom, 1986, p. 1.36). The overall fit of the model to the data was not adequate \( X^2 (54) = 94.5, p = .0005 \).

In order to find a more adequate factor model, a two-factor model was posited in which the first factor consisted of each of the variables that had loaded substantially on the general factor noted earlier, and the second factor consisted of the other variables. The automatic modification procedure of LISREL was used to allow a variable to load on the other factor as well if that would significantly improve the fit of the measurement model. Although this approach to the factor equation is exploratory rather than confirmatory, this was felt to be justified since the primary hypothesis being tested concerned the structural equation part of the model (the effect of the independent variable) rather than the measurement model. Two of the variables from the initial general factor also loaded on the other factor due to the automatic modification procedure. The first factor, which is referred to as the general factor since it was derived from the initial single-factor model, consisted of
crime, hospital admissions, cigarette consumption, alcohol consumption, divorce, and traffic fatalities rates. These variables had a pattern most similar to the overall equally-weighted index discussed above. The secondary factor consisted of infectious disease, infant mortality, suicide, alcohol consumption, gross national product, patents, and traffic fatalities rates.

The structural equation causal model included an effect of the independent variable on each of the two factors. It also allowed an influence of each of the two factors on each other, under the assumption that the influence in each direction was equal; this assumption was necessary in order for the model to be identified. The independent variable was assumed to be without measurement error. The effect of the independent variable on the general factor was highly significant ($t = 4.23$, $p < .001$, one-tailed), while its influence on the secondary factor was smaller yet also significant ($t = 1.76$, $p < .05$, one-tailed). The influence of each factor on the other was negative and of borderline significance ($t = -1.69$, $p < .11$, two-tailed). The overall fit of the model was adequate ($X^2(50) = 62.59$, $p = .109$). The coefficient of determination of the dependent variables upon the factors was .910, and the coefficient of determination for the structural equation part of the model was .917; the squared multiple correlation of the independent variable and each of the two latent variables was .804 for the general factor and .603 for the second factor indicating that the Maharishi Effect Index could account for 80.4% of the variance of the general factor and 60.3% of the secondary factor. These results are charted in Figure 4, and the maximum likelihood estimates of factor loadings are given in Table 3.
Effects of the Maharishi Effect Index on the Latent Factors Underlying the Quality of Life Change Index (LISREL)

Figure 4. The Maharishi Effect Index had a highly significant effect on the general factor ($p < .001$), which consisted of crime, hospital admissions, cigarette consumption, alcohol consumption, divorce and traffic fatality rates. The effect on the secondary factor, which consisted of notifiable diseases, infant mortality, suicide, alcohol consumption, gross national product, patent, and traffic fatality rates, was significant as well ($p < .05$). The Maharishi Effect Index could account for 80.4% of the variance in the general factor and 60.3% of the variance in the secondary factor. The influence of the two factors on each other was negative and of borderline significance ($p < .11$).

<table>
<thead>
<tr>
<th>Variable</th>
<th>General Factor Loading ($t$)</th>
<th>Secondary Factor Loading ($t$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crime</td>
<td>1.00</td>
<td>--</td>
</tr>
<tr>
<td>Infant Deaths</td>
<td>--</td>
<td>1.00</td>
</tr>
<tr>
<td>Notifiable Diseases</td>
<td>--</td>
<td>-2.820 (-1.07)</td>
</tr>
<tr>
<td>Hospital Admissions</td>
<td>0.250 (3.77)</td>
<td>--</td>
</tr>
<tr>
<td>Suicide</td>
<td>--</td>
<td>0.558 (-0.69)</td>
</tr>
<tr>
<td>Cigarette Consumption</td>
<td>0.176 (1.72)</td>
<td>--</td>
</tr>
<tr>
<td>Alcohol Consumption</td>
<td>0.445 (3.87)</td>
<td>1.654 (1.75)</td>
</tr>
<tr>
<td>GNP</td>
<td>--</td>
<td>-2.744 (-1.87)</td>
</tr>
<tr>
<td>Patents</td>
<td>--</td>
<td>0.139 (0.13)</td>
</tr>
<tr>
<td>Divorce</td>
<td>0.589 (3.20)</td>
<td>--</td>
</tr>
<tr>
<td>Traffic Fatalities</td>
<td>0.237 (1.16)</td>
<td>5.659 (1.86)</td>
</tr>
</tbody>
</table>
The factor loadings of 1.0 for crime and infant mortality are required to fix the scale of measurement of each of the latent factors, allowing the measurement model to be identified. Three of the seven variables loading on the second factor had negative loadings. This reflects patterns of relationship among the variables primarily before 1982; an inspection of the data indicates that for each of the 11 variables except one, there was an overall improvement after 1981, the period when the independent variable reached a level sufficient to predict strong improvement in the U.S. quality of life.

One final LISREL model was run to add a further control variable. Because crime and traffic fatalities rates are highest for the young adult age group, and because this group has declined in recent years, the percentage change each year in the age group 18–25 was added as a second independent variable to the model of Figure 4 and Table 3. The youth variable was assumed to have an influence on each of the two latent variables and was also assumed to be without measurement error. In this analysis, the factor loadings and each of the effects listed in Figure 4 were almost identical to those found previously. However, the effect of the youth variable on the general and secondary factor was not significant, $t = 0.53$ and $t = 0.36$, respectively. Thus, we conclude that the results reported in Figure 4 and Table 3 are not confounded by changes in age composition of the U.S. population with regard to young adults.

Finally, because of Maharishi University of Management’s location in Iowa, it could be hypothesized that Iowa would improve at a rate faster than the U.S. as a whole. Eight variables of the index that were available from 1981 and 1984 for the state of Iowa and for the U.S. were compared with a paired t-test. (Table 4). As can be seen from Table 4, all variables except hospital admissions had a substantially lower rate in Iowa in 1981 than in the U.S., suggesting a higher quality of life for Iowa. The relatively higher rate for hospital admissions in Iowa is likely to be caused by a relatively higher proportion of hospital beds in that state as compared to the nation. If we compare the respective rates with a t-test for dependent variables, adapting hospital admissions and crime rate to smaller population brackets (100 and 1,000 respectively) to make the values more comparable to the other variables, we find a trend toward higher quality of life in Iowa in 1981 ($t (7) = 1.678$, one-tailed, $p = .069$). In 1981, the quality of life in Iowa was higher than
for the U.S. as a whole, and it continued to improve at a higher rate ($t(7) = 1.954$, one-tailed, $p = .046$). The only variable that developed in an unpredicted direction was suicide rate, but the rate in Iowa was still lower than the U.S. rate in 1984. These results tend to support the hypothesis that Iowa would enjoy a more rapid improvement in quality of life because Maharishi University of Management is located there.

**DISCUSSION**

The results support the hypothesis that the practice of the Transcendental Meditation program throughout the U.S. and the collective practice of the TM-Sidhi program at Maharishi University of Management, Fairfield, Iowa may have contributed strongly to the improvement in the quality of life in the nation. The empirical finding that the quality of life in the country began to rise in 1976 when the Maharishi Effect Index reached .4% suggests that for very large populations, even less than one percent of the population practicing the Transcendental Meditation program may produce a noticeable improvement in society. The unprecedented acceleration of quality of life from 1982 to 1984 is consistent with the hypothesis that when the number of participants in the collective practice of the TM-Sidhi program became sufficient to produce the Extended Maharishi Effect, a phase transition in the quality of national life would occur.

Alternative explanations have been put forth for the improvement on some of the individual social indicators that went into the Quality of Life Change Index. For example, it has been argued that the recent unprecedented downward trend in crime was caused by a change in the population distribution. Specifically, it has been pointed out that the coming of age of the baby-boom generation produced a relative decrease in the number of 18–25-year-olds, the age bracket with the relatively highest criminal acts record. However, the LISREL analysis showed that the demographic changes in the proportion of population 18–25 years old was unrelated to the influence of the Maharishi Effect Index.

An alternative explanation is that many of these changes are due to technical development and progress. Technological improvements can be expected to have increased linearly over the period of the experi-
Foonotes

* The notifiable diseases rate used here for Iowa and the U.S. is slightly different than the one used for the national index computation because of differences in reporting of the state data. The state index excluded aseptic meningitis, hepatitis and pertussis, and it included mumps, which was not included in the national index.

Footnote 1: The number of participants in the TM program is the total number of people instructed in the TM technique per December 31 of a given year. The figures from before 1970 have been estimated. The average number of participants in the collective practice of the TM-Sidhi program per session was computed on the basis of the attendance in the morning and afternoon sessions over the days of the year. The group practice at Maharishi University of Management started from March 31, 1979. Attendance before that date was counted as zero.

Footnote 2: A list of sources of the data and the actual numbers, rates, and annual changes in rates are available from the authors.

Footnote 3: This was especially important because the 1980 Census enumerated approximately 5.5 million persons more than were previously estimated for April 1, 1980, making previous estimates of the 1971–1980 period unreliable (U.S. Bureau of the Census, 1983).

Footnote 4: The exact degrees of freedom for the individual parameter estimates in the multivariate LISREL model are not known. The $t$ values are calculated from the standard error of parameter estimates given directly in maximum likelihood estimation. Associated $p$ values listed in the text are based upon a conservative estimate of 20 degrees of freedom.

Footnote 5: For 1985, it actually has been announced that the reported crime rate went up slightly; however, the much more reliable Crime Survey data indicated a decrease in crime victimization, suggesting that the reported increase might be an artifact of change in the crime-reporting behavior of the population.
ment. In fact, the correlations of infant mortality rate and GNP per capita with time are .994 and .983, respectively, indicating an almost perfect linear trend in these indices of technological improvement. Yet the Quality of Life Index fluctuated, declining in the 1960’s and early 1970’s, rising after 1975, and accelerating markedly from 1982 to 1984. Therefore, the highly non-linear change in the quality of life cannot be attributed to the continuous advance of technology.

The magnitude, constancy, and holistic nature of the improvement in the quality of life during the recent years are unprecedented during the period of this study. For instance, the 1983 reduction in crime rate was greater than any reduction since 1960; and 1981-1984 was also the first four-year period for which reported crime decreased. The time from 1978 to 1984 is the first seven-year period when the notifiable diseases rate decreased every year. The hospital admissions rate showed a decline four years in a row from 1981 to 1984, reversing a long, almost constantly increasing trend. The decline in cigarette consumption per capita started to become pronounced in 1976. The 6.3% decline in 19S3 was the greatest in the whole period studied: per capita consumption fell to 2,536 cigarettes in 1984, the lowest level in 27 years. An unprecedented six-year decline in consumption of distilled spirits started in 1979 and accelerated sharply from 1981 onward. From 1981 to 1984, infant mortality and traffic fatalities rates fell to their lowest level in 25 years. Real GNP per capita was on a record high. No apparent causal mechanism that could explain such a holistic and dramatic change in societal trends could be identified in any of the traditional theories of social change.

On the other hand, the temporal and spatial characteristics of the improved quality of life in the United States can be accurately predicted by the Maharishi Effect Index. Although it is not possible to demonstrate causality conclusively from empirical associations, the structural equation causal model derived from the theory presented here was supported by the observed data (Blalock, 1964). With the rising rate of individuals practicing the Transcendental Meditation program in the country and the implementation of the collective practice of the TM-Sidhi program at Maharishi University of Management, the quality of life improved in subsequent years as predicted. This evidence suggests
that the practice of the Maharishi Technology of the Unified Field could improve the quality of life in a holistic way that has not been achieved by any other means, and supports to some extent the presented theory of pure consciousness as the unified field of natural law at the basis of individual and collective consciousness.

In conclusion, this study has shown consistent long-term effects of rising coherence in society coinciding with the number of people engaged in the practice of the Maharishi Technology of the Unified Field. All areas of life—crime, health, education, economic welfare, and safety—have been shown to improve simultaneously as a function of the rising proportion of the population participating in the Transcendental Meditation program and the collective practice of the TM-Sidhi program. The rise in the quality of life was of a unique nature once the one-percent threshold was achieved. That a phase transition of this nature, in a nation of almost 240 million inhabitants, may be brought about by such a small number of people holds great promise for the nation and the whole world.

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Section Four

Appendices
Modern Science and *Vedic Science*:
An Introduction

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ABOUT THE AUTHOR

Kenneth Chandler holds a Ph.D. in Philosophy from the University of Texas at Austin. He served as Head of the Department of the Science of Creative Intelligence at Maharishi International University (today, Maharishi University of Management). Dr. Chandler continues his research into consciousness and is currently at work on a book on descriptions of the experience of transcending and pure consciousness in the mainstream classics of philosophy, science, religion, and the arts. It will be a three-volume set covering from the Vedic tradition to the present.
Modern Science and Vedic Science: An Introduction

This journal (Modern Science and Vedic Science) provides a forum for research on the forefront of mankind’s expanding knowledge of the universe. It is devoted to exploration of the unified field of all the laws of nature through the combined approaches of modern science and ancient Vedic science, as brought to light by Maharishi Mahesh Yogi. The identification of the unified field by modern physics is only the first glimpse of a new area of investigation that underlies all disciplines of knowledge, and which can be explored not only through objective science but through a new technology of consciousness developed by Maharishi.

The unified field is now beginning to be understood through modern physics as the unified source of the entire universe, as a unified state of all the laws of nature from which all force and matter fields sequentially emerge according to exact dynamical principles. As each science and each academic discipline progresses to uncover its own most basic laws and foundational principles, each is beginning to discover that the roots of these laws and principles can be traced to the unified field.

This journal recognizes a new method of gaining knowledge of the unified field that combines the approach of the modern sciences with that of the most ancient of sciences, the ancient tradition of Vedic science. Many thousands of years ago, the seers of the Himalayas discovered, through exploration of their silent levels of awareness, a unified field where all the laws of nature are found together in a state of wholeness. This unity of nature was directly experienced to be a self-referral state of consciousness which is unbounded, all-pervading, unchanging, and the self-sufficient source of all existing things. They experienced and gave expression to the self-interacting dynamics through which this unified field sequentially gives rise to the diversity of all laws of nature. That experience is expressed in the ancient Vedic literature.
In our own time, Maharishi has brought to light the knowledge of this ancient science and integrated it with the modern sciences in such a way that Vedic science and modern science are now seen as complementary methods of gaining knowledge of the same reality—the unified field of all the laws of nature. The knowledge of this ancient science that Maharishi has brought to light is known as Maharishi Vedic Science.

Maharishi Vedic Science is to be understood, first of all, as a reliable method of gaining knowledge, as a science in the most complete sense of the term. It relies upon experience as the sole basis of knowledge, not experience gained through the senses only, but experience gained when the mind, becoming completely quiet, is identified with the unified field. This method, examined in relation to the modern sciences, proves to be an effective means of exploring the unified field of all the laws of nature. On the basis of this method, complete knowledge of the unified field becomes possible. It is possible to know the unified field both subjectively on the level of direct experience through exploration of consciousness and objectively through the investigative methods of modern science. Maharishi Vedic Science gives complete knowledge of consciousness, or the knower, complete knowledge of the object known, and complete knowledge of the process of knowing. In knowing the unified field, all three—knower, known, and process of knowing—are united in a single unified state of knowledge in which the three are one and the same.

Maharishi has developed and made available a technology for the systematic exploration of the unified field. This technology is a means by which anyone can gain access to the unified field and explore it through experience of the simplest and most unified state of consciousness. As this domain of experience becomes universally accessible, the unified field becomes available as a direct experience that is a basis for universal knowledge. The technology for gaining access to the unified field is called the Transcendental Meditation technique and its advanced programs, and the science based on this experience, which links modern science and Maharishi Vedic Science in a single unified body of knowledge, is called the Science of Creative Intelligence.

Maharishi is deeply committed to applying the knowledge and technology of the unified field for the practical benefit of life. He has
developed programs to apply this knowledge to every major area of human concern, including the fields of health, education, rehabilitation, and world peace. These applications of Maharishi’s technologies of consciousness have laid it open to empirical verification and demonstrated its practical benefit to mankind. Hundreds of scientific studies have already established its usefulness. From these results, it is clear that Maharishi’s technologies of consciousness are far more beneficial than technologies based on present day empirical science; they promise to reduce and even eliminate war, terrorism, crime, ill health, and all forms of human suffering.

These technologies, which are the applied value of Maharishi Vedic Science, represent a great advance in methods for gaining knowledge. Past science was based on a limited range of knowledge gained through the senses. This new technology opens to mankind a domain of experience of a deeper and more far-reaching import. It places within our grasp a new source of discovery of laws of nature that far exceeds the methods of modern science, yet remains complementary to these methods.

Modern science and Maharishi Vedic Science, explored together, constitute a radically new frontier of knowledge in the contemporary world, opening out vistas of what it is possible for mankind to know and to achieve, which extend far beyond present conceptions, and which demand a re-evaluation of current paradigms of reality and a reassessment of old conceptions of the sources and limits of human knowledge.

This introductory essay will provide a preliminary understanding of what the unified field is, what Maharishi Vedic Science is, and how Maharishi Vedic Science and modern science are related. It also defines fundamental concepts and terminology that will be frequently used in this journal and surveys the practical applications of this new technology. We begin with a description of the unified field as understood in modern science.

**The Unified Field of Modern Science**

Within the last few years, modern theoretical physics has identified and mathematically described a unified field at the basis of all observable states of physical nature. Einstein’s hope of finding a unified field theory to unite the electromagnetic, gravitational, and other known
force fields has now been virtually realized in the form of unified quantum field theories. Instead of having several irreducible and distinct force fields, physics can now mathematically derive all four known force fields from a single supersymmetric field located at the Planck scale ($10^{-33}$ cm or $10^{-43}$ sec.), the most fundamental time-distance scale in nature. This field constitutes an unbounded continuum of non-changing unity pervading the entire universe. All matter and energy in the universe are now understood to be just excitations of this one, all-pervading field.

Physics now has the capacity to describe accurately the sequence by which the unified field of natural law systematically gives rise, through its own self-interacting dynamics, to the diverse force and matter fields that constitute the universe. With a precision almost undreamed of a few years ago, the modern science of cosmology can now account for the exact sequence of dynamical symmetry breaking by which the unified field, the singularity at the moment of cosmogenesis, sequentially gave rise to the diverse force fields and matter fields. It is now possible to determine the time and sequence in which each force and matter field decoupled from the unified field, often to within a precision of minute fractions of a second. This gives us a clear understanding of how all aspects of the physical universe emerge from the unified field of natural law.

Mathematics, physiology, and other sciences have also located a unified source and basis of all the laws of nature in their respective disciplines. In mathematics, the foundational area of set theory provides an account of the sequential emergence of all of mathematics out of the single concept of a set and the relationship of set membership. The iterative mechanics of set formation at the foundation of set theory directly present the mechanics of an underlying unified field of intelligence that is self-sufficient, self-referral, and infinitely dynamic in its nature. Investigations into the foundations of set theory are ultimately investigations of this unified field of intelligence from which all diversity of the discipline emerge in a rigorous and sequential fashion. In physiology, it is the DNA molecule that contains, either explicitly or implicitly, the information specifying all structures and functions of the individual physiology. In this sense, therefore, it is DNA that unifies the discipline by serving as a unified source to which the diversity of physiological functioning can be traced.
Each of the modern sciences may indeed be said to have glimpsed a unified state of complete knowledge in which all laws of nature are contained in seed form. Each has gained some knowledge of how the unified field of natural law sequentially unfolds into the diverse expressions of natural law constituting its field of study. Modern science is now discovering and exploring the fundamental unity of all laws of nature.

**Maharishi Vedic Science**

Maharishi Vedic Science is based upon the ancient Vedic tradition of gaining knowledge through exploration of consciousness, developed by the great masters in the Himalayas who first expressed this knowledge and passed it on over many thousands of years in what is now the oldest continuous tradition of knowledge in existence. Maharishi’s work in founding Maharishi Vedic Science is very much steeped in that ancient tradition, but his work is also very much imbued with the spirit of modern science and shares its commitment to direct experience and empirical testing as the foundation and criterion of all knowledge. For this reason, and other reasons to be considered below, it is also appropriately called a science. The name “Maharishi Vedic Science” thus indicates both the ancient traditional origins of this body of knowledge and the modern commitment to experience, system, testability, and the demand that knowledge be useful in improving the quality of human life.

The founders of the ancient Vedic tradition discovered the capability of the human mind to settle into a state of deep silence while remaining awake, and therein to experience a completely unified, simple, and unbounded state of awareness, called pure consciousness, which is quite distinct from our ordinary waking, sleeping, or dreaming states of consciousness. In that deep silence, they discovered the capability of the mind to become identified with a boundless, all-pervading, unified field that is experienced as an eternal continuum underlying all existence. They gave expression to the self-sufficient, infinitely dynamic, self-interacting qualities of this unified state of awareness; and they articulated the dynamics by which it sequentially gives rise, through its own self-interacting dynamics, to the field of space-time geometry, and subsequently to all the distinct forms and phenomena that constitute the universe. They perceived the fine fabric of activity, as Maharishi explains it, through which this unity of pure consciousness, in the pro-
cess of knowing itself, gives rise sequentially to the diversity of natural law and ultimately to the whole of nature.

This experience was not, Maharishi asserts, on the level of thinking, or theoretical conjecture, or imagination, but on the level of direct experience, which is more vivid, distinct, clear, and orderly than sensory experience, perhaps much in the same way that Newton or Einstein, when they discovered the laws of universal gravitation or special relativity, enjoyed a vivid experience of sudden understanding or a kind of direct “insight” into these laws. The experience of the unified field of all the laws of nature appears to be a direct experience of this sort, except that it includes all laws of nature at one time as a unified totality at the basis of all existence—an experience obviously far outside the range of average waking state experience.

The ancient Vedic literature, as Maharishi interprets it, expresses, in the sequence of its flow and the structure of its organization, the sequence of the unfoldment of the diversity of all laws of nature out of the unified field of natural law. The Veda is thus to be understood as the sequential flow of this process of the oneness of pure consciousness giving rise to diversity; and Maharishi Vedic Science is to be understood as a body of knowledge based on the direct experience of the sequential unfoldment of the unified field into the diversity of nature. It is an account, according to Maharishi, of the origin of the universe from the unified field of natural law, an account that is open to verification through direct experience, and is thus to be understood as a systematic science.

These ancient seers of the Vedic tradition developed techniques to refine the human physiology so that it can produce this level of experience, techniques that were passed on over many generations, but were eventually lost. Maharishi’s revival and reinterpretation of ancient Vedic science is based on his revival of these techniques which have now been made widely accessible through the training of thousands of teachers of the Transcendental Meditation program. He has thus provided a reliable method of access to this field of direct experience where the oneness of pure consciousness gives rise to the diversity of the laws of nature; and he has also developed applications of this technology that render it open to experimental testing. These applications will be considered below.
Maharishi describes the experience of this unified field of consciousness as an experience of a completely unchanging, unbounded unity of consciousness, silently awake within itself. Gaining intimate familiarity with the silence of pure consciousness, Maharishi holds, one gains the ability to experience within that silence an eternal “fabric” or “blueprint” of all laws of nature that govern the universe, existing at the unmanifest basis of all existence. This unmanifest basis of life, where all laws of nature eternally reside in a collected unity, is experienced as the fabric of the silent field of consciousness itself, which is not in space and time, but lies at the unmanifest basis of all manifest activity in space and time. Through Maharishi’s work, this experience comes to be understood (as we see below) as a normal state of consciousness that arises in the natural course of human development.

Glimpses of this universal domain of experience, where all possibilities reside together in an eternally unified state, have been reported in almost every culture and historical epoch, from Plato to Plotinus and Augustine, and from Leibniz to Hegel and Whitehead. Scientists like Kepler, Descartes, Cantor, and Einstein also appear to have written of it and seemingly drew their insights into the laws of nature from this experience. Descartes (1908) writes, for example, of an experience that he had as a young man of “penetrating to the very heart of the kingdom of knowledge” and there comprehending all the sciences, not in sequence, but “all at once.” Scientists and writers from many traditions have described this experience of unity, which confirms that it is completely universal, and not a product of a particular cultural tradition. Just as the Vedic tradition has been misunderstood, however, so have those descriptions of consciousness found in these different cultural traditions; for without a technique that makes the experience systematically accessible to everyone, the understanding that this is a universal experience of the most fundamental level of nature’s activity has been obscured, and has not before now emerged into the light of universal science.

According to Maharishi Vedic Science, it is not only possible to gain direct experience of the unity of natural law at the basis of the manifest universe, but one can also directly experience the unity of nature sequentially giving rise to the diversity of natural law through its own self-interacting dynamics. Maharishi’s most recent research has
centered on delving deeply into the analysis of these self-interacting dynamics of consciousness.

**The Self-Interacting Dynamics of Consciousness**

When one gains the capability, through practice of the Transcendental Meditation technique, of remaining awake while becoming perfectly settled and still, one gains the ability to experience a completely simple, unified, undifferentiated, self-referral state of pure consciousness, which is called Saṁhitā in the Vedic literature, in which knower, known, and process of knowing are one and the same. Consciousness is simply awake to itself, knowing its own nature as simple, unified pure consciousness. Yet in knowing itself, the state of pure consciousness creates an intellectually conceived distinction between itself as knower, itself as known, and itself as process of knowing. In Vedic literature, this is reflected in the distinction between Ṛishi (knower), Devatā (process of knowing), and Chhandas (object of knowledge). According to Maharishi, from the various interactions and transformations of these three intellectually conceived values in the unified state of pure consciousness, all diverse forms of knowledge, all diverse laws of nature, and ultimately all diversity in material nature itself sequentially emerge.

The conscious mind, awake at this totally settled and still level of awareness, can witness the mechanics by which this diversification of the many out of the unity of pure consciousness takes place. The mechanics of Ṛishi, Devatā, and Chhandas transforming themselves into Saṁhitā, Saṁhitā transforming itself into Ṛishi, Devatā, and Chhandas, and Ṛishi, Devatā, and Chhandas transforming themselves into each other are the mechanics by which the unity of pure consciousness gives rise to the diversity of natural law. These mechanics are expressed in the sequential unfoldment of Vedic literature. These are the self-interacting dynamics of consciousness knowing itself, which, Maharishi asserts, sequentially give rise to all diversity in nature.

Maharishi (1986) describes this self-referral state of consciousness as the basis of all creative processes in nature:

This self-referral state of consciousness is that one element in nature on the ground of which the infinite variety of creation is continuously emerging, growing, and dissolving. The whole field of change emerges from this field of non-change, from this self-referral, immortal state of
The interaction of the different intellectually conceived components of this unified self-referral state of consciousness is that all-powerful activity at the most elementary level of nature. That activity is responsible for the innumerable varieties of life in the world, the innumerable streams of intelligence in creation. (pp. 25–26)

The Structure of Maharishi Vedic Science

One of Maharishi’s most important contributions to Vedic scholarship has been his discovery of the *Apaurusheya Bhashya*, the “uncreated commentary” of the *Ṛk* Veda, which brings to light the dynamics by which the Veda emerges sequentially from the self-interacting dynamics of consciousness. According to Maharishi’s analysis, the Veda unfolds through its own commentary on itself, through the sequential unfoldment, in different-sized packets of knowledge, of its own knowledge of itself. All knowledge of the Veda is contained implicitly even in the first syllable “Ak” of the *Ṛk* Veda, and each subsequent expression of knowledge elaborates the meaning inherent in that packet of knowledge through an expanded commentary. The phonology of that syllable, as analyzed by Maharishi, expresses the self-interacting dynamics of consciousness knowing itself. As pure consciousness interacts with itself, at every stage of creation a new level of wholeness emerges to express the same self-interacting dynamics of Ṛishi, Devatā, and Chhandas.

Thus the body of Vedic literature reflects, in its very organization and structure, the sequential emergence of all structures of natural law from the unity of pure consciousness. Each unit of Vedic literature—*Ṛk* Veda, Sāma Veda, Yajur-Veda, Atharva Veda, Upanishad, Āraṇyakas, Brāhmaṇa, Vedāṅga, Upānga, Itihās, Purāṇ, Smriti, and Upaveda—expresses one aspect or level of the process. As Maharishi (1986) describes it:

The whole of Vedic literature is beautifully organized in its sequential development to present complete knowledge of the reality at the unmanifest basis of creation and complete knowledge of all of its manifest values. (p. 28)

Veda, Maharishi asserts, is the self-interaction of consciousness that ultimately gives rise to the diversity of nature. The diversity of creation sequentially unfolding from the unity of consciousness is the result of
distinctions being created within the wholeness of consciousness, as consciousness knows itself. Thus from the perspective of Maharishi Vedic Science, the entire universe is just an expression of consciousness moving within itself. All activity in nature is just activity within the unchanging continuum of the wholeness of consciousness.

Through the texts of ancient Vedic science, as interpreted by Maharishi, we possess a rich account of the emergence of diversity out of the unity of natural law. On the basis of this account, it becomes feasible to compare the Vedic description of the origin of the universe with that of the modern sciences.

**Modern Science and Maharishi Vedic Science**

When Maharishi heard from major scientists of the recent advances of unified field theory in physics, he asserted that modern science had glimpsed the unified field described in ancient Vedic science. “The knowledge of the unified field,” he said (1986, p. 29), “has been discovered by modern science during just the last few years, but the complete knowledge of the unified field has always been available in the Vedic literature.” Modern science, he proposed, had now arrived at the edge of comprehending, through unified quantum field theories, what Vedic science had described on the basis of exploration of the least excited state of consciousness since ancient times: that all diversity in nature sequentially emerges from a unified source through a precise self-interacting dynamics. Modern experimental science and Maharishi Vedic Science could now be seen as two diverse yet mutually complementary approaches to knowing the same underlying reality—one through the empirical method, the other through the exploration of the least excited state of consciousness. Through Maharishi’s inspiration, this has become a major research program that has engaged the attention of many scientists and that has yielded very rich results.

Over the past decade, Maharishi has participated in numerous symposia with major scientists on the theme of exploring modern science and Vedic science to discover detailed structural similarities in their descriptions of the unified field. These symposia have attracted eminent unified field theorists, mathematicians, and physiologists, including a number of Nobel laureates, as well as many of the most highly recognized Pandits of the Vedic tradition. Out of these interactions has come
a meeting of two traditions, East and West, on the ground of their common theme: the investigation of the unified field. Those who have followed these symposia have recognized a deep and impressive structure of knowledge common to both traditions. Both identify a boundless, all-pervading field underlying all states of matter and energy in the universe; both locate it on the most fundamental time-distance scale of nature; both assign to it the same properties of self-sufficiency, self-interaction, infinite dynamism, unboundedness, and unity, among many other common attributes; both identify a threefold structure at the basis of all nature; and both describe a dynamics by which the diversity of nature sequentially emerges from this unified field according to precise laws. The result of these symposia has been that many scientists, following Maharishi’s lead, now feel confident to assert that the unified field described by physics and the unified field of consciousness described by Vedic science are one and the same.

In the first issue of *Modern Science and Vedic Science*, the lead article by John Hagelin explored many of the deep connections between contemporary unified field theory in physics and Maharishi Vedic Science from the standpoint of an active field theorist. His work brought these two diverse methods of inquiry into close relation, drawing upon both the latest developments of unified field theories and the direct experience of the unified field.

Dr. Hagelin presented evidence for Maharishi’s assertion that the unified field of consciousness and the unified field of physics are the same. His main empirical evidence for this new paradigm was drawn from experimental research in the social sciences on the “Maharishi Effect”—the measurable effects on society resulting from the practice of the Transcendental Meditation and TM-Sidhi programs, including Yogic Flying. As further evidence for the identity of consciousness and the unified field, he cited deep parallels between the descriptions of the unified field found in physics and Maharishi Vedic Science. These strikingly similar descriptions support the conclusion that modern science and Maharishi Vedic Science are two complementary methods of approach to the same underlying unity of nature.
The New Paradigm of the Unity of Nature

It is a common belief that the unified field of physics is an objective reality of nature and that consciousness is a subjective experience, and that the two belong, consequently, to different categories of existence. According to this understanding, one is purely material, the other is purely mental, and the two cannot, therefore, be equated.

Through the experience of pure consciousness described in Maharishi Vedic Science, that unified level of intelligence is experienced, not as a mere subjective and localized phenomenon of thought or sensation, but as a non-changing, unbounded field of Being, pervading all forms and phenomena in the universe on a non-active, silent, unmanifest level. Objective and subjective aspects of nature are seen as but two manifest modes of this unified field at the unmanifest basis of existence. A thorough examination of the nature of the unified field in physics and the descriptions of unbounded consciousness brought to light by Maharishi support the thesis that they are but two complementary modes of apprehending a single underlying reality.

The view of nature as consisting of billiard-ball-type objects, each separate, discrete, and isolated from the other, belongs to the old classical Newtonian view of the world. Quantum field theory in modern physics no longer views nature in this way, but provides a new understanding in which the primary reality is that of quantum fields. All forms of matter and energy are understood to be excitations of these underlying fields. In the last year and a half, the apparently different fields of gravity, electromagnetism, and the weak and strong interactions have been theoretically unified as different levels of expression of one single underlying field. All forms and phenomena in the universe are just modes of vibratory excitation of this one all-pervading unified field.

Today, the success of modern physics in unifying our understanding of physical nature is mirrored in the success of Maharishi Vedic Science in unifying our understanding of consciousness. When the unbounded level of pure consciousness is gained as a direct experience, all activity in nature is experienced as an excited state of that one all-pervading field. Since quantum field theory also describes all activity in the universe as excitations of one underlying field, the simplest interpretation is that there is a single unified field which can be known both
through direct experience and through the objective sciences. In this new understanding of the unity of nature, mind and matter cease to be viewed as ultimately different and come to be seen as expressions of a deeper unity of unbounded consciousness.

The unity of nature is not merely a hypothetical unity, nor a unity of intellectual understanding or interpretation. It is a unity of direct experience that has been described in almost every tradition and every historical epoch. Maharishi Vedic Science only brings to light what has been the experience of many of the greatest minds throughout history. What is radically new is that Maharishi has provided a systematic and reliable method by which anyone can gain access to this level of experience. This method of access is the Transcendental Meditation and TM-Sidhi programs, including Yogic Flying.

The Transcendental Meditation and TM-Sidhi Programs, including Yogic Flying

The Transcendental Meditation and TM-Sidhi programs, including Yogic Flying, have been introduced by Maharishi as an effective means for opening the unified field to all as a direct experience. In this way, the unified field becomes universally accessible to systematic exploration.

The key component of these programs is the Transcendental Meditation technique, which provides a systematic procedure by which the mind is allowed to settle naturally into a state of restful alertness, the self-referral state of pure consciousness, in which the mind is completely silent and yet awake. In this way, the state of pure consciousness, which has been the subject of philosophical speculation throughout the centuries, can now be investigated on the basis of direct experience. Maharishi’s immensely important contribution to the clarification and elucidation of this experience of pure consciousness will be a theme for analysis in future issues of this journal.

This quiet, still level of consciousness has rarely been experienced in the past because no systematic and effective technique has been available for providing that experience. The Transcendental Meditation technique is a simple, natural, and effortless procedure for allowing the awareness to settle into a state of deep silence while remaining awake. It has proved to be uniquely effective in making this level of experience widely accessible. Through the deep rest gained during the
practice of the technique, balance is systematically created on all levels of physiological functioning, and the nervous system is habituated to a more settled, coherent, and alert style of functioning. In time, a state of completely integrated functioning is gained, in which pure consciousness is spontaneously and permanently maintained. Once this state is established, the silent, self-referral field of awareness is always present as a stable, non-changing ground underlying all changing states of awareness. This integrated state of consciousness, Maharishi holds, is the basis of all excellence in life and provides the foundation for the further development of higher states of consciousness through the practice of the Transcendental Meditation and TM-Sidhi programs, including Yogic Flying.

Maharishi’s Programs for the Development of Higher States of Consciousness

The ultimate purpose of all aspects of the Transcendental Meditation and TM-Sidhi programs, including Yogic Flying, and Vedic Science is the development of consciousness, the unfoldment of the full human potential to live life in enlightenment. Enlightenment is that fully developed state of life in which one enjoys complete knowledge and lives in total fulfillment. In this state, one lives in harmony with all the laws of nature, enjoying the full support of natural law to achieve any desire without making mistakes.

Maharishi has identified a specific sequence of higher states of consciousness, each distinct from waking, dreaming, and sleeping, which, he asserts, arise in the normal full course of human development. Each state of consciousness unfolds on the basis of a concrete shift in the mode of the individual’s neurophysiological functioning. These states can be distinguished from waking, dreaming, and sleeping on the basis of their distinct physiological correlates. The higher states of consciousness that arise in this developmental sequence are, Maharishi asserts, a source of greater joy, knowledge, and fulfillment than ordinary waking state life.

The attainment of these higher states of consciousness is the basis for fully understanding and applying the theoretical assertions of Maharishi Vedic Science. Maharishi Vedic Science is just the exposition of the full range of direct experience that unfolds during the course of the natural
development of human consciousness. These states of consciousness are universal stages of human development accessible to everyone through the practice of Maharishi’s technologies of consciousness. What before was shrouded in the veil of mysticism is now scientifically understood as a normal, natural stage of human life available to anyone.

An article in the first issue of *Modern Science and Vedic Science*, by Dr. Charles Alexander and others (1987) examined the empirical evidence, drawn from behavioral and neurophysiological research, for the existence of these higher stages of human development. This article unfolded the scientific basis for understanding and verifying higher states of consciousness from the standpoint of a developmental psychologist, and laid the basis for a new paradigm of human development.

**Research on the Relation between Modern Science and Maharishi Vedic Science**

Each individual nervous system, when refined through Maharishi’s technologies of consciousness, is an instrument through which the silent field of pure unbounded consciousness becomes accessible as a field of inquiry. Since the unified field is all-pervading and everywhere the same, a nervous system finely enough attuned in its functioning can gain the ability, according to Maharishi, to experience and identify itself with that unbounded, undifferentiated, and unified field underlying all activity in nature. By taking one’s awareness from the gross level of sensory objects to perception of finer levels of activity, one gains the ability to experience that level of nature’s functioning at which the unity of pure consciousness gives rise to diversity. Gaining this unified state of consciousness is the means by which anyone can experience and confirm the structure of knowledge and reality described in Maharishi Vedic Science. This is partly what makes Maharishi Vedic Science a precise, verifiable science: All theoretical structures of the science can be verified through a reliable, systematic, effective technology. Other foundational aspects of this science will be considered below.

Maharishi’s technologies of consciousness become, in the modern world, a method for the investigation of the unified field and the most refined level of nature’s activity through direct experience. Modern physics, through its objective method of inquiry, has glimpsed a unified field underlying all of nature, but physics has reached a fundamental
impasse in its ability to experimentally investigate the unified field, because the energies required to probe these finer scales exceed those attainable by any conceivable particle accelerator technology. When physics can go no further, Maharishi’s technologies of consciousness, facilitate inquiry beyond the limitations of the objective approach by providing an effective means of exploring the unified field on the level of direct experience.

This exploration of the unified field through the subjective experience of consciousness is a well-structured program of research. It is guided by the knowledge of Maharishi Vedic Science set forth by Maharishi in conjunction with the modern sciences. When descriptions of the unified field from the standpoint of modern science, of Maharishi Vedic Science, and of direct experience coalesce, the three together provide a basis for complete knowledge. This program of research is based on Maharishi’s exposition of the Vedic literature as a complete and detailed expression of the unified field.

According to Maharishi’s exposition of the Veda, the sequential emergence of the diverse laws of nature from the unified field can be directly experienced in the field of consciousness as a sequence of sounds; these are presented in the sequential emergence of phonological structures of the Vedic texts. Veda is just the structure of the self-interacting dynamics through which the unified field gives rise to the diverse expressions of natural law. Fundamental theoretical concepts in physics and other disciplines, insofar as they are valid descriptions of nature, should therefore correspond to different aspects of Vedic literature that describe these realities from the standpoint of direct experience.

The basic program of research of modern science and Maharishi Vedic Science, as conceived by Maharishi, thus has three major goals: (1) to develop an integrated structure of knowledge by fathoming the depth of correspondence between the principles of modern science and Vedic Science; (2) to provide, from Maharishi Vedic Science, a foundation in direct experience for the most profound theoretical concepts of modern science; and (3) to resolve the impasse faced by the objective approach of modern science through the addition of the subjective approach of Maharishi Vedic Science, which provides complete knowledge of nature on the basis of the complete development of the knower.
In another issue of *Modern Science and Vedic Science* [see Vol. 5, Pt. 1 of this series], Dr. M.H. Weinless (1987) explored set theory and other foundational areas of modern mathematics in relation to Maharishi Vedic Science. In a proposed issue, Drs. R.K. Wallace, D.S. Pasco, and J.B. Fagan (1988) explore the fundamental relationship between Maharishi Vedic Science and the foundational areas of modern physiology, such as molecular biology. Their paper also discusses the extent to which fundamental principles of Maharishi Vedic Science can be used to further investigation of DNA structure and function.

The discovery of deep structures of knowledge and principles common to Maharishi Vedic Science and modern science represents such a profound contribution to our understanding of nature that this journal was founded to foster continued scholarly investigation of the interrelations between these complementary methods of gaining knowledge. Knowledge gained by direct experience of the fine fabrics of nature’s activity, and knowledge gained by the experimental methods of modern science coalesce in a new integrated method of inquiry that offers both the fundamental principles of modern science and the expressions of direct experience in Maharishi Vedic Science as two facets of one reality of nature’s functioning.

Maharishi (1986) sums up the relation between Maharishi Vedic Science, modern science, and his technologies of consciousness:

> Maharishi Vedic Science is applied through the Technology of the Unified Field. We speak of the unified field in connection with Maharishi Vedic Science because of the similarity of what has been discovered by physics and what exists in the self-referral state of human consciousness. The Technology of the Unified Field [That is, Transcendental Meditation and TM-Sidhi programs, including Yogic Flying—Eds.] is a purely scientific procedure for the total development of the human psyche, the total development of the race. This is a time when objective, science-based progress in the world is being enriched by the possibility of total development of human life on earth, and this is the reason why we anticipate the creation of a unified field-based civilization. (p. 35)

On the basis of the universal availability of this domain of experience, an empirical science of consciousness becomes possible for the first time.
The *Science of Creative Intelligence*: Foundations of a New Science of Consciousness

The unified science that links the objective method of modern science and the subjective method of Maharishi Vedic Science, while preserving the integrity of each, is called the Science of Creative Intelligence (SCI). Maharishi himself has laid the foundations of this new science by showing, first, how a precise subjective science of consciousness is established on the basis of the direct experience of consciousness in its pure form; and second, how the experimental method can be used to test empirically the assertions of the subjective science. Through Maharishi’s work, for the first time in history, the full potential of human consciousness can be investigated both through direct experience and through the objective methods of modern science. The foundations of this new science linking the subjective and objective method will now be considered.

**Experiential Foundations**

Prior to Maharishi’s work, the term *consciousness* was considered too vague and indefinite to be allowed into scientific discussion. It was excluded from science as a metaphysical term because consciousness was not objectively observable, and therefore apparently not amenable to scientific investigation. Through Maharishi’s work, the concept of consciousness has been given a precise, well-defined meaning on the basis of direct experience, and its relation to the objective framework of science has been precisely specified.

The experience of pure consciousness, available to anyone through regular practice of the Transcendental Meditation technique, is a basis for precise experiential knowledge of consciousness in its simplest, most fundamental, and most unified state. Even though consciousness can never be an object of experience, when the conscious mind becomes completely settled in a wakeful state, it experiences its own nature as pure wakefulness, pure consciousness, without any activity or objective content. Through the repeatable, systematic experience of this silent but wakeful state of mind, the concept of pure consciousness, which has been subject to conjecture and debate throughout the centuries, is now available to direct experience.
Having laid the basis for introducing consciousness into science as a precise concept, it remained for Maharishi to develop a program of applied research to test theoretical predictions of Maharishi Vedic Science. Identifying consciousness with the unified field provides a precise understanding of where consciousness is located in the framework of the sciences. To create an empirical science of consciousness, however, it was also necessary to account for how consciousness could be investigated through experimental research.

**Empirical Foundations**

Maharishi’s work has laid the foundation for an experimental investigation of consciousness. He has led the way in drawing out predictions of Vedic science that are open to testing, translating discussions of consciousness, derived from experience of higher states of consciousness, into predictions of experimentally observable phenomena. Three examples will illustrate this principle.

Pure consciousness, as was noted above, is experienced during the practice of the Transcendental Meditation technique as a state of pure restful alertness. This purely subjective experience does not, however, establish objectively whether it is in fact a state of deep rest and alertness, or only seems to be. If a person is in a deep state of rest and alertness, Maharishi has asserted, then physiological evidence of deep rest and alertness should be observable. Reduced levels of oxygen consumption, reduced breath rate, and other measures of more refined physiological activity would be predicted. Patterns of EEG coherence in the alpha range, indicative of restful alertness, should also be observed. Early pioneering research by Dr. R.K. Wallace (1986) found that these changes do indeed occur. In this way, statements about the subjective experience of consciousness were translated into empirically verifiable assertions. The basis of this correlation between consciousness and physiology is a principle, fundamental to Maharishi’s thinking, that for every state of consciousness there is a corresponding state of physiological functioning. The range of physiological correlates of the experience of pure consciousness is a subject of continuing research.

Consider a second example. Pure consciousness is understood in Maharishi Vedic Science as a clear and settled state of awareness. Anyone who gains this state is said to have a mind like a placid lake, unrippled
by waves, and thus able to reflect the world in a precise, non-agitated manner. Maharishi drew from this several predictions. One is that a person growing in the ability to experience pure consciousness would experience more stable and orderly physiological functioning. This can be translated into the testable prediction that subjects regularly practicing the Transcendental Meditation program display increased stability of the autonomic nervous system. Another prediction is that the practice of the Transcendental Meditation program will produce greater perceptual clarity and greater orderliness of thinking. Translated into specific terms, this leads to the prediction that practicing the Transcendental Meditation program will produce measurable increases on such scales as auditory discrimination, brain wave coherence, and problem solving ability. Research has been designed, carried out, and reported in the literature which measures the growth of these parameters in groups practicing the Transcendental Meditation program by comparison to control groups, thus providing objective verification of the predicted correlates of the subjective experience of pure consciousness.

A third example of how assertions of Maharishi Vedic Science can be translated into testable form is found in the sociological experiments on the Transcendental Meditation and TM-Sidhi programs, including Yogic Flying. The hypothesis is that a group of people practicing this technology in one place, by bringing their awareness to the level of perfect orderliness in the unified field, will enliven qualities of harmony and orderliness in collective consciousness, thus producing measurable positive changes in the quality of societal life. Many experiments have been designed by Maharishi and carried out, demonstrating the power of this technology to produce significant changes in the level of coherence, positivity, balance, and stability in society, even on a global scale. (See Experimental Research, below.) The results of these experiments strongly support Maharishi’s assertion that consciousness is identical with the unified field.

**Experimental Research**

Over 600 hundred experimental studies in the areas of physiology, psychology, and sociology provide substantial confirmation of many basic assertions of Maharishi Vedic Science in the arena of empirical science. Many of these studies, now published in major scientific jour-
nals throughout the world, have been collected in the volumes called *Scientific Research on the Transcendental Meditation Programme: Collected Papers, Vols. 1–6* (1977–1991). This research provides experimental validation of the efficacy of the Transcendental Meditation and TM-Sidhi programs, including Yogic Flying. Because this research— from over 600 scientific studies at over 300 universities and research institutions in 33 countries, published in more than 100 scientific journals—is too extensive to summarize here, the reader is referred to the *Collected Papers* for articles cited in this and other professional journals. Overall, this research probably represents the most concerted, well-designed research program on a potential means to benefit mankind ever conceived. Its present standing is that, taken together as a body of research, it is one of the most impressive confirmations of a theory of human potential ever executed.

Although it is beyond the scope of this introduction to go into the details of this research, it is worthwhile to mention some of the broad categories of scientific investigation that have evolved to guide the research program of the Science of Creative Intelligence. The main areas of research include studies on the individual and society. Research on benefits to the individual may be further subdivided into studies of physiological changes (both during and after the practice); cognitive, psychological, and behavioral changes; benefits to health and social behavior; and benefits to athletic performance, performance in business, and academic performance. Research on social benefits through collective practice may be further grouped into research on families, city populations, national populations, and global population. These research studies fall into the categories of crime prevention, accident prevention, benefits to economy, health, violence reduction, and world peace.

On the basis of this research, basic assertions of Maharishi Vedic Science become verifiable through empirical science. There is, moreover, a unity of theory underlying these diverse predictions and tests. These studies, taken as a whole, constitute a coherent research program that tests the prediction that repeated experience of the unified field results in greater orderliness, coherence, and positivity, in both individual and social life. Research on these changes not only tests fundamental theory, but demonstrates the practical benefits of this new
technology. Maharishi’s technologies of consciousness become open to experimental testing precisely because they have significant practical applications in improving every area of human life.

**Practical Applications**

**of the Transcendental Meditation and TM-Sidhi Programs, including Yogic Flying**

Maharishi has frequently asserted that the purpose of Maharishi Vedic Science is to benefit life, not merely to give knowledge for its own sake. Knowledge, he holds, is for action, action for achievement, and achievement for fulfillment. The ultimate purpose of Maharishi Vedic Science and its applied technology is, therefore, to bring human life to fulfillment.

Maharishi’s technologies of consciousness bring fulfillment to individual life by unfolding the full potential of consciousness. When higher states of consciousness are realized, Maharishi emphasized, life is lived in “twenty-four-hour bliss.” Gaining contact with the unified field, one enjoys spontaneous right action, lives life in total accord with all the laws of nature, and accomplishes any life-supporting desire. Violations of natural law cease, and all suffering, which is caused by violation of natural law, comes to an end. Life is lived free from mistakes, in inner and outer fulfillment. Such is the fundamental purpose of the technologies Maharishi has created.

**Perfect Health**

Maharishi’s technologies of consciousness have important practical applications in the area of health. According to Maharishi, sickness arises from imbalance. Perfect health means wholeness, balance on all levels of life. When individual life is established in the unified field of all the laws of nature, all actions are spontaneously in accord with natural law. In terms of physiological functioning, this means perfect integration and balance, from the biochemical and molecular levels to the macroscopic, organismic levels.

Maharishi Ayurveda is an integral part of Maharishi Vedic Science. It is a revitalized form of the ancient ayurvedic science of life and health, restored to its original purity and effectiveness by Maharishi.
According to Maharishi, the cornerstone of Ayurveda is the development of consciousness. Perfect health in mind, body, and behavior is the result of perfect balance in consciousness and physiology. This develops through the Transcendental Meditation and TM-Sidhi programs, including Yogic Flying, when the mind identifies itself with the unified field, the field of perfect balance and wholeness.

Maharishi Ayurveda combines Maharishi’s technologies of consciousness with specific procedures to treat and prevent illness and promote longevity. Maharishi Ayurveda Medical Centers have been established in many countries to eliminate the basis of sickness, create perfect health, and reverse the aging process. Over the last fifteen years, research into the effects of Maharishi’s technologies of consciousness, on health have been carried out at research institutions all over the world, and Maharishi’s recent emphasis on Ayurveda provides many new research opportunities for investigating the applications of Vedic Science in the area of health.

Maharishi’s technologies of consciousness also include technologies to accomplish specific goals of individual and social life. The TM-Sidhi program has been founded by Maharishi to utilize the knowledge and the organizing power of the unified field for improving achievements in every area of human endeavor.

**Unfolding Full Human Potential through the Transcendental Meditation and TM-Sidhi programs**

When one gains the level of experience of the self-interacting dynamics of consciousness, Maharishi holds, one gains command over all the laws of nature. Stationed at the source of all the laws of nature, at the “central switchboard” of nature’s activity, human consciousness can command all the laws of nature to create any desirable effect in the material world. Maharishi has brought forth a program for gaining mastery over all the laws of nature, based on the formulations found in the ancient *Yoga Sūtras* of Patanjali, one of the principal books of Vedic literature. This is the TM-Sidhi program, in which the mind gains the ability to function from the level of the self-interacting dynamics of the unified field. Once established in pure self-referral awareness through the practice of the Transcendental Meditation program, an individual
gains the ability to draw upon the organizing power of the unified field to accomplish anything. Since the unified field is the source of all existence, its organizing power is infinite, and one who functions from this level has unlimited organizing ability. Established in that unified field of all possibilities on the unmanifest level of existence before consciousness assumes the form of matter, all possibilities open to one’s awareness and one can govern the expressions of the unified field as it transforms itself into matter. As Maharishi (1986) expresses it:

In this program, human awareness identifies itself with that most powerful level of nature’s functioning and starts to function from there. The purpose of the TM-Sidhi program is to consciously create activity from that level from where nature performs. (p. 74)

Through the practice of the TM-Sidhi program, Maharishi predicts, it will become possible to achieve levels of body-mind coordination hitherto deemed impossible. It will be possible, he asserts, to realize the ancient dream of flying through the air, and to develop highly enhanced powers of hearing, seeing, and intuition that extend the senses far beyond the limits currently conceived to be possible. In the Yogic Flying technique, which Maharishi developed from the Yoga Sūtras, the silent state of self-referral consciousness is integrated most fully with outer activity as the body lifts in spontaneous hops, generating inner bliss and maximum coherence in brain functioning. Other Vedic texts describe the ability to move through the air at will as a result of perfection of this Yogic Flying technique. By activating laws of nature that are now hidden to ordinary methods of scientific investigation, the TM-Sidhi program provides a research methodology to explore what is possible for mankind to achieve on the basis of functioning from that level where the conscious mind has become identified with the unified field. This is the basis of a technological revolution more powerful and beneficial to life than any conceived through empirical science.

The Maharishi Effect
The TM-Sidhi program, when practiced in groups, is even more powerful than the TM-Sidhi program practiced alone. The collective practice of the TM-Sidhi program can produce an influence that affects the entire world in measurable ways. This global influence of coherence
generated through the group practice of the Transcendental Meditation and TM-Sidhi programs, including Yogic Flying, has been called the “Maharishi Effect.”

As early as 1960, Maharishi predicted that when individuals practice the Transcendental Meditation and TM-Sidhi programs in sufficiently large groups, a measurable increase in orderliness, coherence, and positive trends would be observed in society. By enlivening the life-supporting and evolutionary qualities of the unified field, such as perfect orderliness, infinite dynamism, and self-sufficiency, Maharishi held, these qualities would be enlivened in collective consciousness and this would have positive, measurable effects on a wide social scale.

Over the years, social scientists developed formulas for predicting the size of the group necessary to create a “phase transition” in society to a measurably higher quality of life. These formulas, calculated on the basis of analogous phase transitions, from disorder to orderliness, studied in physics, came out to be approximately one percent of a population practicing the Transcendental Meditation program, and a much smaller percentage, on the order of the square root of one percent, practicing the TM-Sidhi program.

Since 1978, many experimental studies have been performed to measure the effect of large groups practicing the TM-Sidhi program. Experimental confirmation of the principle has been the consistent result. The Maharishi Effect is now as well documented as any principle of modern social science. In creating this technology, Maharishi has provided an effective method of social change that operates from the silent, harmonizing level of the unified field to produce a transformation in the quality of collective consciousness, thereby effortlessly creating coherence on a global scale. Maharishi (1986) describes how this effect is produced:

The transcendental level of nature’s functioning is the level of infinite correlation. When the group awareness is brought in attunement with that level, then a very intensified influence of coherence radiates, and a great richness is created. Infinite correlation is a quality of the transcendental level of nature’s functioning from where orderliness governs the universe. (p. 75)

D. W. Orme-Johnson and M. C. Dillbeck (1987) have summarized the empirical research on the Maharishi Effect. They surveyed
experimental studies documenting the sociological improvements resulting from the group practice of the TM-Sidhi program. Based on these results Maharishi asserts that the collective practice of the TM-Sidhi program in groups of 8000 (the square root of one percent of the world’s population) would produce coherence in the collective consciousness of the entire world. Statistically significant reductions in crime, accidents, fatalities, and disease, and other positive benefits on a global scale observed during experimental periods have established this as an effective means of changing collective consciousness and thereby changing the quality of life in the world—simply by enlivening the source of order and coherence at the basis of nature, from the level of the unified field.

**Maharishi’s Program to Create World Peace**

The most dramatic application of the Transcendental Meditation and TM-Sidhi programs, including Yogic Flying, is Maharishi’s program to create world peace through the creation of a permanent group of 8000 collectively practicing Maharishi’s technologies of consciousness. These technologies are a basis for eliminating negativity and destructive tendencies throughout the world. Large groups of experts in the TM-Sidhi program, creating coherence, during experimental periods, have provided ample opportunity for scientific research. During these experimental periods, conflict and violence have been reduced in war-torn areas and negative trends have been reversed. Over thirty studies have established the efficacy of this technology to eliminate conflict and promote life-supporting, positive trends throughout the world.

Maharishi clearly lays out the basis of his program to create world peace. Stress, he holds, is the basic cause of all negativity, violence, terrorism, and national and international conflicts. Stress generated by the violation of natural law causes strained trends and tendencies in the environment. Through the Transcendental Meditation and TM-Sidhi programs, including Yogic Flying, human intelligence can be identified with the unified field, and violations of natural law will cease. “Reinforcement of evolutionary power in world consciousness is the only effective way,” Maharishi holds, “to neutralize all kinds of negative
trends in the world and maintain world consciousness on a high level of purity” (*Maharishi’s Program to Create World Peace*, 1986, p. 7).

The global applications of this new science and technology are almost beyond present levels of imagination. Yet scientific research has found measurable reductions in levels of violence, crime, and other indications of negativity during the practice of the TM-Sidhi program in sufficiently large groups during experimental trial periods. Here for the first time in history is a scientific basis for creating world peace, ending terrorism, and reducing the negative trends of society.

On the basis of these studies, Maharishi holds that world peace can be guaranteed now, within a few years, through the establishment of groups of 8000; he holds that perfect health and unlimited longevity can be achieved for individual life, and that balance, coherence and health in society can be established in our generation. War, crime, poverty, and all problems that bring unhappiness to the family of man can be entirely eliminated. Life, he holds, can be lived in absolute abundance and fulfillment. Maharishi has called upon every significant individual in the world to act now to adopt this program for world peace by creating groups of 8000 collectively practicing the Transcendental Meditation and TM-Sidhi programs, including Yogic Flying, to establish world peace and guarantee its perpetuation.

The practical benefits that Maharishi foresees through these new technologies are far greater than those achieved by the technology based on present science. As science has investigated deeper levels of nature, from microbes to molecules to atoms, new technologies have emerged which apply the knowledge in areas such as medicine and nuclear power. In drawing upon the deepest and most powerful level of natural law, the level of the unified field, Maharishi Vedic Science lays the basis for much more powerful technologies still. Where modern medicine has been able to eliminate some diseases by drawing upon microscopic levels, Maharishi Vedic Science lays the basis for the elimination of all disease, and more importantly, for the creation of perfect health and reversal of aging. While modern science has produced nuclear technology but no technology for peaceful resolution of conflict, Maharishi Vedic Science draws upon the infinite organizing power of the unified field at the basis of nature to create social harmony.
and world peace while preserving cultural integrity and stimulating prosperity and progress.

**Maharishi’s Technologies of Consciousness as a New Method of Gaining Knowledge**

The bold assertions about what is practically possible through the application of Maharishi’s technologies of consciousness must be understood in the context of the new method of gaining knowledge that Maharishi has founded. The history of science testifies that as new methods of gaining knowledge of deeper and more unified levels of natural law become available, more powerful and useful technologies become available. Maharishi’s technologies of consciousness are based on the deepest and most unified level of knowledge of nature. It should not be surprising, therefore, that this technology provides a radically new source of organizing power to fulfill the highest goals of mankind. These technologies of consciousness offer a fundamentally new approach to knowledge that has not been available before. In asserting that it is possible for one individual to know all the laws of nature and the entirety of the universe within his or her own consciousness, Maharishi is well aware that he is introducing an account of human potential that goes well beyond the concept of the limits of knowledge that has dominated in the scientific era. This new paradigm of knowledge must be examined in a new light.

It is a widespread belief in the modern age that the only valid method of gaining knowledge is by moving outward through the senses, that is, through the methods of the empirical sciences. It is, however, only the historical failure of subjective approaches that has led to this belief. It cannot be thought that the senses are the only way of gaining knowledge, and those who cling to the belief that it is, only allow old habits to stand in the way of exploring new possible sources of knowledge.

Subjective approaches to knowledge in the past failed to bear fruit because they failed to provide an effective and reliable method of access to an invariant and universal domain of direct experience. They thus failed to establish independent standards of knowledge, they failed to produce methods of distinguishing truth from error, they failed to produce consensus even among those practicing the same method, and
they failed to produce practical technological benefits through the practice of the method.

Maharishi’s technologies of consciousness are different from subjective approaches in the past, and must therefore be considered on separate grounds. They provide an effective, reliable method of opening the mind to an invariant and universal level of nature which is everywhere, and yet not ordinarily open to experience because the mind usually functions on more active levels. By providing a technology to make this non-active level of nature available as a direct experience, Maharishi has made this domain available to all as a new field of inquiry; and, where there is a new source of experience of something universal, unchanging, and objectively verifiable, a new source of knowledge is available.

The Science of Creative Intelligence gives a new account of how complete knowledge is possible. When the mind becomes completely settled and still, according to this account, it gains the ability to perceive on the most refined levels of nature’s functioning—the all-pervading unified field where all laws reside in a collective totality. It not only experiences this unified field, it becomes identified with it; it is the unified field and thus knows the unified field as its own universal Self. On this level of knowledge, there is no separation of knower from the known. Nothing lies outside the range of the knower. All laws of nature and everything in the universe can be known as intimately as one’s own Self. Mind and body cease to be seen as separate realities. Maharishi (1986) says:

In reality our self-referral state of consciousness is the unified field—not an object of knowledge as a rose is when we say, “I see that rose.” The unified field is not an object in this way; it is the subject itself. The unified field is a self-referral state of awareness that knows itself, and in knowing itself is the knower and the known, both together. (p. 96)

On this account, there is no distinction between the knower and the reality that it knows. Since it is the Self that knows itself, there is nothing ultimately outside the consciousness of the knower, and there are therefore no limits on what can be known. [This unbounded value of the Self is written with an uppercase “S” to distinguish it from the ordinary, localized self we typically experience.] If true, this account of knowledge provides a fundamentally new source of discovery of the
laws of nature, like the empirical sciences, in that it relies on experience as a source of knowledge, but distinct from these sciences in that it draws upon a wider range of experience. As a new source of discovery, it extends the power of scientific investigation; yet it remains within the scope of empirical science by being subject to procedures of objective verification.

**Maharishi University of Management**

Maharishi University of Management, formerly Maharishi International University, was founded by Maharishi in 1971, based on the principles of the Science of Creative Intelligence. One of the major functions of this University is to show how each discipline and each level of natural law arises from the unified field of pure consciousness. The specialty of Maharishi University of Management is the knowledge of the unified field of pure consciousness from the standpoint of each academic discipline. At Maharishi University of Management, each modern discipline traces the diversity of laws back to a unified source in the unified field of pure consciousness and shows how the diversity of laws emerge from this unified field through the self-interacting dynamics of consciousness. Just as physics and mathematics have discovered increasingly unified levels of natural law at the basis of their discipline, thus tracing the diversity of its laws to their source in the unified field, so every academic discipline can ultimately show how its laws derive sequentially from the unified field. This project of unification of knowledge, a long sought goal throughout Western intellectual history, is now being systematically pursued and completed at Maharishi University of Management.

This enterprise includes developing charts to show how each modern discipline arises from the unified field of pure consciousness. For each discipline, a Unified Field Chart has been constructed to show how the discipline sequentially emerges from the unified field through the self-interacting dynamics of knower, known, and process of knowing. These Unified Field Charts constitute a major unification of knowledge, showing at a glance how all the diversity of knowledge emerges from a unified source.

Since the unified field is understood as a field of consciousness, and consciousness is the most fundamental level of each student’s own Self,
the study of the unified field at Maharishi University of Management constitutes a method of systematically relating all knowledge to the student’s Self. The success of Maharishi University of Management’s Consciousness-Based education is due in part to this program of relating all knowledge to the unified field and the unified field to the Self. Because all students and faculty at Maharishi University of Management collectively practice the Transcendental Meditation technique, regularly gaining the direct experience of the unified field of pure consciousness, this unified field increasingly becomes a living reality. This unified field ceases to be an abstract concept and becomes as intimate as the Self. The experience of faculty and students has been that learning and inquiry is joyful and most fulfilling in this environment of Consciousness-Based education.

[The reader is referred to other issues of the journal *Modern Science and Vedic Science* as well as to other volumes in this book series *Consciousness-Based Education: A Foundation for Teaching and Learning in the Academic Disciplines* for articles illustrating how Maharishi Vedic Science is transforming our understanding of modern academic disciplines. —Eds.]

**Maharishi’s Work in Historical Perspective:**

**An Appreciation**

Maharishi has created a major watershed in world intellectual history. He has laid the foundation for a fundamental change both in intellectual history and in the history of technology and civilization itself. His work has created a new paradigm of the unity of human knowledge, and, we may expect, will unify the sciences and humanities in a more integrated way than ever before. He has, moreover, brought to an end the old notion that man is born to suffer and that life is a struggle. The practical programs he has founded provide a scientifically validated basis for reducing and even eliminating crime, war, terrorism, poverty, and other problems that beset mankind; more importantly, his discoveries make it possible to live life in the fulfillment of pure knowledge and permanent bliss consciousness and to achieve the highest goals of human endeavor. He has laid the basis for a new civilization, founded on new principles of complete, reliable, useful, fulfilling knowledge—
the knowledge of the unified field of pure consciousness as the perfectly orderly, unified source of nature.

Maharishi is unique in the world today. He has not offered conjectures and hypotheses about reality and human potential, nor does he set himself up as a final authority on matters of knowledge when he speaks rather of experience as the ultimate basis of knowledge. The experience of which he has spoken is derived from a new source, from the level of fully developed human life gained when one's awareness is open to the unified field of pure consciousness. Maharishi's life is an example of that which he taught. Unlike those whose teaching is based solely on the personal authority of the individual, Maharishi has founded universities, sciences, technologies, and other institutions based on universal principles through which any individual can gain the direct experience of the fully unfolded nature of life and validate the truth of what is described in the science. Because of this, Maharishi is held in highest esteem by millions of people around the world.

Maharishi has provided the means of unfolding the dormant creative genius within everyone, and he has established institutions through which the knowledge of how to unfold this potential will be perpetuated generation after generation. He has, moreover, used this knowledge to found programs to create perfect health, progress, prosperity, and permanent peace for the world—programs to end suffering and allow life to be lived in spontaneous accord with natural law. These institutions are not just ideals, but functioning institutions whose practical achievements are now well documented and available for all to examine.

Everyone now has the ability, with the availability of the Transcendental Meditation and TM-Sidhi programs, including Yogic Flying, to engage in this great experiment of identifying one's awareness with the total potential of natural law and to spontaneously live in accord with all the laws of nature while established in the awareness of the unified field of pure consciousness. The experience of approximately three million people who have learned the Transcendental Meditation technique testifies to its practicality and its effortlessness and ease of practice. Experimental studies have shown that its benefits are real and concrete. On this basis, Maharishi has foreseen the creation of a new era of civilization—Heaven on Earth—in which life will be lived
in fullness and abundance without suffering. Maharishi’s work eliminates the very basis of stress and suffering and lays the ground for a new civilization, a unified field-based, ideal civilization that draws on the infinite organizing power of the unified field of pure consciousness to bring human life to fulfillment.

References


Maharishi’s program to create world peace: Removing the basis of terrorism and war. (1986). Washington, DC: Age of Enlightenment Press.


Wallace, R. K., Orme-Johnson, D. W., & Dillbeck, M. C. (Eds.).


Kenneth Chandler’s “Modern Science Vedic Science: An Introduction,” here revised/updated, was originally published in *Modern Science and Vedic Science, 1(2),* p. v–xxvi. It is reprinted with permission of the publisher.
Electronic Resources and Publications

LINKS

Education

Maharishi University of Management: www.mum.edu
Maharishi School of the Age of Enlightenment: www.maharishischooliowa.org
Maharishi’s Consciousness-Based Education: www.CBEprograms.org
International Foundation of Consciousness-Based Education: www.CBEfoundation@ifcbe.org
David Lynch Foundation for Consciousness-Based Education and World Peace: www.davidlynchfoundation.org

Transcendental Meditation Program

Maharishi’s Technologies of Consciousness: www.tm.org
Maharishi Channel: www.maharishichannel.in
Maharishi Lectures and Interviews (film clips): www.tm.org/maharishi
Invincible America Assembly: www.invincibleamerica.org
Global Country of World Peace: www.globalcountry.org
Global Good News Site: www.globalgoodnews.com
Fortune Creating Homes: www.FortuneCreatingHomes.com
Sthapatya Veda: www.sthapathyaveda.com

Research

Center for Brain, Consciousness, and Cognition: www.drfredtravis.com
Truth about TM: www.truthabouttm.org

PHONE NUMBERS

1-888-LEARN TM (1-888-532-7686)
Maharishi University of Management (1-641-472-7000)
PUBLICATIONS

These publications are available from Maharishi University of Management Press: http://mumpress.com and at the MUM Bookstore.

Books by Maharishi Mahesh Yogi

Science of Being and Art of Living
Bhagavad-Gita: A New Translation and Commentary, Chapters 1–6
Celebrating Perfection of Education
Celebrating Perfection in Administration
Vedic Knowledge for Everyone
Inaugurating Maharishi Vedic University

Consciousness-Based Books Imprint from MUM Press

The series Consciousness-Based Education: A Foundation for Teaching and Learning in the Academic Disciplines contains 12 volumes, available in 2011.

Maharishi Vedic Science
Physiology and Health
Mathematics
Art
Government
Sustainable Living

Education
Physics
Literature
Management
Computer Science
World Peace

Each volume includes a paper introducing the Consciousness-Based understanding of the discipline and a Unified Field Chart that conceptually maps all branches of the discipline, illustrating how the discipline emerges from the field of pure consciousness, the Self of every individual. These charts connect the “parts” of knowledge to the “wholeness” of knowledge and the wholeness of knowledge to the Self of the student.

Subsequent papers show how a Consciousness-Based approach may be applied in various branches of the discipline; these papers include occasional examples of student work. Each volume ends with an appendix describing Maharishi Vedic Science and Technologies of Consciousness in detail.