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MAHARISHI'S PROGRAM TO CREATE WORLD PEACE: THEORY AND RESEARCH

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This paper reviews theoretical principles of collective consciousness and the empirical research on the Maharishi Effect demonstrating improved quality of life at the city, state, national, and international levels. The research indicates that an influence of peace is created worldwide through the group practice of the Transcendental Meditation and TM-Sidhi program by at least 7000 individuals —the square root of one percent of the world's population.—EDITORS

This paper presents experimental evidence that world peace can be achieved through the Maharishi Effect. The Maharishi Effect is the phenomenon of increased positive change in society and world events that is observed when the requisite number of individuals participate in the Maharishi Technology of the Unified Field. Part I of the paper gives an introduction to Maharishi's theory of collective consciousness, Part II is a comprehensive review of twelve years of empirical research on the Maharishi Effect, and Part III presents Maharishi's description of life in world peace, which is possible through the application of the principles of collective consciousness.

Maharishi's theory of collective consciousness is outlined in Part I, addressing the relationship between individual consciousness, collective consciousness, and the unified field of natural law; the relationship between violence and stress in collective consciousness; the relationship of government and collective consciousness; and the creation of coherence in collective consciousness at all levels of society through the Maharishi Effect.

The research reviewed in Part II indicates that one percent of a population participating in the Transcendental Meditation program, or the group practice of the TM-Sidhi program by the square root of one percent of the population, is sufficient to raise the level of coherence in collective consciousness, thus providing a stable basis for a lasting world peace.

Increases in societal coherence have been operationally defined in this paper by such changes as **decreases** *in armed conflicts, crimes, traffic fatalities, fires, suicides, hospital admissions, notifiable diseases, infant mortality, divorce, alcohol consumption, cigarette consumption, inflation, unemployment, and pollution; and* **increases** *in international cooperation, stock market indices, and GNP. Some of these variables have been studied individually, and others in the context of comprehensive indices of quality of life. The research has provided strong evidence that the practice of the Maharishi Technology of the Unified Field in sufficiently large numbers is the cause of the observed increases in coherence: (1) by statistically controlling other demographic variables; (2) by using causal analyses which have shown that increasing numbers practicing the TM program in the population are followed by positive changes in society; (3) by employing 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) by experimentally creating large groups of TM-Sidhi participants in various populations to observe effects on specific social indicators as predicted in advance. The Maharishi Effect has been replicated on city, state, national, international, and global scales and in many cultural settings, including the United States, India, Puerto Rico, Holland, and the Philippines. The holistic influence of the Maharishi Effect on diverse social indicators and its universal applicability across different populations support the field-theoretic model of Vedic Science that it operates on the deepest, most universal level of nature, the unified field.*

PART I: THEORETICAL FOUNDATIONS OF MAHARISHI'S PROGRAM TO CREATE WORLD PEACE

A peaceful and progressive world is the hope of everyone, and today, for the first time in recorded history, there are profound principles and an extensive body of scientific research demonstrating that we now possess a systematic and reliable means to create world peace. According to the founder of this approach, Maharishi Mahesh Yogi, world peace must be based upon the development of consciousness of the individual and the whole society (Maharishi's Program to Create World Peace, 1986). In order to achieve this goal, Maharishi has brought forward a new technology—the Maharishi Technology of the Unified Field—to create an influence of coherence and creativity in the individual and society from the most fundamental level of nature, the unified field of natural law. The purpose of this paper is to outline the principles of this approach to world peace and review the growing body of research verifying its effectiveness.

Part I presents an overview of the theoretical principles of collective consciousness that are central to Maharishi's Program to Create World Peace, and Part II reviews the results of 12 years of empirical research indicating its ability to reduce turbulence and promote positive trends at all levels of society. Part III provides the criteria for monitoring the effectiveness of Maharishi's Program to Create World Peace and discusses the role of cultural integrity and national invincibility in maintaining world peace.

Maharishi's principles of collective consciousness set out in Part I draw from two streams of knowledge: (1) recent developments in unified quantum field theories, representing the farthest advance of the objective or scientific approach to knowledge; and (2) a systematic subjective approach to knowledge of the most basic level of nature found in ancient Vedic Science, as revived in this generation by Maharishi (Maharishi Mahesh Yogi, 1985). Maharishi's Vedic Science not only provides a theoretical framework for understanding collective consciousness, but also a set of procedures for developing human life on both the individual and collective levels by providing direct experience of the unified field of all the laws of nature at the basis of individual and collective life (discussed below). The set of procedures for achieving this goal is known as the Maharishi Technology of the Unified Field, and a large body of scientific research described in Part II demonstrates it to be uniquely effective as an approach to world peace (Chalmers, Clements, Schenkluhn, & Weinless, in press; Orme-Johnson & Farrow, 1976).

THE BASIS OF WAR AND TERRORISM: STRESS IN COLLECTIVE CONSCIOUSNESS

Maharishi identifies the source of all conflict in society as stress in the collective consciousness of the nation and the world. Stress in collective consciousness, Maharishi asserts, is the result of the mistakes and suffering of the citizens, and has its ultimate basis in the violation of the laws of nature by the individuals in the society (Maharishi Mahesh Yogi, 1986, p. 98). "Violations of the laws of nature" are actions that are not in accord with the laws of nature that govern progress, development, and happiness in human life. In order for these concepts to be explained fully, we first consider the nature of individual and collective consciousness from Maharishi's perspective, and then the relationship of turbulence in society to stress in collective consciousness.

THE RELATIONSHIP OF INDIVIDUAL AND COLLECTIVE CONSCIOUSNESS—According to Maharishi, a consideration of how to improve the quality of human life must begin with consciousness. On the individual level, the quality of consciousness is the primary determinant of the degree to which individual thought, speech, and behavior contribute to the good of others. On the level of society, the quality of collective consciousness determines the degree to which harmony predominates in the entire social system (Maharishi Mahesh Yogi, 1978, p. 81).

Individual Consciousness: Maharishi describes the range of individual consciousness in terms of seven major states of consciousness, from the three changing states of waking, dreaming, and deep sleep, to higher states of consciousness that express the full potential of human awareness (Maharishi Mahesh Yogi, 1972). In order to appreciate the scope and dignity of higher states of consciousness, it is necessary to discuss the relationship between consciousness and natural law.

According to Maharishi's Vedic Science, consciousness is not just a property of the functioning of the human nervous system, but at a more basic level it is the most fundamental field of nature. The Vedic literature describes pure consciousness as an unmanifest, unbounded, and all-pervading field of pure intelligence responsible for all expressions of the laws of nature, in which all the laws of nature are located (Maharishi Mahesh Yogi, 1980, 1986). This description is supported by recent developments of modern science, particularly the development of unified field theories in quantum physics. The theoretical physics of high-energy particles has identified a single unified field of all the laws of nature, an unmanifest field of pure intelligence in nature; this field is unmanifest and unbounded in the sense that it

is prior to the formation of space and time (Schwarzschild, 1985; Waldrop, 1985). The unified field also has the property of complete self-interaction or self-referral; by its own self-interacting dynamics it gives rise to all laws of nature and all manifest phenomena.

The property of self-referral found in the unified field has been identified as the hallmark of consciousness, in support of the Vedic description of the most basic level of nature as a field of pure consciousness (Hagelin, 1987). In Maharishi's Vedic Science, the self-interacting dynamics of consciousness are referred to as "Samhita":

> The knower, the known, and the process of knowing which connects the knower with the known—when these three aspects of knowledge are seated one within the other, that is called Samhita. Samhita is the collectedness of knower, known, and knowledge. This state of pure knowledge, where knower, known and knowledge are in the self-referral state, is that all-powerful, immortal infinite dynamism at the unmanifest basis of creation. (Maharishi Mahesh Yogi, 1986, p. 27)

According to Maharishi, what makes the unified field immediately relevant to psychology and the social sciences, and to the practical life of an individual, is that because it is the field of consciousness it is capable of being experienced by anyone (Maharishi Mahesh Yogi, 1986, pp. 32–33). The direct experience of the unified field of natural law is described by Maharishi's Vedic Science as the fourth major state of consciousness, termed transcendental consciousness. The Vedic tradition has preserved systematic procedures for allowing the individual to gain the experience of transcendental consciousness; in Maharishi's revival of Vedic knowledge, this is achieved through the technique of Transcendental Meditation and the advanced practice of the TM-Sidhi program, which are components of the Maharishi Technology of the Unified Field. The Transcendental Meditation technique allows one to effortlessly experience transcendental consciousness; the technique is a systematic procedure that is effective irrespective of the background or abilities of the individual (Maharishi Mahesh Yogi, 1966, p. 319). The TM-Sidhi program, derived from the Yoga Sutras of Patanjali, can be learned after several months of practice of the TM technique; it trains one to engage in thought and activity from the level of contact with transcendental or pure consciousness, the unified field of natural law (Maharishi Mahesh Yogi, 1986, pp. 29–30).

The repeated experience of transcendental consciousness leads to higher states of consciousness, termed states of "enlightenment"; Maharishi has identified the sequence of higher states of consciousness gained through the Transcendental Meditation and TM-Sidhi program as cosmic consciousness, refined cosmic consciousness, and unity consciousness (Maharishi Mahesh Yogi, 1986, p. 115). (See Alexander, Boyer, & Alexander, 1987, for a more detailed description of these higher states of consciousness in the context of the scientific research on the Maharishi Technology of the Unified Field.)

A major characteristic of higher states of consciousness is that as they develop one gains increasingly broad comprehension, and thus increasing ability to fulfill one's desires in a manner that supports the interests of everyone else in the environment (Maharishi Mahesh Yogi, 1986, pp. 45–46). (Refer to the last section of Part I of this paper, "Coherence in the Individual as the Basis of Coherence in Collective Consciousness: Experimental Research," for a description of research documenting this development in the individual's life.) The ability to act in a way that supports both individual and social interests results from access to finer and more comprehensive levels of natural law, which is the spontaneous byproduct of the experience of pure consciousness.

Maharishi strongly emphasizes that the development of higher states of consciousness is critical for world peace to be established (Maharishi Mahesh Yogi, 1986, pp. 138–143). This is because the peace of the individual is a prerequisite for world peace. The peace of the individual has its basis in the ability of the individual to fulfill his or her desires, and it is this ability that, as noted earlier, grows naturally with the development of higher states of consciousness. Inability to fulfill one's desires comes from narrowness of vision, and leads to action that is not in accordance with the laws of nature, resulting in frustration, mistakes, and suffering, which are the basis of stress in individual and social life (Maharishi Mahesh Yogi, 1978, pp. 146–152). According to Maharishi, it is only when one's awareness is identified with the unified field of natural law in higher states of consciousness that one's thought and behavior will be spontaneously in tune with all the laws of nature, and therefore fully enriching to personal and social life. Thus, it is only through individuals rising to higher states of consciousness that, in the ultimate analysis, the basis of world peace can be secured.

Collective Consciousness: The fundamental force governing the quality of social life, according to Maharishi,. is the collective consciousness of society. The collective consciousness of a social group is the wholeness of consciousness of the entire group. Each level of society is described as having its own characteristic collective consciousness, such as family consciousness, community consciousness, city consciousness, state or provincial consciousness, national consciousness, and world consciousness (Maharishi Mahesh Yogi, 1977, pp. 123–124).

> Just as the consciousness of an individual determines the quality of his thought and behavior, so also there exists another type of consciousness for a society as a

> whole; a *collective* consciousness for each family, city, state, or nation, having its own reality and the possibility of growth. The quality of the collective consciousness of a society is a direct and sensitive reflection of the level of consciousness of its individual members. (Maharishi Mahesh Yogi, 1977, p. 122)

An illustration of collective consciousness is the common experience that each family has a characteristic feeling associated with it; similarly, the modes of behavior and cultural values of different geographic locations or even nations as a whole are distinctive. The quality of collective consciousness at each subordinate level contributes to the quality of collective consciousness at a higher level. For example, the quality of national consciousness is influenced by the quality of collective consciousness in each state; an agricultural state brings its own unique influence to the national consciousness (Maharishi Mahesh Yogi, 1977, p. 122).

The influence of each individual is important in creating a peaceful and harmonious society. According to Maharishi (1977, p. 124), there is a reciprocal relationship between individual consciousness and collective consciousness. That is, each individual influences the collective consciousness of the society, and at the same time each individual is influenced by the collective consciousness. The consciousness of the individual is the basic unit of the collective consciousness, and therefore the collective consciousness of a nation or the world can only be improved through improving individual consciousness. As noted before, both individual and collective consciousness are enriched through the development of higher states of consciousness.

Each level of collective consciousness may be thought of as a field that permeates the entire society. At the basis of all levels of collective consciousness is the unified field of all the laws of nature, the field of pure consciousness (Maharishi Mahesh Yogi, 1986, pp. 74–75). According to Maharishi, it is through the direct experience of the field of pure consciousness by the individuals in the society that an influence of peace is created in the nation and the world.

The primary determinant of the quality of life in the society, according to Maharishi, is the degree of coherence or integration in collective consciousness (Maharishi Mahesh Yogi, 1986, pp. 80–89). Maharishi states that the result of a coherent collective consciousness is an integration between individual desires and the needs of the society as a whole. The ability to spontaneously fulfill one's own interests while contributing to fulfill the social interest is based on the degree to which the person's awareness is identified with the unified field of all the laws of nature. This is because the unified field is that level of nature that has the capacity to govern all aspects of nature simultaneously, including all aspects of society (Maharishi Mahesh Yogi, 1986, p. 75). The degree to which society as a whole can display this harmonious quality of behavior is dependent on the degree to which the individual members of society generate an integrative influence in collective consciousness from the unified field. Thus, the level of coherence in collective consciousness is dependent upon the proportion of members of society regularly experiencing the unified field, as discussed below (Maharishi Mahesh Yogi, 1986, pp. 74–77).

PEACE AND COLLECTIVE CONSCIOUSNESS—Maharishi's understanding of peace is that it is not a state of inertia, stagnation, rigidity, or passivity, but a lively, creative, and dynamic interaction among the different elements and groups of a social system in which all behaviors are mutually supportive and harmonious. The unified field is itself the permanent basis of peace because it is the state in which the infinite dynamism of the universe is unified in one orderly and balanced structure of natural law (Maharishi Mahesh Yogi, 1986, pp. 74–76). This combination of unification, balance, and dynamical creativity is precisely what is needed in world consciousness to establish peace. Because the unified field is the most basic level of individual and collective consciousness, this dynamical state of peace is inherent in the foundation of society. It only needs to be enlivened in the conscious awareness of the individuals so that this quality of infinite dynamism and harmony can be infused into social life to structure a state of permanent peace.

The nature of life, according to Maharishi, is to progress towards greater happiness, where ultimate happiness and satisfaction are understood as a dynamical state of creativity based on the awakening of the individual to the unified wholeness of existence at the basis of all manifest phenomena. Peace can only be permanent on the basis of unshakeable satisfaction, and lack of progress at any level of life will create frustration. Therefore, life must continually be progressing towards greater happiness for permanent peace to be achieved (Maharishi Mahesh Yogi, 1986, pp. 140–142).

When individuals, due to restricted awareness, do not act in accord with the full range of the laws of nature that govern progress, then progress is restricted and stress accumulates in collective consciousness. This is the basis of all problems in society, including negativity, violence, terrorism, and national and international conflicts (Maharishi Mahesh Yogi, 1986, pp. 80–85). When stress in collective consciousness builds up to an extreme degree, then it will inevitably burst out in violence and conflict. Just as any spark can kindle a conflagration in dry grass, any unfortunate event can

have catastrophic results when there is great stress in collective consciousness. Maharishi describes this in the following way in speaking on the existence of terrorism:

> Whatever may seem to be the cause of the outbursts of terrorism, whatever little excuses there are, these excuses arise on the surface of the human race only from the stress in world consciousness, and stress is not seen until it bursts out. The basis of stress in world consciousness is the violation of natural law by the people. That basis of the violation of natural law is the fact that the educational systems do not educate the people to spontaneously think and act according to natural law. (Maharishi Mahesh Yogi, 1986, pp. 83–84)

Thus Maharishi states that it is because the whole population of the world has continued to violate the laws of nature that violence and conflict are the lot of mankind today, as they have been for the last three thousand years of recorded history (Maharishi Mahesh Yogi, 1986, pp. 80–82). The type of knowledge that is required in order for world peace to be created and maintained must be qualitatively different from the approaches that have prevailed in the past. The discovery of specific laws of nature has only led to greater destructive potential without improving the human condition. What is needed is knowledge that not only provides understanding of the laws of nature, but also deepens wisdom, maturity, intelligence, and flexibility at the same time. According to his theory, only an educational system that incorporates a systematic procedure to allow the citizens of the nation to identify their awareness with the unified field of all the laws of nature, thereby promoting the development of higher states of consciousness and preventing violation of natural law and the buildup of stress in collective consciousness, could succeed in laying a permanent basis for world peace (Maharishi Mahesh Yogi, 1986, pp. 82–84).

The current approach to education, which provides knowledge of the functioning of isolated laws of nature but does not directly develop the consciousness of the student, has had disastrous consequences for human life. This is particularly true as modern science has developed the knowledge of the electronic and nuclear levels of natural law; the result has been to provide mankind with increasing destructive capability without reducing the negative and destructive tendencies in society that arise from the violation of the laws of nature. Unlike the knowledge of the electronic and nuclear levels of natural law, which can be used in either a creative or destructive manner, Maharishi states that the holistic and balanced structure of natural law found in the unified field can only be used for creative purposes. This is because the self-interacting dynamics of the unified field sustain the development of all expressions of natural law simultaneously (Maharishi Mahesh Yogi, 1986, p. 32).

THE ROLES OF GOVERNMENTS AND INDIVIDUALS IN CREATING PEACE

The responsibility for maintaining peace within a nation and between nations has traditionally belonged to the government. However, no government has succeeded in creating a state of inner peace in the nation or in providing a basis for peace between nations. The principles of collective consciousness brought to light by Maharishi's Vedic Science allow us to understand why governments have failed to create a significant or lasting state of peace. In order to make this clear, we will first outline the relationship between government and collective consciousness described by Maharishi, and then apply these principles to explain why the methods previously used by governments to create peace have not been successful.

GOVERNMENT AND COLLECTIVE CONSCIOUSNESS—The reason that governments have not succeeded in creating a peaceful world is that it is not within their power to do so. This does not diminish the dignity of government; it only reflects Maharishi's principle that government depends on the collective consciousness of the nation (Maharishi Mahesh Yogi, 1977, p. 122).

According to Maharishi, in any nation, regardless of its system of government, the government is an innocent mirror of the collective consciousness (Maharishi Mahesh Yogi, 1977, p. 122). The government can only react to whatever situation is created by the national consciousness. That is, the government itself is silently governed by the collective consciousness of the people. Whatever the quality of the collective consciousness of the nation, that too will be the quality of the government. Just as the actions of a person's body are the results of the mind, so the actions of a government are the effects of the collective consciousness of the nation.

It is unavoidable, according to Maharishi, that government is dependent on the collective consciousness of the nation. The destiny of the government, for better or for worse, is "designed" by the national consciousness (Maharishi Mahesh Yogi, 1977, p. 122). Thus, when there is violence in the collective consciousness, due to the accumulation of stress, then the mood and actions of the government are prone to violence. In contrast, when there is coherence in the national consciousness, then peace will be the natural trend of life in the nation, and this will be reflected in the mood and actions of the government. In Maharishi's words:

> The absolute philosophy of government is 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 be the quality of national government and national law. Therefore, it is the national consciousness that has to be made more coherent. Every country has to rise to national integration. Integrated national consciousness will promote national life in the evolutionary direction, which means always positive and free from suffering. (Maharishi Mahesh Yogi, 1986, p. 80)

Thus, in order for any government to grow towards more perfect administration, growth of coherence in national consciousness is the prerequisite. However, since government can only reflect a situation already created in national consciousness, the primary responsibility for creating greater coherence in national consciousness rests with the individual leaders of society. Moreover, as terrorism has become an increasing concern in international affairs, world peace has become the personal and urgent need of every significant individual in the world today (*Maharishi's Program to Create World Peace,* 1986). It will naturally be the leaders who have the vision and creativity to immediately implement programs to create coherence in the nation, as described in the following pages. Once an influence of coherence has been created in the nation, the decisions of the government will naturally reflect this situation. Based on Maharishi's principles of collective consciousness, however, and as verified by the example of history, it is clear that it will not be effective to wait for governments themselves to create world peace.

WHY PAST METHODS TO ACHIEVE PEACE HAVE FAILED—Having examined the relationship between government and collective consciousness from the perspective of Maharishi's principles of collective consciousness, we are in a position to understand why the methods previously used by governments in an attempt to create peace have not succeeded. Several of these approaches will be considered below.

Negotiations are one of the most common methods to establish a more positive relationship between nations; successful negotiations end in a treaty expressing the joint intention of the governments to pursue a peaceful relationship and outlining the plans of action of the governments to maintain peace. However, negotiated treaties historically have been short-lived because they serve immediate interests of the parties within a volatile international environment. From the perspective of Maharishi's principles of collective consciousness, it is obvious why such peace treaties have not endured: the primary determinant of the inability of nations to maintain a peaceful relationship is lack of coherence in national consciousness; without relieving the accumulation of stress in national consciousness one cannot establish peace (Maharishi Mahesh Yogi, 1986, pp. 83–85). If a treaty is signed between nations, but stress continues to accumulate in collective consciousness due to the violation of the laws of nature by their citizens, the result will be the growth of turbulence, leading to domestic or international violence, and possibly war.

Another approach to peace is the buildup of military might through the accumulation of arms. This approach is based on the fact that the weakness of any nation is an invitation to other nations to attack it. It is a very important principle of Maharishi's theory of collective consciousness that the inner strength of the nation is crucial in maintaining peace. However, only coherence of national consciousness can ensure the strength of the nation, not strength of arms (Maharishi Mahesh Yogi, 1978).

The obvious reason that arms cannot ensure peace is that the accumulation of weapons causes fear in other countries. Fear in turn creates stress, and with the increase of stress in collective consciousness the possibility of violence in the nation is also increased. If other nations also respond by accumulating weapons, then an increase of mutual fear occurs and an increase of stress among a large number of nations is created. This situation could never by itself lead to a natural state of peace among nations. The rivalry between the superpowers has created great fear in the world and this is particularly dangerous because of the enormous destructive potential of modern weapons.

Maharishi views the consequences of amassing arms in the following way:

> Throughout the world there is a wave of fear—fear of annihilation, of terrorism, of conflicts and violence, of the unforeseen that could come at any time anywhere on earth. This fear of indefiniteness in every nation is not a sign of the joy of freedom. Lack of freedom, dependence, fear of life—these prevail. This is the reason every nation inevitably has become alerted to amass the means of defense. Amassing arms or amassing anything to defend a nation only makes it clear that the nation is weak. Any country building up a bigger power than others shows that it is very afraid of others. Fear prevails in that country. The bigger the amassing of means of defense, the greater the declaration of fear prevailing in that nation and its government. It is the inner enemy of violence, fear, and weakness in the nation itself that makes it amass the means of defense. But what one amasses in the name of defense are the means of destruction, the means of offense. "Defense" is just a meaningless word. (Maharishi Mahesh Yogi, 1986, pp. 139–140)

According to Maharishi, the reduction of stress in national and world consciousness is the only solution. Maharishi's concept of establishing national invincibility and self-sufficiency through creating coherence in national consciousness will be described in Part III of this paper.

A third approach to reducing the likelihood of war is mutual disarmament. The weakness of this approach is that it is unrealistic to expect nations to disarm in an atmosphere of fear. Moreover, with the increase of fear comes the accumulation of stress in collective consciousness, and this further weakens the approach. Nations will naturally hesitate to disarm when armaments are viewed as the source of internal strength. According to Maharishi, the indomitable strength of a nation comes about only through growth of coherence in national consciousness. Thus, the first step to create peace is not to disarm, but to create coherence in the national and world consciousness. This will naturally result in the reduction of fear and hostility, and the growth of harmony and cooperation between nations, leading to the situation where arms are no longer necessary. This, Maharishi holds, is the only realistic basis for peace (Maharishi Mahesh Yogi, 1986, pp. 138–143).

The reason that governments have had to rely upon these and similar historically unsuccessful approaches to creating world peace is that no government has had the knowledge of how to "handle the collective consciousness of a nation or the whole world" because no government has had knowledge of the "holistic value of natural law in the unified field" (*Maharishi's Program to Create World Peace,* 1986, p. 10). But now, according to Maharishi, this is possible through the knowledge and technology of the unified field (Maharishi Mahesh Yogi, 1986, p. 80).

Maharishi notes that "the holistic concept of handling the collective consciousness of a nation is the most ancient Vedic concept." This concept has unfortunately been lost from view for thousands of years (*Maharishi's Program to Create World Peace,* 1986, p. 11). Maharishi locates in the Vedic literature the concept that "the collective consciousness of the whole universe is in one's own single awareness," in the expression *Aham Brahmasmi*—"I am the totality"; this is the direct realization of the highest level of enlightenment, fully developed unity consciousness (*Maharishi's Program to Create World Peace,* 1986, p. 11). Maharishi's Program to Create World Peace utilizes the Maharishi Technology of the Unified Field to directly influence the collective consciousness on a global scale.

PRINCIPLES OF MAHARISHI'S PROGRAM TO CREATE WORLD PEACE

Maharishi's Program to Create World Peace applies a principle that has now been verified by years of scientific research. We first give the theoretical basis of this principle, and then review the scientific research indicating increased coherence in individual consciousness. Part II then reviews evidence supporting the principle that rising coherence in individual consciousness creates coherence in collective consciousness.

CREATING COHERENCE IN WORLD CONSCIOUSNESS: THE GLOBAL MAHARISHI EFFECT—Maharishi's theory of collective consciousness predicts that it is possible to directly create an influence of coherence in any level of society, including the world as a whole (Maharishi Mahesh Yogi, 1986, pp. 80–82). Maharishi's great discovery, which makes it possible to transform the trends of life of society in a very practical, rapid, and effective way, is that only a small percentage of the population identifying their awareness with the unified field is sufficient to create an influence of coherence in collective consciousness (Maharishi Mahesh Yogi, 1977).

A large body of scientific research has repeatedly confirmed the hypothesis that as few as one percent of a population practicing the TM program or an even smaller number, on the order of the square root of 1% of a population, collectively practicing the TM-Sidhi program is sufficient to produce a measurable and holistic influence of harmony and integration in the entire population (Maharishi Mahesh Yogi, 1986, p. 76). This means that a group of only slightly more than 7,000 persons collectively practicing the Maharishi Technology of the Unified Field is sufficient to create an influence of peace for the whole world's population of about five billion.

To understand how such a remarkably small group could influence an entire population we can consider analogous phenomena in physical systems. In systems governed by wavelike interactions, the strength of elements that are interacting coherently is proportional to the square of their number, while the influence of elements that are interacting incoherently is only proportional to their number. As a result, when a number proportional to the square root of the total elements are interacting coherently, then the coherent influence outweighs the incoherent influence of all the other elements in the system. An example of this principle is laser light. Through the coherent emission of a number of photons that is proportional to the square root of the total, the entire system undergoes a phase transition in which all the photons begin to interact coherently, generating the laser light. Another example is the fact that the power or intensity of a field is proportional to the square of the amplitude of the field. This coherent summation of amplitudes is a principle known in physics as "constructive interference." In a similar manner, Maharishi's theory predicts that the coherent influence generated by the square root of 1% of the population

experiencing the field of pure consciousness will combine to create a powerful influence of coherence in the entire society.

This formula to create coherence in collective consciousness through large groups of participants in the Maharishi Technology of the Unified Field developed over the course of a number of years. As early as 1960 Maharishi predicted that when 1% of a population practices the Transcendental Meditation technique individually, then an improved quality of life will be found in the entire society. This effect was first documented at the city level in 1974, and was named the Maharishi Effect in honor of its originator (Borland & Landrith, 1976). (See "The Discovery of the Maharishi Effect: Reduced Crime in U.S. Cities" in Part II of this paper.) With the introduction of the advanced TM-Sidhi program by Maharishi, it was found that only the square root of the previous 1% figure was required to create the same influence of coherence in society when participants were practicing together in one group the Transcendental Meditation and TM-Sidhi program (Maharishi European Research University, 1979, p. 160).

The creation by a single group of a measurable influence of coherence in an entire society without interacting behaviorally with the population suggests an "action-at-a-distance" effect; in physics such an effect has historically led to the discovery of an underlying field that mediates the effect. In the case of the Maharishi Effect, at the city, state, national, or global level, it has been suggested that the only plausible field that could mediate the effect is the unified field (Hagelin, 1987). This supports Maharishi's explanation that coherence in world consciousness can be generated by creating an influence of coherence from the unified field. Such an effect is possible, in simple terms, because at the level of the unified field every individual is connected; the field of pure consciousness is the deepest level of the consciousness of each individual. Maharishi comments on this point in referring to the unified field:

> 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. Infinite correlation is a quality of the transcendental level of nature's functioning from where orderliness governs the universe. (Maharishi Mahesh Yogi, 1986, p. 75)

The principle of the Maharishi Effect is described in the Vedic literature as the mechanism for creating peace; for example in the Yoga Sutras, Maharishi Patanjali states, *Tat sannidhau vairatyagah*, or, "In the vicinity of coherence [Yoga—the experience of the unified field] hostile tendencies are eliminated" (Patanjali, 1912/1978).

COHERENCE IN THE INDIVIDUAL AS THE BASIS FOR COHERENCE IN COLLECTIVE CONSCIOUSNESS: EXPERIMENTAL RESEARCH—The beneficial effects of the Maharishi Technology of the Unified Field for all areas of life have been documented by over 350 scientific research studies conducted at 160 research institutions in 27 countries during the past 25 years. For a collection of these papers, see the volumes edited by Orme-Johnson and Farrow (1976) and Chalmers, Clements, Schenkluhn, and Weinless (in press). Maharishi describes the comprehensive effect of this technology as the result of the development of higher states of consciousness (Maharishi Mahesh Yogi, 1986, p. 32). This in turn is expressed as increased coherence or integration on the physiological, psychological, and behavioral levels.

Increased physiological integration is indicated by greater stability and flexibility of the autonomic and central nervous systems (Lang, Dehof, Meurer, & Kaufmann, 1979; Orme-Johnson, 1973; Wallace, Mills, Orme-Johnson, Dillbeck, & Jacobe, 1983), increased coherence of brain functioning, particularly in the frontal areas (Dillbeck & Bronson, 1981; Levine, 1976), reduction of stress-related biochemical products (Jevning, Wilson, & Davidson, 1978; Jevning, Wilson, Smith, & Morton, 1978; Subramanyam & Porkodi, 1980), and reductions in health problems that are exacerbated by stress, such as high levels of blood pressure and cholesterol, angina pectoris, bronchial asthma, insomnia, and even biological age (e.g., Alexander, Langer, Newman, Chandler, & Davies, in press; Blackwell, Hanenson, Bloomfield, Magenheim, Nidich, & Gartside, 1975; Cooper & Aygen, 1979; Miskiman, 1976a; Orme-Johnson, 1987; Wallace, Dillbeck, Jacobe, & Harrington, 1982; Wilson, Honsberger, Chiu, & Novey, 1975; Zamarra, Besseghini, & Wittenberg, 1976).

Psychological development in the direction of increased integration is reflected in improved cognitive functioning such as improvements in perception, field independence, memory, fluid intelligence, concept learning, academic achievement, and creativity (e.g., Dillbeck, 1982; Dillbeck, Orme-Johnson, & Wallace, 1981; Kember, 1985; Miskiman, 1976b; Pelletier, 1974; Shecter, 1978; Travis, 1979), as well as greater contentment and increased psychological health, as indicated by reduced negative personality characteristics such as anxiety and increased positive characteristics such as self-actualization and self-concept (Dillbeck, 1977; Ferguson & Gowan, 1976; Nidich, Seeman, & Dreskin, 1973; Shecter, 1978; Turnbull & Norris, 1982). Improvements in behavior include improved family life (Aron & Aron, 1982), reduced use of drugs and alcohol (e.g., Shafii, Lavely, & Jaffe, 1974, 1975), and increased behavioral

competencies among rehabilitation populations (Abrams & Siegel, 1978; Alexander, 1982; Ballou, 1976; Bleick & Abrams, in press; Brautigam, 1976).

The holistic effects of the Maharishi Technology of the Unified Field result from the individual contacting the most balanced and holistic level of life, the unified field (Maharishi Mahesh Yogi, 1986, pp. 32–35). The holistic nature of the effect is critical for an approach to create peace, since the causes of international conflict are highly complex, including ecological, economic, political, sociological, psychological, and health problems.

One of the research results that is of particular importance for understanding the influence of coherence radiated from the group of participants to the whole society is optimal brain functioning during the TM-Sidhi practice (an advanced practice of the technology). This is indicated by maximum coherence or orderliness of brain wave (EEG) activity. During the practice of the technique for Yogic Flying (one aspect of the TM-Sidhi program), maximum EEG coherence is found at the moment when the body lifts off the ground and begins to hop (the first stage of Yogic Flying) (Orme-Johnson, Clements, Haynes, & Badawi, 1976). The subjective experience of this phenomenon is described as waves of exhilaration and bliss, and stabilization of the experience of pure consciousness in activity (Orme-Johnson et al., 1976). One objective correlate of stabilized pure consciousness is EEG coherence (Badawi, Wallace, Orme-Johnson, & Rouzeré, 1984), which is maximum during the Yogic Flying technique even though the body is active. In this way the Yogic Flying technique accelerates the development of enlightenment, in which the experience of pure awareness is maintained at all times, during dynamic activity or deep sleep. As noted above, it is coherence in individual consciousness and brain functioning that is the basis of coherence in collective consciousness; in this sense, coherence of the individual's brain functioning can be considered to be the unit of world peace.

PART II: EMPIRICAL RESEARCH ON MAHARISHI'S PROGRAM TO CREATE WORLD PEACE

Maharishi's approach to world peace is significant not just because it is open to scientific validation, but because the evidence already exists that world peace can be achieved through the Maharishi Technology of the Unified Field. Part II reviews the methodology and results of over 30 scientific studies of the effects of this technology on a wide range of social indicators, including measures of international conflict resolution.

The first section of this review covers the changes in social statistics that have been observed in cities in which 1% of their population learned the TM technique. This section includes the results of eight studies, presented in order of occurrence, illustrating how the original findings were replicated in more and more cities over longer periods of time. As the research unfolded, the studies, which were originally on crime rate, extended the effect to suicides and auto accidents, and controlled for a wider range of demographic variables. This phase of the research culminated in causal analyses of large random samples of U.S. cities and Standard Metropolitan Statistical Areas. The first section closes with a study indicating that bombings and attacks decreased in a Lebanese village in the war zone after reaching a level of 1% of its population participating in the TM program.

The second section of the review covers over 20 experiments on the sociological effects of the group practice of the TM and TM-Sidhi program by the square root of 1% of a population on the city, state, national, and global levels, including several studies indicating decreased international conflicts. Again, the research is presented in chronological order as it occurred, although several studies overlapped in time. The dependent variables in these studies included such social indicators as crime rates, economic indices, and auto fatalities. The variable most often used was crime rate, which has been studied in a variety of populations, including Holland, India, Puerto Rico, the Philippines, Israel, and the United States. Composite indices of quality of life have been studied in the state of Rhode Island, the Philippines, Israel, and the United States, and measures of international conflicts, such as the number of war deaths and content analysis scales of conflict intensity, have been studied in Lebanon, the world's trouble spots, and the world as a whole.

The research on crime rate and other social indicators is relevant to conflict resolution and world peace for the following reasons: (1) it establishes the principle of the Maharishi Effect; (2) both crime and war are types of social violence; and (3) improvements in diverse social indicators are germane to reducing the multidimensional causes of conflict.

These studies have used powerful statistical techniques to detect changes that might otherwise go unnoticed and to establish their possible causal connection with the influence of the Maharishi Technology of the Unified Field. These analyses allow us to detect important sociological changes and to predict that a permanent application of this technology would create world peace.

INCREASED COHERENCE IN COLLECTIVE CONSCIOUSNESS THROUGH ONE PERCENT OF THE POPULATION PRACTICING THE TM PROGRAM

DISCOVERY OF THE MAHARISHI EFFECT: REDUCED CRIME RATE IN U.S. CITIES—The Maharishi Effect was first discovered in December 1974 by Garland Landrith at Maharishi International University. Landrith observed that the crime rate in 1973 decreased in four Midwestern college towns that had reached a level of 1% of their population practicing the TM technique the previous year.[1] This stimulated a study by Borland and Landrith (1976) of the FBI "Uniform Crime Index" total[2] of all eleven "1% cities" in the U.S. in 1972 with populations between 25,000 and 50,000. These cities represented the East, Midwest, South, and West and they were matched with control cities by total population, college population, and geographic region. Participation in the Transcendental Meditation program was defined as the percentage of each city's population instructed in the technique by the end of 1972.[3] Whereas the crime rate increased by a mean of 8.3% from 1972 to 1973 in control cities, which was typical for cities of that size in the United States as a whole, it decreased by a mean of 8.2% in the 1% cities. The probability that the 16.5% difference between the two groups of cities was due to chance was less than .001, that is, it is highly unlikely that it was due to chance (Borland & Landrith, 1976).

Scientists are very cautious about accepting a hypothesis until all reasonable alternative explanations have been systematically eliminated, especially when the hypothesis being tested is novel and counterintuitive to the dominant paradigm of its time. In Borland and Landrith's study, several alternative hypotheses were controlled for. The control cities were matched with the 1% cities on geographic region, resident population, college population, and 1972 crime rate. This ruled out four alternative explanations of the effect.

In addition, the initial level of crime rate in 1972, before 1% was reached, was essentially the same for the two groups of cities: 54.4 crimes per thousand in the 1% cities as opposed to 53.8 crimes per 1000 for controls. Therefore, the reduction in expected crime in 1% cities could not be explained as a "regression towards the mean"; that is, it was not a reduction back to equilibrium levels that typically follows an unusual increase. Yet in 1973 the crime rate decreased in all 11 of the 1% cities, whereas it increased in 8 out of 11 control cities and decreased only slightly in the other 3. Subsequent studies conducted over the last 12 years have replicated the Maharishi Effect while controlling for and ruling out virtually all other factors known to influence crime. These studies are considered below.

REPLICATION OF REDUCED CRIME IN THE CLEVELAND METROPOLITAN AREA—Hatchard (1977) found that rising numbers of TM participants over a three-year period in 40 municipalities in the Cleveland area were significantly correlated with decreasing total crime rate and that the effect could not be accounted for by the ratio of police to population or mean level of family income. Further studies controlled for other demographic factors known to affect crime.

REPLICATION OF REDUCED CRIME IN THE KANSAS CITY METROPOLITAN AREA—In a study of 23 cities in the Kansas City metropolitan area, Dillbeck (1978) took into account unemployment, poverty, per capita income, median educational level, size and density of the population, and its age composition. He found that the TM program had an effect on reducing crime rate that could not be accounted for by these demographic factors. As suggested by Maharishi's theory of collective consciousness, the 1% mark was the transition point at which crime rate began to decrease.

REDUCED CRIME IN U.S. CITIES OVER A SEVEN-YEAR PERIOD—The first three studies on the Maharishi Effect covered change in crime rate over a relatively short period, from 1 to 3 years. To answer the question of whether the effect would continue over longer periods of time, Dillbeck, Landrith, and Orme-Johnson (1981) compared all twenty-four 1% cities in the United States with over 10,000 population with twenty-four control cities over an 11-year period. In the control cities, less than 0.7% of their population had learned the TM technique, but these cities were otherwise similar to the 1% cities in total population, college population, and geographic region. Matching of experimental and control cities was performed by an independent investigator prior to collection of the last several years of data. For each city, the crime trend was estimated by linear regression of the FBI total crime index over the 6-year period 1967–72, before 1% was reached in the experimental cities. A second trend line was fitted to the period 1972–1977 after the experimental cities had reached 1%.

After the experimental cities reached the 1% mark in 1972, there was a decrease in crime trend over the next 5

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[1] The four cities were Iowa City, Iowa; Ames, Iowa; Lawrence, Kansas; and Carbondale, Indiana.

[2] The FBI Uniform Crime Index total at the time of these studies comprised the reported incidence of homicides, forcible rape, aggravated assault, robbery, burglary, larceny, and motor vehicle theft.

[3] Computerized records of the number of participants in the TM program in each city each year were obtained from the World Plan Executive Council, the organization that teaches the program in the United States.

years. In 1973, the year in which the majority of the 1% cities reached 1%, there was a precipitous drop in crime rate of 22% from the level predicted by the previous trend (see Figure 1). This effect could not be explained by differences between the two groups of cities in per capita income, percentage of persons aged 15 to 29, percentage unemployed, or percentage of families with incomes below poverty level because the cities were similar on these variables. Experimental and control cities did differ on three variables: median years education, stability of residence, and pre-intervention crime rate. However, when these variables were controlled for statistically by analysis of covariance, the 1% cities still showed a significant reduction in the crime-rate trend after they reached 1%.

This long-term study demonstrated that the Maharishi Effect was reliable and persisted over a six-year period and could not be accounted for by the major demographic variables known to influence crime.

OTHER MEASURES OF THE MAHARISHI EFFECT: REDUCED ACCIDENTS AND SUICIDES—Landrith and Dillbeck (1983) also studied automobile accidents and suicides in the same group of cities as in the prior study. Auto accidents and suicides as well as crime decreased significantly in the 1% cities relative to controls, suggesting that a holistic phase transition to increased order in society had occurred. All three of these variables contain a stress-related component, which can be taken to indicate that the rise of coherence in collective consciousness had a global effect in reduction of stress.

Durkheim (1951) has pointed out that social indicators such as suicides tend to remain relatively constant over time in a particular subculture, which can be taken as reflecting the stability of its microstructure over time. The reduction in the rates of crime, auto accidents, and suicides in the 1% cities can be interpreted as a fundamental improvement in how individuals feel about themselves and relate to others in their subculture.

CAUSAL ANALYSIS: EFFECTS OF THE TRANSCENDENTAL MEDITATION PROGRAM ON CRIME CHANGE IN U.S. CITIES—Even though statistical controls can be used to rule out other variables, it still might be argued that there is some yet unknown variable that is the cause of social change rather than the TM program. Causal analysis has been used to rule out this possibility. Causality implies lagged correlation. That is, the cause should precede the effect in time, although lagged correlation does not necessarily imply causality (McCleary & Hay, 1980).

One type of causal analysis, called cross-lagged panel correlation, compares the synchronous correlation (the correlation between two variables at the same time) with the lagged correlations (the correlation of a variable with another variable at an earlier or later time). The hypothesis that A is causing B is supported if variations in A are followed in time by correlated changes in B and changes in B are not followed in time by correlated changes in A, assuming that the synchronous correlations at both time periods are equal (Kenny, 1979).

One might ask by how much time should A lead B? In a rapidly evolving system, such as photon exchange, the effect is transmitted at the speed of light; and in a slowly evolving system such as society, the time lapse between cause and effect could be years. A new tax code may have profound effects on business, but it may be years before all of the effects become manifest. Theory

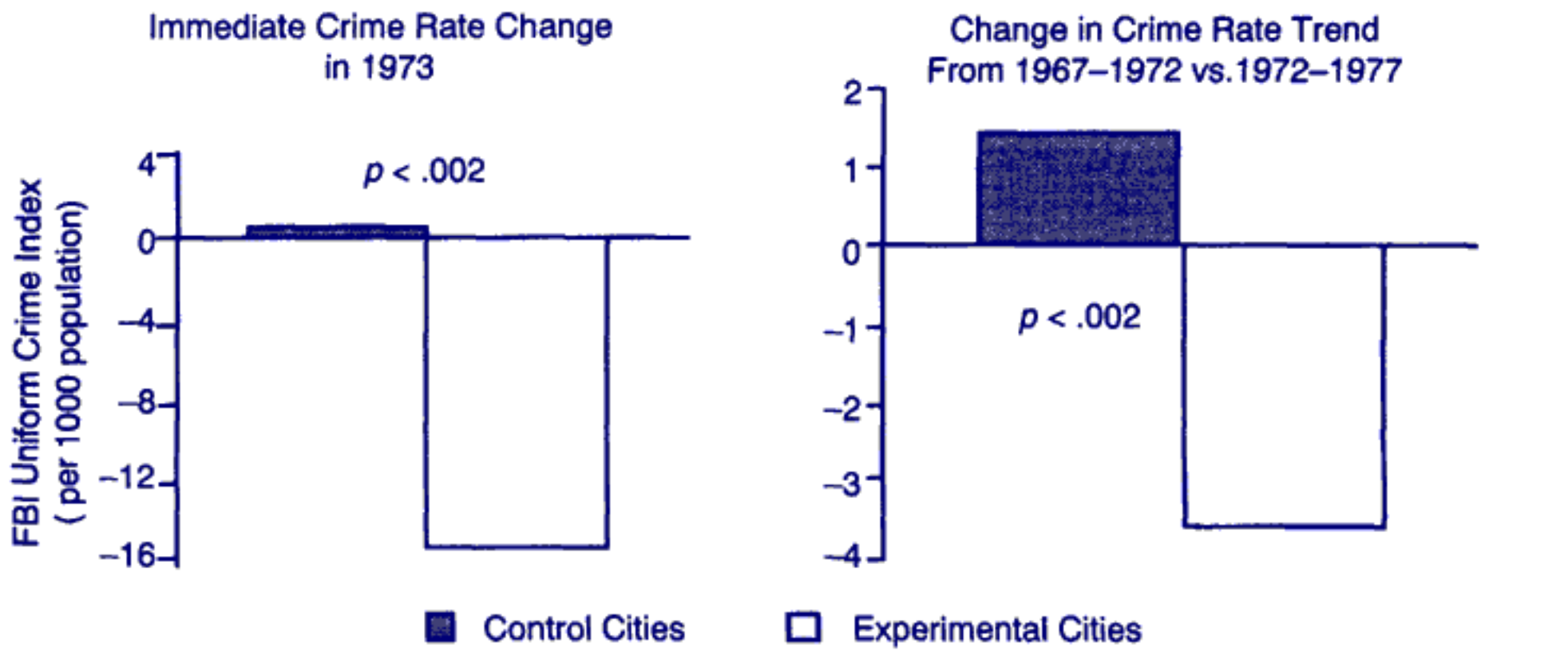


FIG. 1. MAHARISHI EFFECT: DECREASED CRIME IN U.S. CITIES. Cities in which 1% of the population had been instructed in the Transcendental Meditation program by 1972 displayed decreased crime rate during the next year (1973) and decreased crime rate trend during the subsequent years (1972–1977 in comparison to 1967–1972), *in contrast to control cities matched for geographic region, population, college population, and crime rate.*

is important in specifying the time lapse between cause and effect. The Maharishi Effect is predicted by Maharishi's Vedic Science to have an immediate effect that persists as long as the meditators continue to practice the technique in the region under study. However, the manifestation of the effect could be delayed. For example, increased coherence in collective consciousness could have an immediate economic effect on the stock market by increasing the optimism of the traders, and it could also produce a delayed effect by influencing law makers to enact codes that are more favorable to long range improvements in business and industry.

Crime data are only available for cities on a yearly basis, so only relatively slowly evolving processes can be studied using this data. However, yearly data should be expected to capture the dynamics of the prediction that rising numbers of TM participants will cause a decline in crime rate in subsequent years. This prediction was tested by Dillbeck, Banus, Polanzi, and Landrith (1988) in two studies of the Maharishi Effect on crime rate in American cities that used cross-lagged panel correlation to address the question of causality. They studied a stratified random sample of 160 cities including 40 cities in each of 4 population groups (greater than 250,000; 100,000 to 250,000; 50,000 to 100,000; and 25,000 to 50,000). This sample comprised 25% of the total urban population of the United States (1970 census) studied over the 15-year period 1964–1978. As before, FBI uniform crime-rate data were used, which are the only reliable data for a large-scale study of crime-rate changes at the city or metropolitan level. FBI data, of course, were collected independently of the hypothesis of the experiment and are therefore unlikely to contain biases relating to participation in the TM program that would affect the outcome of the experiment.

For each city, a trend line was calculated that represented changes in crime rate from 1964 to 1971 before significantly large numbers began practicing the TM program in the United States. The trend line was projected from 1972 to 1978 to predict what the crime rate would have been had the earlier trend continued. The trend of increasing crime seen from 1964 to 1971 was predicted to continue in the period from 1972 to 1978 in cities with low percentages of TM participants. However, in the cities with high percentages of TM participation the crime-rate trends were predicted to decline below the previous trend line.

The results confirmed the hypothesis of the experiment. The cross-lagged differences were statistically significant in the predicted direction, indicating that rising numbers of TM participants in the cities were significantly correlated with reduced crime rates in the following years.

This study also controlled statistically for the possible influence of other demographic variables known to affect crime.[4] Four of these variables were found to make a significant independent contribution to predicting crime-rate change each year: police per population, median years education, unemployment rate, and percentage over age 65.[5]

When the influence of these variables was statistically controlled for, the pattern of correlations continued to support the hypothesis.[6] This experiment provides strong evidence that the change in crime rate observed in the study was not due to the other known influences on crime or to some unknown factor, but was caused by rising numbers of TM participants in the population.

CAUSAL ANALYSIS IN U.S. STANDARD METROPOLITAN STATISTICAL AREAS—Dillbeck et al. (1988) extended their study to include metropolitan statistical areas. As cities grow, their boundaries may become somewhat artificial, as when two adjoining cities merge into one larger entity. Statisticians have dealt with this problem by creating Standard Metropolitan Statistical Areas (SMSAs) that take the larger metropolitan areas as the unit of measure.

This analysis of SMSAs by Dillbeck et al. (1988) used essentially the same design as the previous study on the city level, except that the sample was a random sample of 80 SMSAs constituting 55% of the SMSAs with over 200,000 population and 47% of the total metropolitan population of the United States. As before, crime trends during a baseline period (1964 to 1971) were projected into the following eight-year experimental period, from 1972 to 1979. (The previous study only went to 1978.) For the SMSAs, 2 out of 13 demographic variables were found to be correlated with crime rate and were removed by partial correlation. The results for the SMSAs were essentially the same as for the cities. A stable causal structure was found that supported the hypothesis that the Maharishi Effect reduced crime rate.

These two causal analyses provide a conservative test of the experimental hypothesis because they used random samples rather than cities specifically selected for

[4] The variables were median years education, percent unemployment, per capita income, percentage of families in poverty, stability of residency over five years, median age, percentage over age 65, population size, population density, and ratio of police to population.

[5] Multiple correlation was used to determine the independent contribution of these variables. The combination of four significant predictors of crime was found to explain equal amounts of variance over the years of the study, a necessary condition in order for them not to introduce bias.

[6] Partial correlation was used to remove the influence of these variables from the correlation between the percentage of TM program participation in a city and its crime rate.

having a high percentage of TM participation. The results of the random sample generalize to the entire U.S. population, controlling for all variables known to influence crime and controlling through causal analysis for the possible influence of an unknown variable.

THE MAHARISHI EFFECT IN A WAR-TORN LEBANESE VILLAGE—A dramatic prospective social experiment on the ability of the Maharishi Effect to reduce armed conflict was made in the Lebanese village of Baskinta, population 10,000, situated in the center of the Lebanese conflict.

Abou Nader, Alexander, and Davies (1984) studied the number of shells coming into the town, the number of people killed and wounded, and property damage in Baskinta compared with the same statistics from three control villages in the same area during a baseline period from the fall of 1978 to the spring of 1982 and during an experimental period from the summer of 1982 through the winter of 1984. The TM program was first introduced in Baskinta in May 1981 and the town reached 1% in June 1982.

As predicted, and in abrupt contrast to its previous history and to what was happening to control villages in the same area, there was a complete cessation of hostilities in Baskinta from the time 1% of its population began to practice the TM program, as measured by incoming shells, property damage, and casualties ($p<.005$ for each measure). This cessation of violence in Baskinta was in sharp contrast to the worsening trends in all the surrounding control villages.

Thus the Maharishi Effect has withstood the test of an expanding research program, which included increasing numbers of cities over longer periods of time, controlling for virtually all demographic variables known to influence crime. These studies extended the measures from crime to suicides, auto accidents, and war-related variables, and included a causal analysis of a substantial random sample of all U.S. cities and metropolitan areas over a sixteen-year period. The significant fact about the Baskinta study is that it was an intervention experiment in which the results were predicted in advance, strongly suggesting the causal influence of the Maharishi Effect in reducing conflict.

EFFECTS ON CITY, STATE, AND NATIONAL CONSCIOUSNESS OF THE SQUARE ROOT OF ONE PERCENT OF A POPULATION COLLECTIVELY PRACTICING THE TM AND TM-SIDHI PROGRAM

In the late 1970s, after much of the early research on the Maharishi Effect was conducted, Maharishi developed the even more powerful TM-Sidhi techniques and the group practice of these techniques as a means to amplify their coherent influence through the group dynamics of consciousness. Drawing from the general principle in physics that the coherent elements of a system produce an effect proportional to their number squared, whereas the incoherent elements create an influence only proportional to their number, Maharishi predicted that the group practice by as little as the square root of 1% of a population would create coherence sufficient to affect the larger society. This smaller number of required participants has made it much easier to experimentally study the Maharishi Effect on social indicators, including measures of conflict, in many countries around the world.

IMPROVED QUALITY OF LIFE IN RHODE ISLAND: THE IDEAL SOCIETY CAMPAIGN—The first publicly announced, prospective experimental research on the sociological effects of groups collectively practicing the TM and TM-Sidhi program was undertaken in the summer (June through September) of 1978, during the Ideal Society Campaign. A team of approximately 300 teachers of the TM program went to the state of Rhode Island to teach the TM program to 1% of the population. This was predicted to increase the quality of life in the state. Rhode Island was picked for the experiment because it was the smallest state in the United States (with approximately one million population), making the 1% mark of 10,000 meditators more within the range of achievement.

By the beginning of August 1978, only about half the required number (5,045) had been instructed.[7] However, Dillbeck, Cavanaugh, Glenn, Orme-Johnson, and Mittlefehldt (1987) were able to take into account the additional influence of the Governors of the Age of Enlightenment (teachers of the Transcendental Meditation program who also practice the TM-Sidhi techniques),[8] who meditated together in groups of 2 to 46 in various cities throughout the state. Group practice of the TM-Sidhi program is predicted by Maharishi's Vedic Science to amplify the Maharishi Effect. The influence of the Governors was calculated to be sufficient to create coherence for a population of 532,000. This, together with the 5,045 TM participants, was predicted to be the threshold for a transition to improved quality of life in Rhode Island's entire one million population. This prediction was evaluated using time series analysis of a composite index of eight variables for seven years of monthly data

[7] This number (5,045) reflects those who had learned the TM technique in Rhode Island prior to the Ideal Society Campaign as well as those instructed in the technique during the campaign.

[8] The TM teachers are referred to as "Governors" not in any political sense, but in the sense that they create coherence in collective consciousness. Because they increase coherence they can be said to "govern the trends of time" by creating an ideal society.

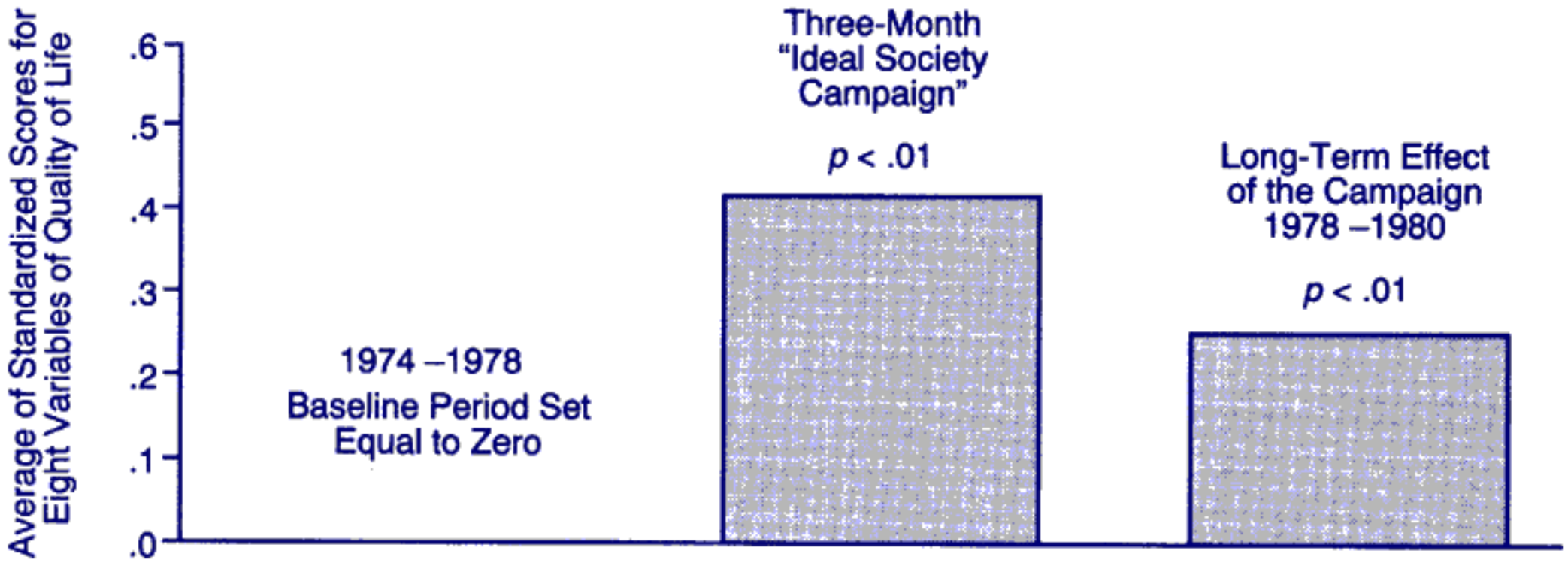


FIG. 2. MAHARISHI EFFECT: IMPROVED QUALITY OF LIFE IN RHODE ISLAND. This figure shows time series analysis parameter estimates for changes in a monthly quality of life index in the state of Rhode Island in comparison to a control state. During a three-month period in which a number of groups were in the state of Rhode Island participating in the TM and TM-Sidhi program, there was a significant improvement in a quality of life index comprising rates of crime, motor vehicle accidents, motor vehicle fatalities, deaths due to other causes, cigarette and alcoholic beverage consumption, unemployment, and pollution due to particulates. There was also a long-term improvement in the quality of life in Rhode Island over the next two years after a coherence-creating group was established in Providence.

from 1974 to 1980.[9] In order to control for the possibility that the quality of life improved in general in that region of the United States, the quality of life in Rhode Island was contrasted with that of the nearby state of Delaware.[10] The composite quality of life index reflected changes in Rhode Island that were not found in Delaware. Therefore, the improvement of the quality of life in Rhode Island was apparently not attributable to regional changes, but rather to the collective practice of the TM and TM-Sidhi participants.

Using Box-Jenkins autoregressive integrated moving averages (ARIMA) time series analysis (Box & Jenkins, 1976; McCleary & Hay, 1980), the quality of life index was found to have quarterly and yearly seasonal components. These regular cycles were mathematically modelled and removed from the data in order to ensure that any change observed during the Ideal Society Campaign was not due to one or both of these seasonal cycles. The result of this analysis was that during the Ideal Society Campaign the quality of life in Rhode Island significantly improved and the effect was found to persist after the campaign as well, apparently as a result of a group continuing to practice the TM-Sidhi program in Providence (see Figure 2).

REDUCED HOSTILITIES IN THE WORLD'S TROUBLE SPOTS—The research on the Ideal Society Campaign confirmed the principle that the group practice of the more advanced TM-Sidhi program by as little as the square root of 1% of a population could improve the quality of life in society. This principle was directly tested immediately afterwards during the 10-week period from October 8 to December 23, 1978 in which a total of 1,400 experts in the TM and TM-Sidhi program went in groups of 30 to 400 to the world's five major trouble spots. This experiment was conducted to test the hypothesis that the group practice of this technology would restore balance to the socio-political systems in those areas of the world (Orme-Johnson, Dillbeck, Bousquet, & Alexander, 1979). The research hypothesis was publicly announced in advance of the experiment in several newspapers, making the experiment public and predictive.

The teams of TM-Sidhi experts went to Rhodesia (Zimbabwe) and Zambia in the Southern Africa region; to Nicaragua and Honduras, Costa Rica, Guatemala and El Salvador in the Central America area; and to Iran, Syria, Cyprus, and Israel in the Middle East. The purpose of the groups in Israel and Cyprus was to test the hypothesis that they could mitigate the intensity of the Lebanese civil war. When these experts in the Maharishi Technology of the Unified Field went to a country, their sole activity directed towards creating peace was the twice-daily practice of the TM and TM-Sidhi program.

An analysis of the effects of the World Peace Project on domestic affairs and international relations for these countries was conducted using the Conflict and Peace Data Bank (COPDAB), 1948–1978: Daily Aggregations

[9] The eight variables were total crime rate, mortality rate, motor vehicle fatality rate, motor vehicle accident rate, pollution (particulates), unemployment rate, beer consumption rate, and cigarette consumption rate.

[10] The index was an average of standardized variables, where each was a monthly ratio of Rhode Island rates divided by Delaware rates.

(Azar, 1980; Azar & Sloan, 1975). The COPDAB file is the largest independent daily data bank in the world coding for conflict in international affairs. The compilers of the COPDAB file were completely independent of the World Peace Project. The events contained in this data set were collected from over 70 major public sources (e.g., newspapers, weekly news reports and surveys, and similar publications). These sources were selected by the designers of the COPDAB file to represent the different views (cultural, political, and economic) of the various population regions of the world in order to provide a balanced summary of world events.

Since the COPDAB file contains daily conflict data, it is appropriate for testing short-term hypotheses about conflict dynamics. It could be argued that the COPDAB data represent the dynamics of news media as well as of conflict, since they are based on news sources. That is, they may be most sensitive to sudden changes in a situation because, for example, reports of new flare-ups are much more likely to appear in the news than the baseline equilibrium levels of conflict. Even if this is the case, however, the COPDAB file is still a valid source of information for studying the effects of the World Peace Project on changing levels of conflict and cooperative events.

The COPDAB file of international and domestic events pertaining to these countries were aggregated into three categories: (1) cooperative events, (2) verbal hostilities, and (3) hostile acts. Events were thus combined into broad, homogeneous categories in terms of degree of conflict or cooperation.

During the World Peace Project the percentage of hostile actions between countries as well as between factions within the trouble spots decreased relative to the baseline period by 16.7 percentage points (from 46.4% to 29.7%). Cooperative events increased by 13.2 percentage points during the World Peace Project relative to the baseline period (from 36.0% to 49.2%, $p < .0001$).[11] Interestingly, verbal hostilities also increased by 3.5 percentage points, which may be interpreted as a shift from behaviorally expressed hostilities to verbal hostilities. The proportional reduction in hostile acts in these trouble-spot countries was twice as great as the proportional reduction of hostile acts in the rest of the world. The rest of the world can in this case be considered a control group, from which we may infer that the decrease of hostilities in the trouble spots was due to the presence of the TM and TM-Sidhi participants.

[11] Time series analyses of the trouble spots were not possible because the flare-ups, for example in Nicaragua and Iran, were too recent to establish a baseline of sufficient length using weekly data.

The type of events reported shifted significantly from military to non-military issues, with an increase of 21.8 percentage points in non-military issues. This indicates that during the World Peace Project there was a broadening of the areas of focus in domestic and international events from military affairs (troop deployment, security pacts, defense treaties, wars, prisoner-of-war releases or exchanges, guerrilla raids, etc.) to non-military concerns (culture, economy, political order, law, human environment, physical environment, and natural resources). Thus, the group practice of the Maharishi Technology of the Unified Field in the trouble spots appeared not only to reduce conflict, but to restore balance as seen in an increase in non-military domestic and international relations. This finding can be interpreted as a shift in the focus of collective consciousness from destructive toward cooperative interaction. As negativity and stress in collective consciousness began to be neutralized, relations in society began to improve within and between nations.

In addition to studying the specific areas to which the TM-Sidhi participants went, Orme-Johnson et al. (1979) also investigated the effects of the World Peace Project on the entire world, again using the COPDAB international file. The trouble spots can be conceived of as points of inflammation in the system of international relations. Just as treating an inflammation in an individual body increases health in the entire body, so calming the major trouble spots in the world should be expected to influence the world as a whole.

Time series analysis (ARIMA impact assessment methodology, McCleary & Hay, 1980) was used to study the worldwide effects of the World Peace Project. The three categories, hostile acts, verbal hostility, and cooperative events for the entire world, were each studied as weekly time series for 1978. (The use of weekly blocks rather than daily data helped increase the stationarity of the series.) In order to control for seasonal effects due to time of year, each of the three series was contrasted with the corresponding weekly series for the mean of the previous 10 years (i.e., 1978 minus prior 10-year mean). This controlled on a week-by-week basis for the possibility that the weeks during which the World Peace Project occurred (October to December) might be ones in which international relations generally improve. The time series models further removed any other systematic cycles or changes in the levels of the series to further control for trends or seasonal components.

The results indicated that the World Peace Project had a strong and statistically significant effect on international relations as a whole: Hostile Acts and Verbal Hostilities decreased and Cooperative Events increased. The analysis indicated that worldwide improvements seen during the World Peace Project could not have

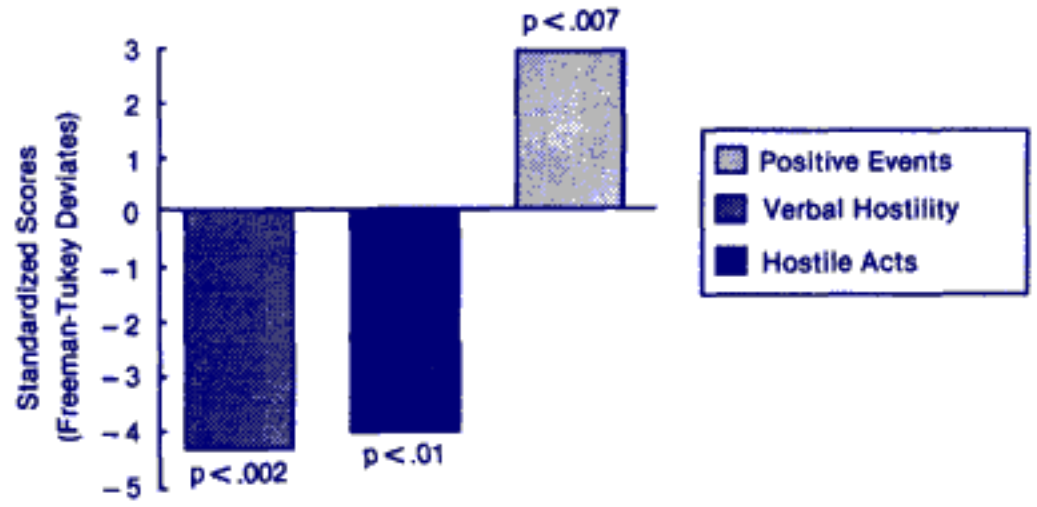


FIG. 3. MAHARISHI EFFECT: IMPROVED INTERNATIONAL RELATIONS. This figure shows time series analysis parameter estimates for changes in three conflict scale categories of worldwide data from the Conflict and Peace Data Bank International File. The analyses indicated reduced hostile acts and verbal hostility and increased positive, cooperative events during the 10-week period of the World Peace Project in 1978 compared to the means of the same weeks of the previous 10 years.

been predicted on the basis of cycles or trends in international relations; the shift towards greater harmony and cooperation that occurred during the project was new and unexpected (see Figure 3).

Thus, while the World Peace Project had its greatest influence on the trouble spots themselves, it also influenced the entire world. One interpretation based on Maharishi's Vedic Science would be that increased coherence in the trouble spots reduced fear in the world so that political leaders, who mirror collective consciousness, would find more support for their efforts to establish peace and cooperation.

Although there were insufficient data in the COPDAB file for reliable statistical analysis of each trouble spot separately, data collected from newspapers and official sources within each country at the time indicated a close correspondence between the increased number of TM-Sidhi participants and decreased conflict, and in all cases indicated that the conflicts reverted to baseline levels when the TM-Sidhi participants left. For example, war deaths in Rhodesia decreased from a baseline of 16.1 per day to 3 per day during the experimental period and quickly rose again to baseline level when the group left.

In Nicaragua, when the group arrived in mid-October, the conflict eased and the number of reports on the Nicaraguan conflict in the international press fell sharply. When additional TM-Sidhi experts arrived at the end of November, Nicaraguan President Somoza agreed to a plebiscite on whether he should remain in office, and violence and tension in the country subsided. However, when the group had to leave towards the end of December, Somoza rejected the plebiscite and violence erupted again (Orme-Johnson et al., 1979).

In Iran, four days after the arrival of the group of TM-Sidhi experts, the BBC commented on the sudden, peaceful turn in the political demonstrations and called it a remarkable illustration of changed conditions in Tehran. Similar effects were seen on other occasions when the group size was increased. Because the required number of TM-Sidhi experts needed to keep the peace were not able to come into the country, no stable order was established. When the remaining experts left Iran in mid-December, extreme social disorder returned to the country.

In order to calm the hostilities in Lebanon, a group of 400 experts in the Maharishi Technology of the Unified Field went to Israel to the town of Safad on the Lebanese border. Before the group arrived there had been continuous heavy fighting since mid-June 1978. The cease-fire of October 8 (initiated shortly before the group was assembled in Safad) lasted a remarkable three months until members of the coherence-creating group left in early January 1979. At that time fighting erupted again which was described as the "worst onslaught since October" (*Lebanon News,* February 1979). Thus, this period of peace in Lebanon coincided with the period in which the coherence-creating group was in Safad.

In Southeast Asia, a group of 150 experts were stationed in Thailand from November 1978 and groups of various sizes continued there for the next two years. During that time the violence in the surrounding area did not escalate into Thailand.

The trouble-spot countries visited by the World Peace Project were located in different hemispheres, making it unlikely that regional weather conditions could have accounted for the results; and in fact nothing unusual was reported about the weather at that time. Also, the result could not be accounted for by the seasonal "Christmas" spirit because many of the factions involved were not Christian, and in fact a study of the COPDAB file shows that Christmas is not a time in which fighting typically subsides. Also, the time of year (in this case, Christmas) was controlled for in the time series analysis by contrasting the week of Christmas in 1978 with the same week of the prior 10 years. It is also unlikely that the physical presence of the outsiders could have caused the observed change because they were relatively few in a large population who remained anonymous and for the most part stayed in their hotels because of the danger of violence.

The results of the World Peace Project demonstrate that the application of the Maharishi Technology of the Unified Field to areas of conflict in the world creates a favorable climate in which peace can emerge and find support.

IMPROVED QUALITY OF LIFE IN THE UNITED STATES AND MASSACHUSETTS: THE FIRST WORLD PEACE ASSEMBLY IN AMHERST—The demonstrated effectiveness

of the World Peace Project motivated a series of World Peace Assemblies. Going to the trouble spots themselves was difficult as well as dangerous. Therefore, Maharishi adopted the strategy of holding large assemblies practicing the TM and TM-Sidhi program in one place. The ultimate goal was to establish a permanent group of over 7,000, the square root of 1% of the world's population. The first large World Peace Assembly consisted of approximately 2,500 TM and TM-Sidhi participants in Amherst, Massachusetts, during a six-week period in July and August 1979.

Since 2,500 should be sufficient to affect the United States as a whole (the square root of 1% of the U.S. population is approximately 1,600), Davies and Alexander (1983) studied the impact of this group on the U.S. as a whole as well as on Massachusetts. They found statistically significant improvements in the quality of life on both the state and national levels compared to previous summers, with an approximately three-fold larger effect on Massachusetts:

1. Traffic fatalities: *U.S.*, – 6.5%, $p<.0001$;
   Massachusetts, –18.9%, $p<.05$;
2. Violent crimes: *U.S.*, –3.4%, $p<.02$;
   Massachusetts, –10.1%, $p<.00001$;
3. Air fatalities: *U.S.*, –20.8%, $p<.05$;
   New England, –83.3%, $p<.001$.

In addition, fatal accidents in 14 categories (from fire, poisoning, etc.) decreased by 4% in the United States. A time series analysis of daily stock market data (Standard and Poor's index) as a measure of national optimism and security showed an increase of .26 points per day during the six-week period of the assembly, with a delayed onset of nine days.

The holistic pattern of results from the Amherst assembly cannot be parsimoniously explained by alternative post hoc explanations specific to one or two indices such as possible changes in the volume of traffic or level of police activity (Davies & Alexander, 1983). For example, one possible alternative explanation for the decrease in auto fatalities is the gasoline shortage of mid-1979. However, although an even more extreme shortage in February and March 1974 had the specific effect of reducing auto fatalities, it had no effect on such variables as suicides, crime, and the stock market, whereas all of these decreased significantly during the Amherst assembly.

Hence, a parsimonious explanation for the simultaneous improvements in diverse indices of social order in the United States as a whole and the even greater improvement in Massachusetts is that the Amherst assembly of 2,500 TM and TM-Sidhi participants increased coherence in the collective consciousness of the United States, with an even stronger local effect on Massachusetts.

CROSS-CULTURAL REPLICATIONS OF WORLD PEACE ASSEMBLIES IN HOLLAND, INDIA, PUERTO RICO, AND THE PHILIPPINES—Experimental research has provided strong evidence that the group practice of the Maharishi Technology of the Unified Field by the square root of 1% of a population improves the quality of life in diverse cultural settings.

Reduced Crime and Auto Accidents in Holland: The population of Holland is just over 14 million, of which the square root of 1% is approximately 376. Figure 4 shows that during three separate one-month experimental periods in which requisite groups of TM and TM-Sidhi experts were formed, crime rates decreased significantly in Holland as a whole compared with values for the same months in the prior ten years. Automobile accidents also decreased in Holland during the experimental periods (Burgmans, Burgt, Langenkamp, & Verstegen, 1982).

Reduced Crime in Delhi, India: Dillbeck, Cavanaugh, Glenn, Orme-Johnson, and Mittlefehldt (1987) published a

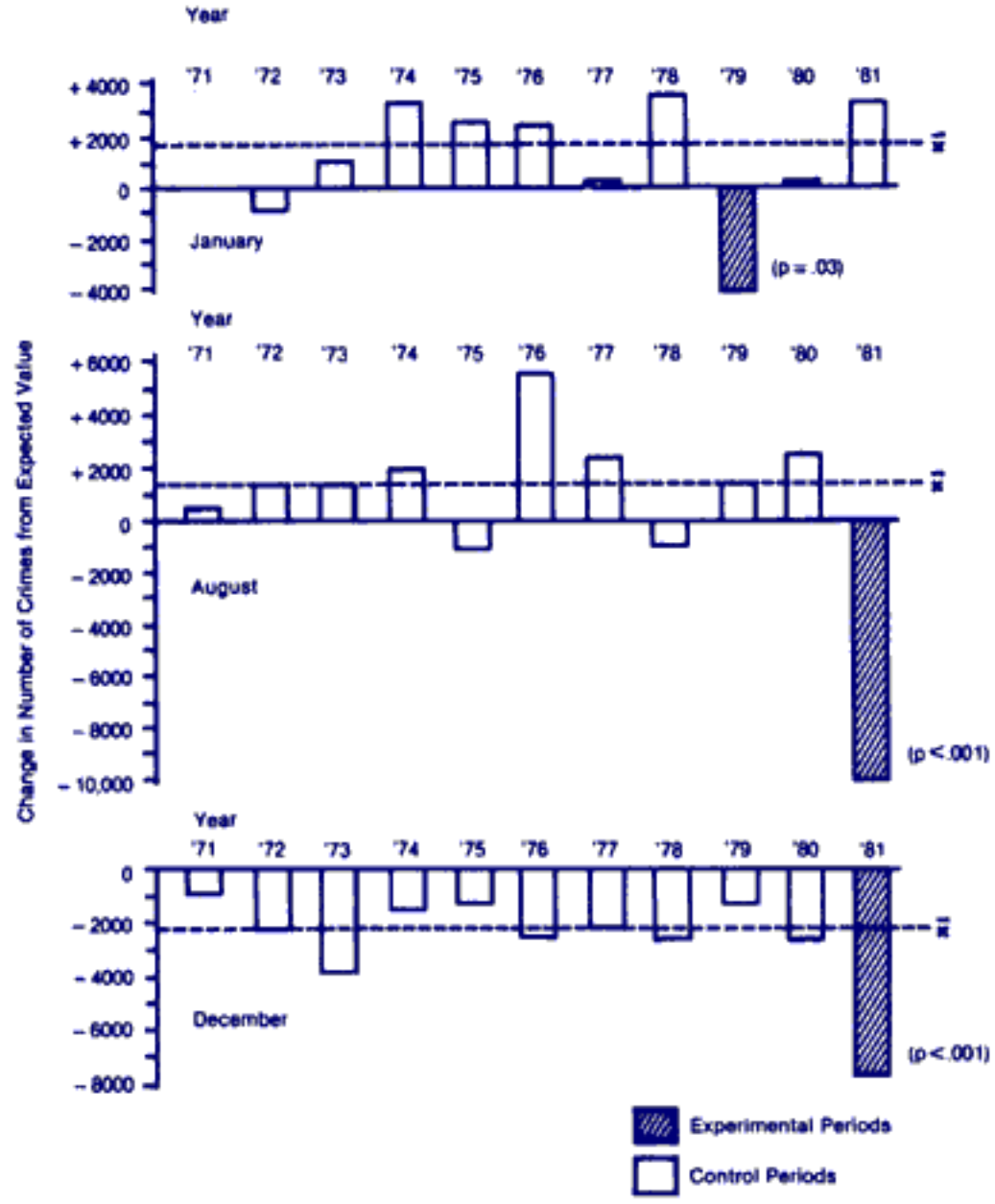


FIG. 4. MAHARISHI EFFECT: DECREASED CRIME IN HOLLAND. In Holland, it was found that during three independent months (January, 1979 and August and December, 1981) when the numbers collectively practicing the Maharishi Technology of the Unified Field exceeded the square root of 1% of the population (n=376), the total national crime rate decreased significantly from the average change observed for each month over a 10-year period.

series of five experimental studies on the Maharishi Effect in India, Puerto Rico, the Philippines (two studies), and Rhode Island (summarized above). The study in India involved time series analysis of the impact on crime rate in Delhi of a group of TM and TM-Sidhi experts attending a Vedic Science Course there from November 1980 to early April 1981. The group size decreased from approximately 3,000 at the beginning to 250 at the end of the assembly, the square root of 1% of Delhi's 6 million population being 245. Thus, the number of TM-Sidhi program participants in the Delhi group was sufficient to create the Maharishi Effect during the entire period of the course. The impact of the group was assessed on a time series comprising 304 observations of daily crime totals for Delhi from June 1980 to March 1981. After weekly, monthly, and other cycles and trends were removed from the time series, the estimated impact of the group was still highly statistically significant (p<.0001), indicating a decrease in crime by 11% from the pre-intervention average. The size and statistical significance of the intervention parameters proved to be highly robust to alternative specifications of the noise model. This reduction in Delhi's crime rate could not be accounted for by changes in governmental policies. A detailed analysis by an Indian police official (Rana, 1981) showed that there were no changes in local police policy, no special drives on crime, no systematic transfer of police staff, and no apparent change in the number of criminals through externment or court clearance.

Reduced Crime in Puerto Rico: A similar time series analysis of the impact of a group (n=185) of the square root of 1% of Puerto Rico's 3.4 million population from April to June 1984 showed a decrease of 543.1 crimes per month (p<.025) during the group's presence in the territory compared with the mean of the series at other times (Dillbeck et al., 1987). The police department had established an air-to-ground surveillance system using helicopters, patrol cars, and motorcycles in May 1980, but a time series analysis of this program showed that its impact on crime was statistically nonsignificant. There was no other apparent alternative explanation of the effect.

Reduced Crime and Improved Quality of Life in the Philippines: The first study in the Philippines was on the weekly time series of crime totals for Metro Manila's 8 million population from December 31, 1982 to March 7, 1985 (Dillbeck et al., 1987). A large group of approximately 1,500 teachers of the TM program who also practiced the TM-Sidhi program went to Manila, principally in August and September 1984, because of a demand for the TM program in rehabilitation and educational settings. There were more than 300 TM and TM-Sidhi participants, the square root of 1% of Manila's population, practicing as a group in the city during the experimental period from August to January. Impact-assessment analysis indicated that crime decreased significantly during the experimental period by 12.1 percent (p<.005), returning to its previous level after the group left Manila in January.

The second study in the Philippines assessed the effect of a group of approximately 400 TM and TM-Sidhi participants formed in January of 1980. The TM-Sidhi group was established to create coherence in collective consciousness by regularly practicing this program together as part of their jobs, at the beginning and end of the work day. The group had a significant positive effect on a monthly quality of life index comprised of crime totals, foetal deaths, and other deaths, the most unambiguous indicators of quality of life available.[12]

Reduced Crime in Washington, D.C.: Maharishi International University opened a branch campus in Washington, D.C., for the expressed purpose of creating coherence in the nation's capital. Using time series analysis, Bandy and Lanford (1984) found over a three-year period that for days when the size of the group of students and faculty practicing the TM and TM-Sidhi techniques reached the predicted threshold of 400 or greater, there was a significant reduction in daily violent and property crimes in the District. Alternative explanations in terms of weather, changes in police coverage, demographic shifts, or increases in neighborhood watch programs could not account for the results. In another study from August 1980 to November 1983, Lanford (1984a) found that homicides in the District decreased by 22% (p<.02) during weeks in which the group size was 400 or greater.

Increased Stock Prices in Corporations Based in Washington, D.C.: In still another time series analysis, Lanford (1984b) found that during those weeks between January 1980 and September 1983 in which the group size in Washington was 400 or greater, stock prices increased significantly for a composite index of 30 Washington based corporations. Lanford also found a significant independent effect on Washington stock prices from the group at Maharishi International University in Fairfield, Iowa, during weeks in which the MIU group exceeded the threshold of the square root of 1% of the U.S. population. Thus, this study shows the independent effects of local and national groups.

[12] Because the number of TM and TM-Sidhi participants was declining over the experimental period, the effect was modeled as an abrupt, temporary intervention ("first order transfer function"). There was an immediate effect (p <.025) and a decay of the effect over time (p <.001).

IMPROVED QUALITY OF LIFE IN THE UNITED STATES: THE EFFECTS OF THE MIU SUPER RADIANCE PROGRAM—On the basis of all the evidence supporting the principle that a sufficiently large group of participants in the Maharishi Technology of the Unified Field could beneficially affect large populations, the group practice of the technology by students, staff, and faculty was begun at MIU with the intention of gathering a group of at least 1,600 to create coherence in North America and eventually 7,000 to create coherence in world consciousness. The 2,500 experts in the technology attending the 1979 Amherst conference were encouraged to come to MIU, and two domes were subsequently built to house the group practice. This program was named the Super Radiance program after the superradiance phenomenon of laser physics.

The number of TM and TM-Sidhi program participants in the domes is counted each morning and evening, providing daily data on the group size as a basis for estimating the day-to-day fluctuations in the strength of the Maharishi Effect from MIU on the collective consciousness of the United States.[13]

In a study of the effects of the Maharishi Technology of the Unified Field on the United States, the quality of life was measured by a composite index of twelve social indicators from the fields of crime, justice, health, education, economic welfare, creativity, marital stability, and safety for the 25-year period from 1960 through 1984 (Orme-Johnson & Gelderloos, 1984).[14] The magnitude of the Maharishi Effect was estimated by the "Maharishi Effect index" that took into account the percentage of TM participants distributed throughout the United States as well as the square of the number of TM and TM-Sidhi participants in the group practice at MIU.

Analysis of the quality-of-life index showed that there had been a virtually continuous downward trend in the overall quality of life in the United States from 1960 to 1975. In 1975 over 225,000 Americans learned the TM technique, bringing the total to over 0.4% of the U.S. population. In 1975, the index showed that the quality of life began to rise (see Figure 5). Interestingly, Maharishi inaugurated the "Dawn of the Age of Enlightenment" in 1975, seven years before this study was done, recognizing even "in the darkness" that a new trend of life had begun.

It can be seen in Figure 5 that in 1979 when the MIU Super Radiance program began, the quality of life in the United States began to take a definite positive trend. Furthermore, 1982, 1983, and 1984, the years in which the Maharishi Effect index predicted increased coherence in national consciousness, there was a dramatic upturn in the quality-of-life index by 2.87%, 2.15%, and 2.15%, respectively. The total improvement of 7.17% over this three-year period was 5.2 times greater than any three-year improvement in the prior 22 years. The mean yearly change in the quality-of-life index in the previous 22 years was –0.37%; thus the improvements in 1982, 1983, and 1984 were more than 7 times greater than the previous mean yearly change. Clearly, something unprecedented in recent U.S. history occurred in 1982, 1983, and 1984.

Regression analysis indicated that the improvement in the quality-of-life index in the United States was proportional to the rise in number of meditators in the country combined with the number attending the Super Radiance program at MIU (r=.8).

Evidence for causality is provided by the fact that the change in Iowa, where MIU is located, was greater than the change in the United States as a whole; of the 12 variables studied, the 6 that were also available for Iowa at this writing showed a greater improvement in Iowa than in the U.S. as a whole (see Figure 5, bottom graph).

This effect is particularly striking considering that Iowa already had a higher quality of life than most states. An independent study of 23 quality-of-life indices reported in the *May 1985 Report of the Research and Development Group of the Iowa Development Commission* indicated that Iowa scored at the top of all 50 states, with a score of 75.85, while the national average was 59.51. A study entitled *Social Stress in the United States* by Arnold Linsky and Murray Strauss at the University of New Hampshire ranked Iowa as the second least stressed state in the United States.

[13] The AM and PM dome totals are highly correlated, with the AM totals being lower. In most studies, the PM totals are used in time series analysis.

[14] The twelve variables were as follows:

Crime and Justice
- a. Crime rate

Health
- b. Hospital admissions rate
- c. Notifiable diseases rate
- d. Infant mortality rate
- e. Suicide rate

Health Habits
- f. Cigarette consumption per capita
- g. Alcohol consumption per capita

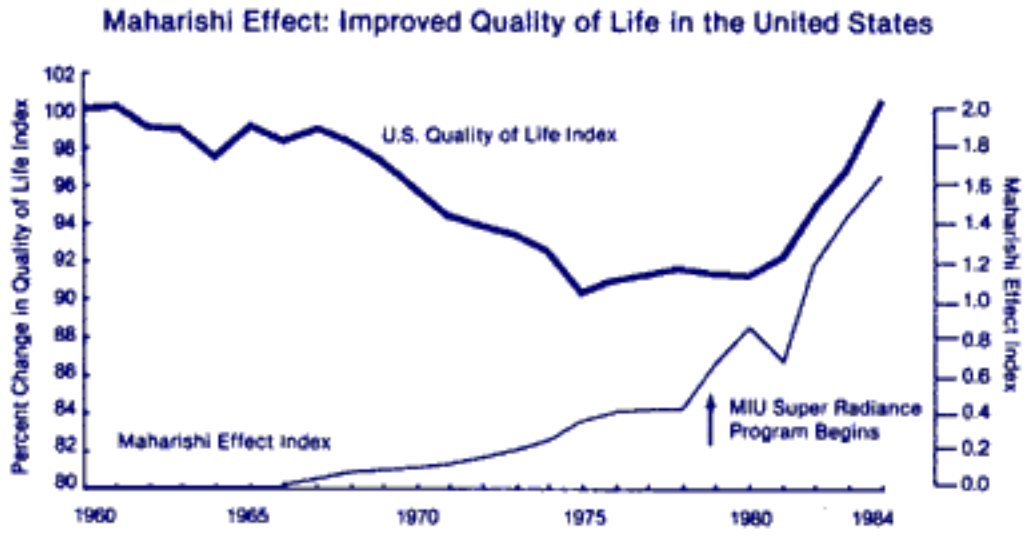
Economic Welfare
- h. GNP per capita

Creativity
- i. Patent application rate

Education
- j. Degrees conferred per capita

Marital stability
- k. Divorce rate

Safety
- l. Traffic fatality rate



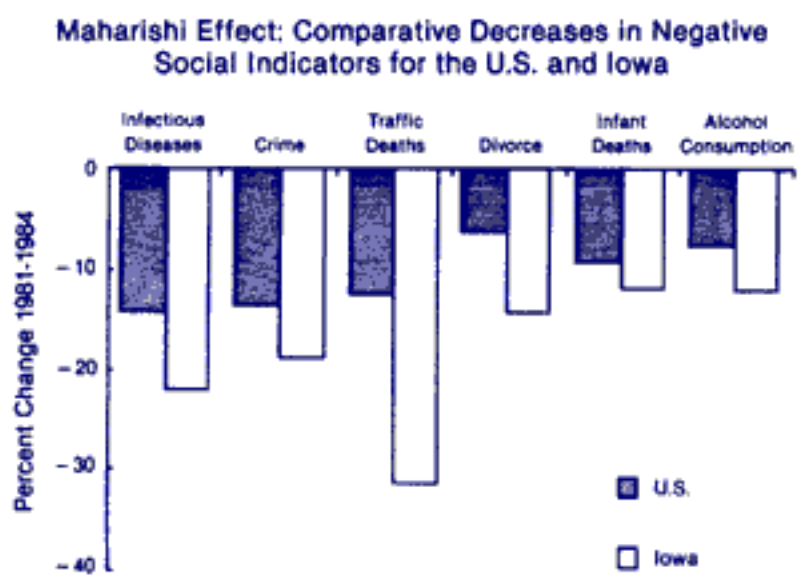


FIG. 5. The top figure shows that the U.S. quality of life, as measured by an index of 12 variables, was declining throughout the 1960s and early 1970s (dark line). The Maharishi Effect Index (light line) reflects the percentage of TM meditators in the U.S., and the group practice of the TM and TM-Sidhi program at MIU (the MIU Super Radiance program). The declining trend in the U.S. quality of life began to reverse in 1975 after a large increase in the number (225,000) of people practicing the TM technique in the United States. After MIU started its Super Radiance program in 1979, the improvement in the quality of life began to accelerate to an unprecedented rate.

The bottom figure shows that the improvement in quality of life was even more striking in Iowa, the state in which the MIU Super Radiance program is located, compared to improvements in the U.S. as a whole.

Changes in crime provide an example of the extent to which the quality of life has improved in the United States in the last few years. The best estimation of national crime is provided by the Crime Survey Data of the Department of Justice. From 1981 to 1985, the rate of U.S. crime dropped by 19.94%, a decrease by approximately seven million in total number of crimes. Crime reduction in the U.S. is often attributed to shifting demographics, a decrease in the proportion of 15- to 24-year old males in the population. However, the proportion of 15- to 24-year-olds only decreased approximately 5.4% from 1981 to 1985, whereas crime rate decreased 19.94%, suggesting that such a shift in demographics cannot account for most of this reduction in crime.

TIME SERIES ANALYSIS STUDIES OF THE EFFECTS OF MIU ON AUTO ACCIDENTS, VIOLENT DEATHS, UNEMPLOYMENT, AND INFLATION IN THE UNITED STATES—In addition to assessing annual data, a number of time series analyses have been conducted on the impact of the MIU Super Radiance group on weekly and monthly series. These time series analyses make it possible to study the relationship between the MIU Super Radiance program and changes taking place in the United States in much finer detail than is possible using annual data.

Time series studies indicate that when the size of the MIU Super Radiance program is greater than the square root of 1% of the U.S. population, there is a significant decrease in auto fatalities (Dillbeck, Larimore, & Wallace, 1984) and homicides (Lanford, Dixon, & Reeks, 1984).

Dillbeck (in press) extended the study of the effects of the MIU Super Radiance program on violence in the U.S. by analyzing a weekly index of violent deaths composed of motor vehicle fatalities, suicides, and homicides for the nation from 1982–1985. Impact assessment and transfer function analysis showed a highly significant decrease in violent deaths in the U.S. when the TM and TM-Sidhi group at MIU was relatively larger (p's < .01).

Cavanaugh (1987) made extensive use of time series analysis to study monthly changes in unemployment and inflation in the U.S. and Canada as a function of changes in the number of TM and TM-Sidhi participants in the MIU Super Radiance program from 1979 to 1987. He found that periods in which the number of participants in the group was high were followed by substantial reductions in inflation and unemployment for both the U.S. and Canada. A series of careful studies showed that the effect could not be accounted for by changes in other economic variables, including crude materials prices, monetary growth, or intensity of aggregate supply and demand shocks (Cavanaugh & King, 1988; Cavanaugh, King, & Ertuna, 1989; Cavanaugh, King, & Titus, 1989).

Thus the fine-grain time series analyses indicate that a number of the improvements in the United States were time-locked to specific periods of high numbers in the MIU Super Radiance program.

DECREASED WAR IN LEBANON AND IMPROVED QUALITY OF LIFE IN ISRAEL: THE INTERNATIONAL PEACE PROJECT IN THE MIDDLE EAST—This project, initiated by Dr. Charles Alexander, then a post-doctoral fellow at Harvard University, was designed as a critical experimental demonstration of the Maharishi Effect on armed conflict in a major trouble-spot area: the civil war in Lebanon. The experiment was to create a group of resident Israeli TM and TM-Sidhi experts in Jerusalem at an arbitrarily picked time (July and August 1983) to test the effect of the group on the quality of life in Jerusalem and in Israel, and on the war in Lebanon. A description of the major hypotheses of the experiment

and the proposed categories of measurements were lodged in advance with a group of research scientists in the U.S. and Israel. Upon arrival in Israel, the authors met with local scientists to finalize selection of a smaller subset of available measures. The analysis of the project used all of the non-redundant daily time series data available at the time of departure from Israel; these included eight social indicators: (1) automobile accidents involving personal injury in Jerusalem, (2) fires in Jerusalem, (3) crime in Jerusalem, (4) crime in Israel as a whole, (5) a stock index of all freely traded stocks on the Tel Aviv stock exchange, (6) a national-mood scale derived from content analysis of a major newspaper, (7) reported war deaths of all factions in the Lebanese war, and (8) a war-intensity scale of the Lebanese war derived by a content analysis using a scale measure similar to Azar's COPDAB categories (Azar, 1980).

In predicting what the group size of TM-Sidhi participants would have to be in order to have an effect on Jerusalem, Israel, and Lebanon, the researchers took into account the number of meditators already in the area. Taking this into consideration, the critical thresholds needed for Jerusalem, Israel, and Lebanon were 65, 122, and 197, respectively.[15] The size of the experimental group of Sidhas actually fluctuated between 65 and 241 during the experiment. The effect of the group size on independent composite indices for Jerusalem, Israel, and Lebanon was studied with Box-Jenkins ARIMA impact-assessment analysis.

The day-to-day fluctuations of the group size were represented by four binary independent variables corresponding to the four quartiles of the group size. These independent variables were randomly distributed over the 61 days of the experiment.[16] As the group of TM-Sidhi participants increased in size, there was an increase in all composite indices. Inclusion of a control variable for holidays in the time series models did not alter the outcomes, indicating that the results were independent of holiday effects. It was also found that temperature did not have a significant effect on the composite indices (Orme-Johnson, Alexander, Davies, Chandler, & Larimore, 1988).

As predicted by the threshold hypothesis, the composite indices for Jerusalem and Israel were influenced by smaller TM-Sidhi groups, whereas Lebanon was not significantly affected until the group size reached the largest quartile, at which point there was a significant influence on the Lebanese war, as indicated by fewer casualties and decreased intensity of the war (p=.0216). As the TM-Sidhi group was increased, change was seen first in Jerusalem, then Israel, then Lebanon. These results support the hypothesis that as the threshold for a population is reached, change is most dramatic. However, the data do not preclude a graded, continuous effect as well.

If a common effect was being generated simultaneously across all these different measures, then the signal-to-noise ratio would be increased by aggregating the variables. Averaging the standardized variables would add the common variance among the variables and, on the average, cancel to zero the random components. As predicted, the mean effect-size for the individual variables (.26) was less than for the same variables aggregated into three composites (.43), and the aggregation of all variables into one composite variable produced the largest effect size (.69), over twice the effect of the variables taken separately. This finding strongly supports the hypothesis that the TM-Sidhi group was creating a generalized, underlying "coherence" effect common to all measures (see Figure 6).

It was also found that dependent variables tended to cluster together on the positive end of the standardized continuum when the TM-Sidhi group was largest; whereas when the group was small they moved randomly in relation to each other, behaving more like independent processes. This again suggests that the different variables were affected by a common coherent influence when the group was large. Indeed, this simultaneous change may provide an operational definition of "coherence" in collective consciousness: many diverse and complex systems operating together in a manner that is conducive to positive evolution in all of them. Clearly, simultaneous declines in the intensity of war, automobile accidents, crime, and fires, and increases in stock market values and national mood would suggest such a positive change across diverse systems. This result, along with that of the signal averaging, supports the hypothesis that the TM and TM-Sidhi techniques operate to create coherence on a fundamental, unifying level of natural law.

ARIMA cross-correlation and transfer-function methodologies (McCleary & Hay, 1980) supported the hypothesis that there was a causal relationship between the size of the coherence-creating group and positive change in the social indicators. As noted earlier, causality implies

[15] The initial estimated-threshold studies specified in the project proposal did not take the meditators into account and were somewhat higher: 204 for Israel and 281 for Lebanon. We did mention in the proposal, however, that the number of resident TM participants might be a factor to account for.

[16] The binary variables of "zeroes" and "ones" had significant autocorrelations at lag one, reflecting a tendency for "ones" (which indicated experimental days) to occur in pairs. Otherwise, there were no significant autocorrelations, indicating randomness of the temporal spacing of the experimental days.

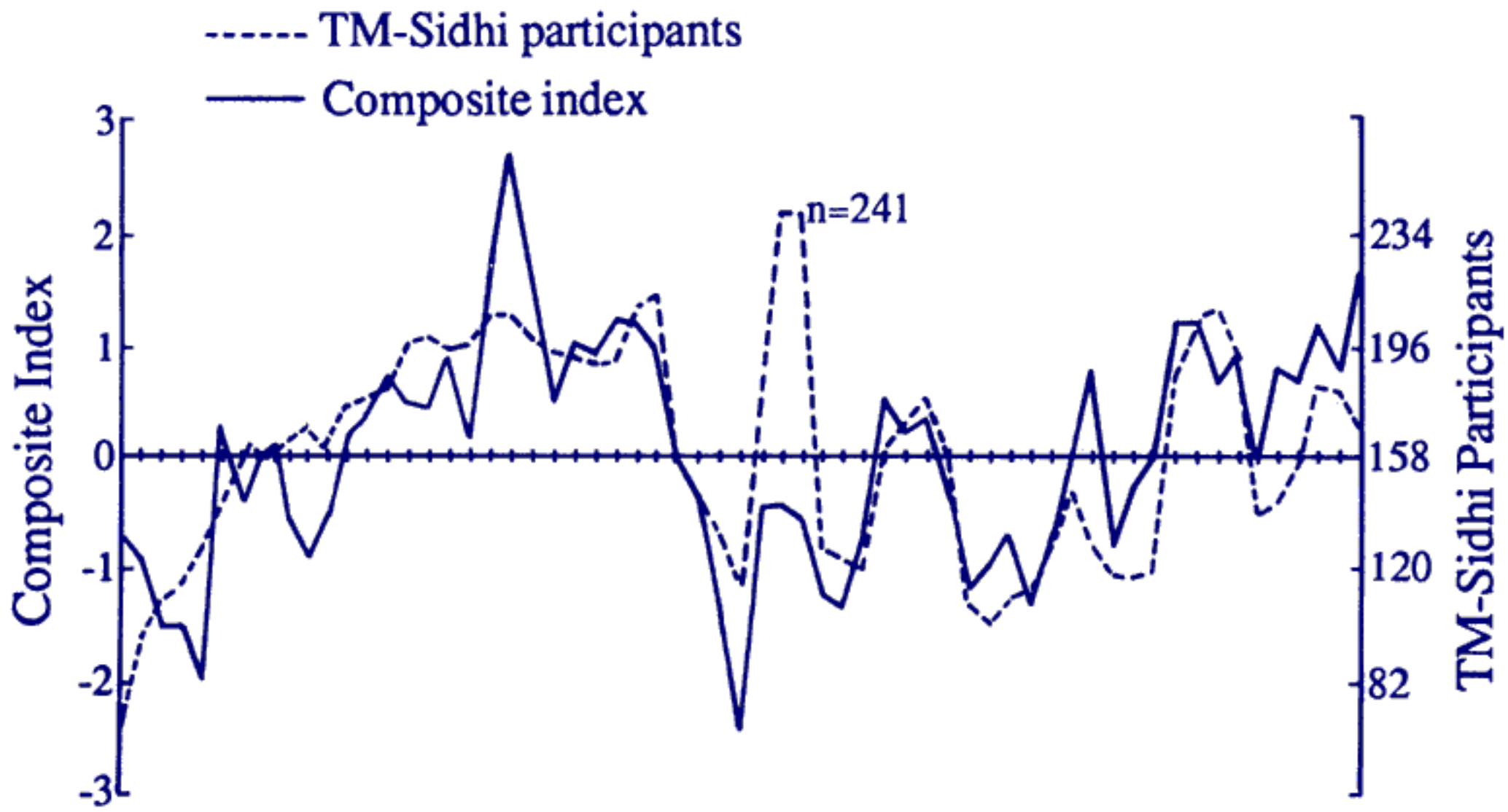


FIG. 6. MAHARISHI EFFECT: REDUCED CONFLICT IN LEBANON AND IMPROVED QUALITY OF LIFE IN ISRAEL. This figure illustrates the covariation between the number of TM-Sidhi participants (dashes) and a composite index of quality of life in a study conducted in Israel during August and September of 1983. The composite index was the arithmetic average of standardized scores for crime rate, traffic accidents, fires, stock market, national mood, and a measure of war intensity in Lebanon. The sociological parameters employed in this study were lodged in advance of the experiment with an independent review board of scientists in the United States and Israel. Transfer function analysis indicated that change in the number of TM-Sidhi participants led change in the composite index by one day ($t(51)$ = 2.18, p = .018) and by six days ($t(51)$ = 1.80, p = .038, one-tailed tests) supporting the hypothesis that the TM-Sidhi program caused the reduction in fighting and improved quality of life.

that change in the independent (input or causor) variable will precede change in the dependent (output or effector) variable. Since two time series may be spuriously correlated due to common patterns of drift or trends, in cross-correlation analysis the two series are first made stationary with regard to level and variance. This is done by appropriate first differencing of the series to remove drifts, the use of a constant to estimate a trend, and the use of appropriate moving average and autoregressive terms to determine periodicities. The cross-correlation function is then estimated, providing the simultaneous and lagged-correlations between the two "prewhitened" series in question. It was found that the change in the size of the TM-Sidhi group in Jerusalem was followed by correlated change on the raw variables and composite indices, supporting the hypothesis that the TM-Sidhi group *caused* the change observed in the social indicators.

Transfer functions were then identified, estimated, and diagnosed to provide quantitative estimates of how change in the number of TM-Sidhi participants in the group translated into a change in the social indicators. For example, an increase of 200 TM-Sidhi participants (the square root of 1% of Israel's population) was estimated to be followed by an increase of 1.78 standard deviations in the overall quality of life the next day (lag 1, p=.018) and an increase by 1.24 standard deviations six days later (lag 6, p=.038).

The transfer functions for many of the variables indicated both early and delayed effects. The early effects occurring at lags zero or one can be interpreted as an immediate influence of increased coherence in collective consciousness as expressed in social behavior. The delay in the effect may be due to influences on planning or policy processes that take some time (approximately a week in the case of most variables in this experiment) before they are manifested as measurable changes in the variables. The apparent influence of the coherence-creating group on hostilities in Lebanon provides an example of both immediate and delayed effects. At lag zero (the same day) there were fewer war deaths and decreased intensity of fighting (p=.0006). This lag-zero effect may be explained as an immediate calming influence of rising coherence in collective consciousness on those involved in the war. The transfer function also suggested a delayed effect as seen by reduced war deaths and intensity of fighting five days after a rise in coherence (p=.029). This delay might be a result of increased coherence in collective consciousness creating

an atmosphere in which the political or military leadership could formulate a cease fire. The cease fire would take a few days to implement and, therefore, would show up as a decrease in war intensity a few days after the rise in the number of TM and TM-Sidhi participants in the group.

The peace project in the Middle East provided strong confirmation that the Maharishi Effect can quell international violence and increase the quality of life on a national scale. This was one source of inspiration for the first global experiment on the Maharishi Effect, held two and a half months later.

GLOBAL EFFECTS OF THE MAHARISHI TECHNOLOGY OF THE UNIFIED FIELD: INCREASING COHERENCE IN WORLD CONSCIOUSNESS TO CREATE WORLD PEACE

The accumulation of evidence demonstrating the Maharishi Effect on city, state, and national levels motivated Maharishi and scientists at Maharishi International University to undertake a global study of this effect. The square root of 1% of the current world population is just over 7,000. This is the predicted minimum size of a group of experts in this technology necessary to produce a measurable global influence. Orme-Johnson, Cavanaugh, Alexander, Gelderloos, Dillbeck, Lanford, & Abou Nader (1984) publicly lodged predictions in advance of the experiment in the press and with a review board of scientists in the United States. The experiment, which became known as the "Taste of Utopia Assembly" was held from December 17, 1983, to January 6, 1984, at MIU in Fairfield, Iowa. During the assembly a group of over 7,000 experts in the TM and TM-Sidhi techniques from over 50 countries gathered at MIU. This section presents the results from the Taste of Utopia and the two other international World Peace Assemblies that approached 7,000 participants. These two other assemblies were the World Peace Assembly held in The Hague, Holland, from December 26, 1984, to January 6, 1985, during which the group numbered between 6,100 and 6,200; and the World Assembly on Vedic Science held from July 10 to 17, 1985, in Washington, D.C., during which the group size approached 6,000 TM and TM-Sidhi participants. The effects of these assemblies on four parameters for which daily or weekly data are available are discussed below: the World Index of international stock prices, international conflicts, traffic fatalities, and notifiable diseases. Also discussed are the effects on other variables, primarily for the Taste of Utopia Assembly, and the effects of three World Peace Assemblies on the conflict in Lebanon.

THE WORLD INDEX OF INTERNATIONAL STOCK PRICES—The only data readily available on a daily and worldwide basis are economic data, such as stock and bond market prices and currency exchange rates. Since currency exchange rates reflect relative advantages between countries, they are not a measure of increased positivity and confidence in the market that reflect growth in coherence. It was therefore decided to study the World Index of international stock prices, an arithmetic average, weighted by market value, of the prices of 1,100 securities listed in the stock exchanges of 19 major countries (Cavanaugh, Orme-Johnson, & Gelderloos, 1984). A significant rise in the World Index, a standard economic instrument compiled by Capital International of Geneva, can be interpreted as a result of increased economic confidence and optimism worldwide. There are undoubtedly many variables that affect share prices—observed and expected values of inflation, GNP growth, corporate profits, interest rates, and money-supply growth, for example. Of the directly observable variables on this list, however, only interest rates are available on a daily basis. Therefore, in the study of the relationship between the Taste of Utopia Assembly and the World Index, the effects of interest rates were controlled for by using daily changes in long-term U.S. government bonds as a proxy for movements in international long-term interest rates.

Box-Jenkins (1976) impact-assessment methodology was used to analyze the day-to-day changes in the World Index for the period five months preceding through six months following the assembly. The results indicated that during the assembly the average daily upward change in the World Index was significantly greater (p=.0047) than during the period preceding and following the assembly, when, on the average, the World Index was on a decline. In addition, Box-Jenkins transfer function analysis revealed that this effect continued to be positive and significant (p=.000033) even after controlling for the impact of long-term interest rates on international stock prices. The results cannot be plausibly attributed to seasonal effects because the rise in the index could not be forecast on the basis of its own past history and because the rise in the index during the Taste of Utopia Assembly was 1.58 times larger than the mean change in the index for the same time of year for the five previous years (Cavanaugh, Orme-Johnson, & Gelderloos, 1984).

An additional distinctive pattern that emerged during the Taste of Utopia Assembly was a simultaneous rise of all eight major national stock-market indices reported daily in *The Wall Street Journal.* More broadly, market indices for 19 of 20 stock markets reported weekly in *Barron's* (plus the Johannesburg Stock Exchange) rose

more than 1% during the Taste of Utopia Assembly. This remarkable pattern of simultaneous increase in the markets of the world was not seen before or after the assembly or at the same time of year in previous years (Orme-Johnson, Cavanaugh, Alexander, Gelderloos, Dillbeck, Lanford, & Abou Nader, 1984). Previous records were broken and new records were set in eight stock markets (Japan, West Germany, Great Britain, France, Holland, Switzerland, Australia, and Singapore) and stock markets boomed in Hong Kong, Mexico, Canada, and the United States with record trading volume in New York. Two days after the course ended a leading economic analyst reported "... the world's stock markets are buoyant and governments are once again talking about economic growth ... after four years of gloomy prognostication, there is, at last, something to cheer about. ..." (*The Sunday Times*, London, January 8, 1984).

To study the combined effects of all three assemblies, Box-Jenkins impact assessment analysis of the World Index of international stock prices was used to study a two-year daily time series covering the period of all three assemblies (from August 1, 1983, to July 31, 1985) (Orme-Johnson, Dillbeck, Alexander, Chandler, & Cranson, 1989). The experimental period consisting of the three combined assemblies showed a significant increase in the world stock market during the three assemblies at lag 0 ($p<.025$). The world stock market increased significantly more during the large international World Peace Assemblies than would be predicted on the basis of the market's behavior at all other times during the two-year period of the data series.

During the Holland World Peace Assembly, the major European stock markets (Holland, England, and West Germany) reached record highs as did the stock market in Japan. During the World Assembly on Vedic Science, which was held in Washington, D.C., the Dow Jones Industrial Average recorded all-time highs on four of the six days during the assembly that the stock market was open. When the assembly was held in Europe, the European markets set new records, and when the assembly was held in the United States, the U.S. market boomed. These observations of particularly marked effects on countries that were geographically nearer to the location of assemblies provides further evidence of causality.

INTERNATIONAL CONFLICTS—There are no available daily or weekly databases on international conflicts that cover the period of the experiment, so blind content analysis of the news by pairs of raters was employed using a scale adopted from Azar (1980) to rate worldwide international conflicts. The source of news reports for the Taste of Utopia Assembly and World Assembly on Vedic Science was the *New York Times*. Ratings of conflicts reported in the London *Times* were used for the Holland assembly. The items were presented in a random order and raters were blind with respect to the date (the dates on all news items were covered) and interrater reliability was high (r's approximately .9). The mean scores of the two raters was used as the conflict score for each item. Countries included in the sample were Nicaragua, Grenada, Honduras, El Salvador, Colombia, Lebanon, Israel, Syria, Kuwait, Iran, Iraq, Afghanistan, Chad, South Africa, Angola, Zimbabwe, Namibia, Libya, Uganda, Kampuchea, Laos, Vietnam, Northern Ireland, and Spain.

Chi-square contingency table analysis for the Taste of Utopia Assembly showed that events pertaining to worldwide international conflicts shifted significantly ($p=.015$) towards greater positivity, indicating increased progress towards normalizing international relationships through peaceful means. There was a significant increase in total positive events and a decrease in total negative events during the assembly compared with the three-week periods before and after the assembly. The reduced conflict in the world observed in the experiment was not due to a "holiday spirit," as control data from the same months of the previous year showed no worldwide reduction in international conflicts. In addition, data from the Conflict and Peace Data Bank (Azar, 1980) indicated that armed conflicts do not typically decrease during the Christmas and New Year season.

Because of the large amount of labor involved in the content-analysis rating procedure, three time series of 60 to 100 days long were constructed that covered the periods of the three assemblies rather than the much longer time series required to analyze the entire two-year period of the three assemblies. Time series impact assessment analyses showed a significant reduction in international conflicts during each assembly: 36% during Utopia ($p<.025$); 24% during the Holland assembly ($p<.005$); and 35% during the Washington, D.C., assembly ($p<.01$) (Orme-Johnson et al., 1989; see Figure 7).

During the Taste of Utopia Assembly, the numbers in the group were on the order of 3,000 until after December 26, when more people arrived. The time series analysis for Utopia showed that the impact on international conflicts worldwide was not significant until the group size increased to over 7,000 from December 26 to January 6. During this period, the effect could best be described as an abrupt onset of coherence. This was also true of the Washington, D.C., assembly, for which the group size was relatively constant for the 10 days of the assembly. During the Holland assembly, when the group size built up gradually, a gradual onset of the effect occurred. Thus, the specific details of the time series analysis for

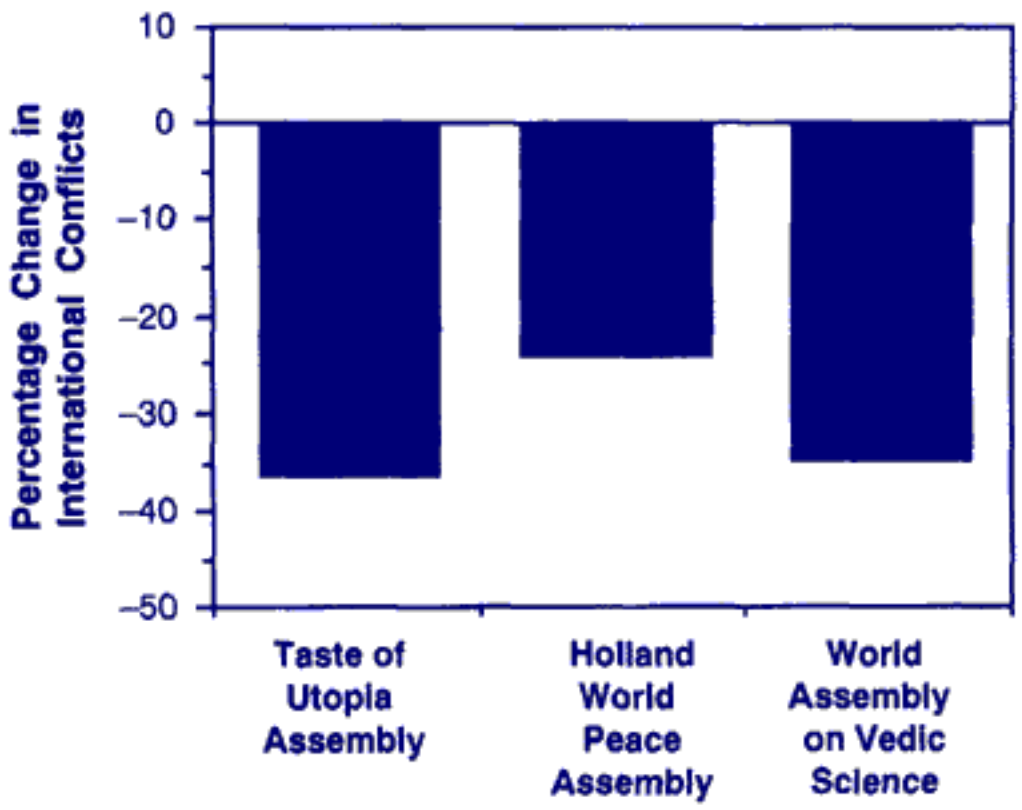


FIG. 7. GLOBAL MAHARISHI EFFECT: DECREASED INTERNATIONAL CONFLICTS. Time series impact assessment analysis of international conflicts world-wide indicated significant global effects of the three large international assemblies of approximately 7,000 TM-Sidhi participants. International conflicts were measured by three different time series derived by content analysis of articles appearing in the *New York Times* for the Taste of Utopia Assembly and World Assembly on Vedic Science, and London *Times* for the Holland World Peace Assembly.

two very different worldwide measures, the world stock index and content analysis of international conflicts, support the phenomenon of a global Maharishi Effect.

A global Maharishi Effect was further indicated by time series analysis of casualties and injuries due to international terrorism as indicated by data obtained from 1983–1985 by the Rand Corporation. During the three assemblies, international terrorism decreased by 72% (Orme-Johnson et al., 1989).

The improved international relations were noted in the press by leading political analysts during the large World Peace Assemblies. Two days before the Taste of Utopia Assembly ended, for example, the *Financial Time*s of London observed that relations between the Soviet Union and the United States, which were highly strained in the weeks before the conference, began to thaw: "The new year is coming in with signals from both East and West suggesting the chill . . . between the two power blocks may be moderating. . . ." (January 4, 1984). *The Times* of London noted that relations between East Germany and West Germany ". . . seem brighter than for many years . . . [after] . . . extraordinary momentum in strengthening links. . . ." (December 29, 1983). More than 60 nations announced initiatives to improve relations and strengthen ties with other nations as a wave of friendliness and goodwill swept the globe. Pope John Paul II reflected the change in world consciousness by saying " . . . there is one good that all of humanity together hopes to taste, and that is peace. Peace . . . requires from man the sincere force of a coherent and generous inner renewal" (January 1, 1984).

During the Holland World Peace Assembly, the news media reported increased progress towards normalizing relationships between many nations. Reports on relations between China and the Soviet Union indicated a new mellowness and a lively and peaceful willingness to seek areas of practical cooperation. The heads of state of India and Pakistan exchanged cordial messages expressing hope for the development of "a mutually beneficial relationship of trust and confidence." Israel and Egypt indicated their readiness to negotiate about disputed territories. The leaders of both North and South Korea expressed hope for reunification of their country, and Japan cancelled diplomatic sanctions against North Korea. Relations between Britain and Libya relaxed after the Libyan leader apologized for the violence at the Libyan embassy in London the previous April. Egypt and Bulgaria resumed formal diplomatic relations; a leading Turkish politician said that Turkey wanted to normalize its relations with France; and France and Thailand expressed their hope for increased economic and political ties. President Ershad of Bangladesh started to phase out martial law; a national crisis in Bolivia was averted when sections of the armed forces gave up their threat to start a civil war; and the chief of the Chinese army announced a sweeping demobilization of the world's largest standing army, large defense budget cuts, and the relinquishing of military facilities for civilian use.

During the World Assembly on Vedic Science in Washington, D.C., 36 nations forged stronger, friendlier ties with other nations. The U.S. and the U.S.S.R. softened their positions at the Geneva arms talks. Unexpected progress was made towards peace in the Middle East; a cease fire held in Beirut, and a security plan there was implemented with surprising success. A parley between Tamil rebels and the Sri Lankan government led to the freeing of prisoners, the lifting of a curfew, and a call for further talks to avoid civil war. Hope grew for peace in southeast Asia, with ASEAN taking initiatives for peace in Cambodia and the Khmer Rouge indicating readiness to sign a peace treaty with Vietnam. Calm returned to Zimbabwe after days of violence; major strikes were averted in Spain, Israel, and the U.S.; Haiti announced it would allow political parties; Bolivia held the most orderly general election in its history; and in the U.S., the administration announced it would seek to reduce the U.S. strategic stockpile.

OTHER VARIABLES—All other available data have shown a positive influence from the international World Peace Assemblies. Research on the Taste of Utopia Assembly, which has been studied most extensively, provides evidence that the global Maharishi Effect positively affects a wide range of variables (Orme-Johnson et al., 1984). Worldwide air-traffic fatalities were 49% fewer (p=.0001) during the Taste of Utopia Assembly compared to the level predicted to occur at that time on the basis of the previous five years of data. Crime-rate data were requested from all major cities of the world but were only received for Washington, D.C.; Karachi, Pakistan; and the state of Victoria, Australia. Time series analyses showed that crime rates were significantly lower during the Taste of Utopia Assembly in all three places relative to the baseline (p=.0002, p=.03, and p=.002, respectively). There was also evidence that during the Taste of Utopia Assembly patent applications were significantly higher than expected for that time of year in the United States, Australia, Great Britain, and South Africa, the four countries for which data were available (p=.04).

THE CONFLICT IN LEBANON—The conflict in Lebanon was quantified by content analysis of local news sources conducted in Lebanon by individuals representing the different factions in the conflict. Chi-square analysis of the data indicated that during the Taste of Utopia Assembly there was marked progress towards peaceful resolution of the Lebanese conflict (p=.006). The main positive development that occurred within Lebanon during the assembly was the surprisingly rapid agreement by all parties on a national security plan. This broke down immediately after the assembly ended, illustrating the crucial influence of collective consciousness on the delicate balance of negotiations and the process of conflict resolution. Increased coherence in collective consciousness appears to result in broader comprehension and decreased rigidity in national representatives (Orme-Johnson et al., 1984).

A separate analysis of the war in Lebanon was conducted on the effect of the Taste of Utopia Assembly and two other assemblies held at different times within six months of the Utopia Assembly. One of these assemblies was held in Lebanon and the other in Yugoslavia. The assemblies in Lebanon and Yugoslavia were predicted to be large enough to have an effect on Lebanon but not on the whole world (Alexander, Abou Nader, Cavanaugh, Davies, Dillbeck, Kfoury, & Orme-Johnson, 1984). The authors used a time series impact assessment of the Lebanese war to compare levels of conflict during days in which the three assemblies occurred (each assembly was approximately two weeks long) compared to the baseline period that consisted of all other days during the six-month period of the study. The level of the conflict was measured by three indices, daily levels of a Peace/War Index (cf. Azar, 1980) of events reported in major Lebanese newspapers, daily reported war deaths, and daily injuries due to the war.

As publicly predicted in advance, the Peace/War Index showed that prevailing negative conditions were abruptly reversed and substantial progress towards peace was maintained during each assembly (p=.00005, joint significance). Similarly, war deaths fell by 55%, from a mean of 6.52 per day during the baseline to a mean of 2.94 per day during the three assemblies (p=.0004). Also war injuries fell by 38%, from a mean of 20.60 per day during the baseline period to a mean of 12.68 per day during the assemblies (see Figure 8).

A localization of the influence of coherence from the smaller assembly held in Lebanon was predicted to benefit Lebanon relative to more distant populations, in contrast to the broader impact of the larger international assemblies that were held in the United States and Yugoslavia. As expected, such a differential influence was apparent in significantly improved foreign-currency exchange rates for the Lebanese pound during the Lebanon assembly (p=.0001). In accord with the theory that global coherence benefits all nations equally, there was no change in the Lebanese pound during the international assemblies. That is, coherence originating from within the country improved the standing of the Lebanese pound relative to the currencies of other countries, whereas the general worldwide increase in coherence originating from the large international assemblies located outside Lebanon did not give Lebanon's currency a relative advantage. This finding reinforces the results of other studies that have shown that the state or nation that hosts the coherence-creating groups will gain more than other areas.

Alexander et al. (1984) considered alternative hypotheses to explain the effects of these three World Peace Assemblies and found that measurement artifact, seasonal improvements, or publicity given to the assemblies could not explain the results. In addition, a qualitative analysis of the socio-political events within Lebanon during the period of the experiment showed a marked contrast between experimental and baseline subperiods. During base-line periods, political efforts, which post hoc might have been expected to yield positive results, did not in fact succeed. For instance, the Palestinian withdrawal from Beirut or the Saudi Arabian

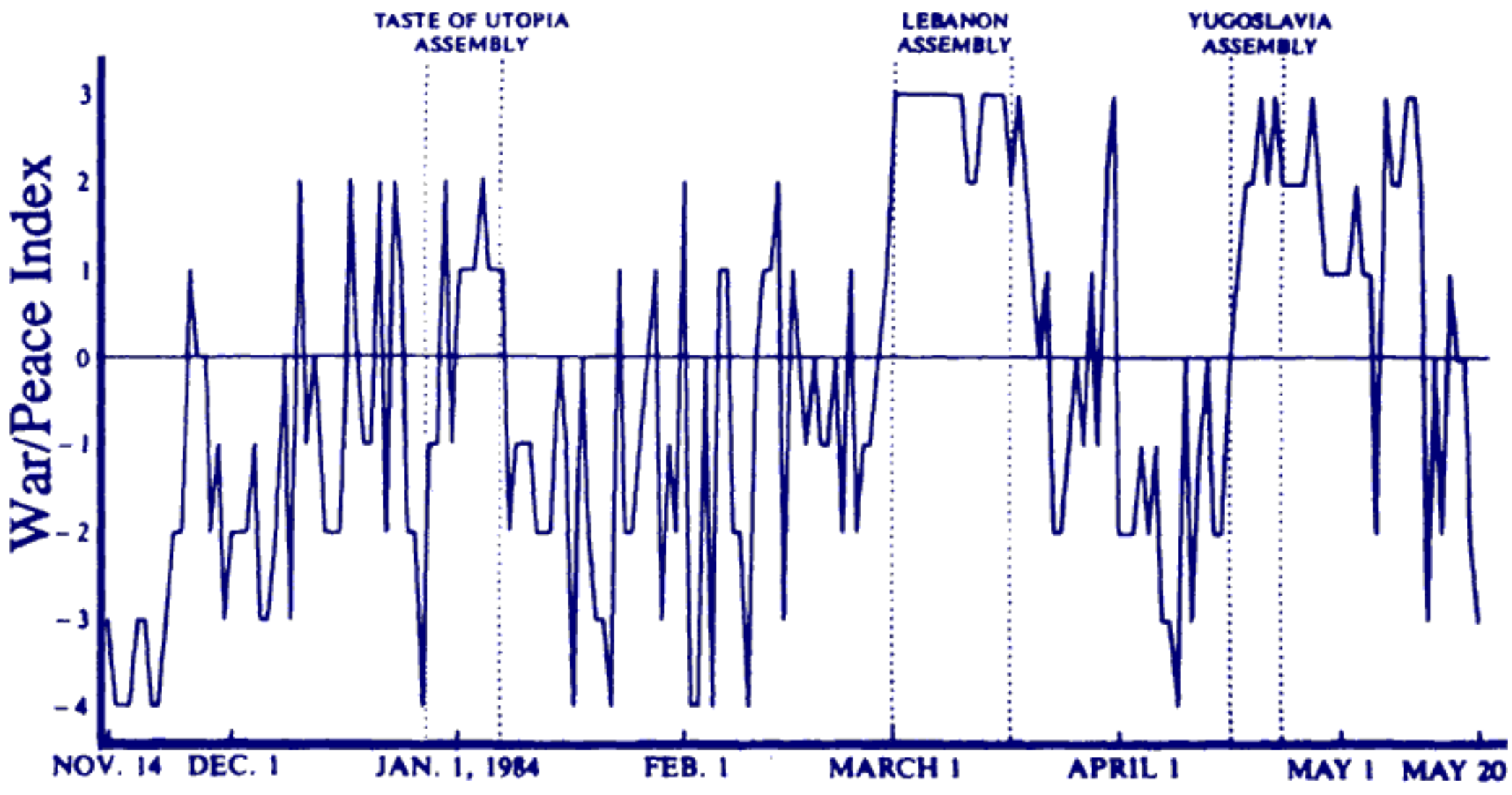


FIG. 8. MAHARISHI EFFECT: INCREASED PROGRESS TOWARDS PEACE IN LEBANON. During the six-month period from November 13, 1983, to May 18, 1984, a measure of war intensity in Lebanon was most positive during three assemblies in which the number of TM-Sidhi participants exceeded the predicted thresholds required for an influence on the war. Time series analysis indicates significantly greater progress toward peaceful resolution of the conflict during these assemblies than would have been predicted from other periods of the Lebanon war (p=.00005). The particularly large progress coincident with the Lebanon assembly held in the immediate vicinity of the conflict suggests the importance of proximity in the generation of societal coherence.

mediation efforts, which occurred when no assemblies were in progress, did not succeed. Yet during the assemblies, when coherence increased in collective consciousness, settlements were negotiated more successfully. There were more communications, meetings, and agreements, and cease-fires lasted longer. When coherence was lower before and after the assemblies, positive elements of the conflict-resolution process were lacking and military conflict increased.

In his doctoral dissertation, Davies extended this research by studying all seven assemblies held in various parts of the world that had a theoretically sufficient number of TM-Sidhi participants to influence the conflict in Lebanon. Daily data on the conflict were derived from content analysis of several news sources scored by an independent professional rater. During the assemblies, there was a 66% increase in cooperation among antagonists, a 48% reduction in the level of conflict, a 71% reduction in war-related fatalities, and a 68% reduction in war-related injuries (p's < .0001: Davies & Alexander, 1989).

As noted earlier, Maharishi's Absolute Theory of Government states that the government of any country is governed by the collective consciousness of the nation. Gelderloos, Frid, Goddard, Xue, and Löliger (1988) supported this theory by showing that public statements by the U.S. president about U.S.-Soviet relations were more numerous (p =.0087) and more positive (p =.0002) when the number of TM-Sidhi participants in the Super Radiance group at MIU was relatively higher. This time series analysis of weekly data supported the view that the collective practice of the TM-Sidhi program improves the relationship between the superpowers.

RESEARCH CONCLUSIONS

The many replications of the Maharishi Effect on the city, state, national, and global scales in several different cultures, using a variety of major social indicators, controlling for many demographic variables, and utilizing conservative time series and causal analyses, provide more extensive evidence than has ever before been available in the social sciences that we now have in hand a truly effective means of achieving world peace, through creating coherence in collective consciousness. The holistic influence of the Maharishi Effect on so many aspects of societies around the world strongly supports the hypothesis that it operates from the level of the unified field. The most parsimonious explanation of the results is that balance is being restored to the behavior of the individual and society from the deepest, most unifying level of natural law through the group practice

of the Maharishi Technology of the Unified Field. What makes this technology scientific in principle is that it is predictive. It predicts that peace can be achieved and the trends of society can be made more positive in a way that is open at any time and any place to direct experimental and empirical verification.

The urgent need of our time has motivated Maharishi to outline a three-step program for immediately implementing the technology of the unified field to quickly achieve world peace. Maharishi has begun implementation of the program by founding educational institutions on every continent with the goal of 7,000 participants collectively practicing the Maharishi Technology of the Unified Field. He is also actively exploring advanced Vedic technologies of consciousness to achieve world peace even sooner, and he has specified concrete criteria for monitoring the effectiveness of these programs once they are fully implemented (*Maharishi's Program to Create World Peace,* 1986). The next section outlines these criteria.

PART III: A VISION OF LIFE IN WORLD PEACE

MAHARISHI'S PROGRAM TO CREATE WORLD PEACE

On the basis of the research results described above, it is evident that the logical first step to create world peace is to ensure that coherence in world consciousness is permanently maintained through the global Maharishi Effect. The minimum requirement to initiate an increase of coherence in world consciousness is a permanent group of 7,000 collectively practicing the Maharishi Technology of the Unified Field.[17] After the first permanent coherence-creating group is established on any one continent, other such groups, Maharishi holds, should be created on other continents to further ensure that global coherence is maintained as a basis of world peace.

The second step in Maharishi's Program to Create World Peace is to establish national coherence-creating groups consisting of the square root of 1% of the national population. The third step is to establish local coherence-creating groups in each major city of the world (consisting of the square root of 1% of the local population). The purpose of these national and local groups is to deepen the influence of coherence and harmony at all levels of collective consciousness (*Maharishi's Program to Create World Peace,* 1986).

Once a group of 7,000 is permanently established, further research can begin to measure the incremental effects of such groups on world consciousness. The predicted effects of creating international, national, and city groups of participants in the Maharishi Technology of the Unified Field are outlined below.

MONITORING EFFECTS OF CREATING COHERENCE AT THE GLOBAL, NATIONAL, AND CITY LEVELS—Maharishi has proposed specific criteria to monitor the results of this program to create world peace, with separate criteria to measure global, national, and local coherence.

Global coherence can be measured by the following changes in international events:

(1) cessation of existing international conflicts, such as the Iran-Iraq war;

(2) prevalence of cordiality in international relations;

(3) the end of terrorism, such as now exists in the state of Punjab, India, as well as in other critical trouble-spots;

(4) a graceful end to the rivalry between the superpowers;

(5) expressions of fulfillment by the heads of state recorded in the world press;

(6) unrestricted, balanced growth of international trade and industry (*Maharishi's Program to Create World Peace,* 1986).

These changes, Maharishi predicts, will begin to come about once a group of 7,000 practicing the Maharishi Technology of the Unified Field is permanently established.[18]

Measures of the success of the national coherence-creating groups are:

(1) reduction in conflicts among different groups (political, cultural, religious, etc.) in the nation and the enrichment of national life by all individuals and groups;

(2) unrestricted, balanced growth of national trade and

[17] To ensure a group of 7,000 participants in twice-daily practice, a permanent group of 10,000 may be a practical requirement. To endow such a group in the context of an educational institution, the Maharishi World Peace Fund has been established (*Maharishi's Program to Create World Peace,* 1986).

[18] As large groups of participants in the technology continue to grow in India, the United States, and other countries, and with continued exploration by Maharishi of technologies of Vedic Science to contribute to coherence in world consciousness, it may be possible that some of the indicators of world peace occur even before a permanent group of 7,000 is established. The creation of groups of 7,000 remains, however, the cornerstone of Maharishi's Program to Create World Peace.

industry, irrespective of the economic or political system;

(3) the increased success of the nation's systems of education, health, administration, agriculture, rehabilitation, and defense.

The effect of coherence-creating groups in each major city, Maharishi states, will include:

(1) a prevalence of progress and peace in the city, as measured by smooth and successful administration of all areas of city life;

(2) peace and harmony in family life;

(3) on the individual level, life in enlightenment, so that each family member will live an integrated life, naturally behaving in a life-supporting manner.

Another result of the rise of coherence in world consciousness, Maharishi predicts, will be the flourishing of different cultures in each area of the world (Maharishi Mahesh Yogi, 1977, p. 142).

ENRICHMENT OF CULTURAL VALUES THROUGH CREATING COHERENCE IN COLLECTIVE CONSCIOUSNESS

From the perspective of Maharishi's Vedic Science, world harmony is not based on blending different cultures or homogenizing the variety of values found in diverse cultures, families, and nations. Rather, world peace depends on enhancing the integrity of each culture, increasing the liveliness of its unique values and traditions, and strengthening its ability to adopt what is useful from other cultures while naturally avoiding and eliminating all influences that are not beneficial to the culture (Maharishi Mahesh Yogi, 1978, pp. 133–145).

To see how this is possible, it is necessary to briefly consider the relationship between culture, collective consciousness, and natural law. According to Maharishi's Vedic Science culture may be understood as all values and behaviors that enrich human life or support human development in a given geographical area. These values and patterns of behavior promote life in accordance with the specific climatic and geographical condition of the region. The unified field of natural law is the source of all specific laws of nature that determine local conditions. Therefore, enlivenment of the unified field of natural law in the collective consciousness of an area results in life that is more in tune with all the specific values of natural law that are found in that area. The creation of coherence in collective consciousness will thus result in an increase in the integrity of the culture of any given area, while at the same time promoting harmony between cultures by enlivening the common basis of all cultures (Maharishi Mahesh Yogi, 1978, pp. 133–145). On the basis of the inner strength of its culture, each nation naturally embraces all that is useful to its own progress from any other nation.

Maharishi describes the cultural effect of increased coherence in world consciousness in the following way:

> Now, because of the experience of pure consciousness, purity is growing everywhere. Because the purity is growing from the very basis of life, from the very basis of culture, all nations will radiate the pure values of their separate cultures, as well as the universal value of togetherness. So the separation—the unmixing of cultures—will result in greater differences but in greater friendship. Each culture will support and enjoy the other, while remaining serene within itself. When surface values, such as mixture, inhibit the growth of culture, differences dominate and relations are strained. A culture can neither maintain its purity nor can it safely shake hands with another. Now time is changing. On the basis of cultural integrity every nation will enjoy invincibility. (Maharishi Mahesh Yogi, 1978, pp. 141–142)

INVINCIBILITY OF EVERY NATION: THE GROUND OF PERMANENT WORLD PEACE

Every nation realizes that its own inner strength is the essential element in its defense and the key to maintaining peace. However, as Maharishi points out, the goal of securing indomitable strength for a nation cannot be achieved by the accumulation of weapons in the hope that they need never be used (Maharishi Mahesh Yogi, 1986, pp. 139–140). As we pointed out earlier in Part I of this paper, history attests to the shortsightedness of this approach. The strength of the nation must be holistic; all areas of national life (economy, diplomacy, government, and military, for example) must be strong and the citizens must be free from stress and able to express their full creative potential. Only a nation that is completely strong is invincible in the face of all threats; only a nation that is completely strong can prevent an enemy from arising.

History has shown that invincibility does not arise from the ability to destroy others. Certainly, before coherence is established in world consciousnes, each nation will want to maintain its weapons out of fear of others. But as coherence and real inner strength rise in the world, fear and dependence on military might will dissolve.

When coherence in national and world consciousness is sufficient, Maharishi states that the nation will be so strong and so harmonious that it will be capable

of making a friend out of any potential enemy. In this way a nation can prevent the birth of an enemy and gain victory before war can begin (Maharishi Mahesh Yogi, 1986, pp. 141–143). Maharishi describes the influence of coherence in collective consciousness through the Maharishi Effect as an "armor" around the nation by virtue of which it is able to maintain itself; this is analogous to coherence effects in physical systems, such as result in the "Meissner effect," whereby the coherence of a superconducting material is great enough to repel the influence of an impinging electromagnetic field, even though an ordinary conductor would be disrupted by the impinging field (Maharishi Mahesh Yogi, 1978, pp. 43–50).

In the ultimate analysis, the only source of invincibility for a nation is the source of the invincibility of nature's functioning itself—the unified field (Maharishi Mahesh Yogi, 1986, pp. 138–143).

Maharishi describes the growth of national invincibility and freedom in the following way:

> Invincible defense is inherent in the field of freedom. No strong man would ever need to defend himself, because he is so strong that no one would raise a finger against him. If a nation is threatened then that nation is weak, and in its weakness is dependent on its own fear. A fear-stricken nation will always be alarmed by any little thing. Fear is imaginary. Let me speak with emphasis: Fear of the neighbor is imaginary. When one begins to fear the neighbor then one begins to lose one's own freedom.
>
> Only through alliance with natural law can a nation enjoy real freedom. Then all the tendencies of the nation will be evolutionary. When there is increasing joy, increasing satisfaction, increasing happiness, improving economy, increasing wealth. Everything in national life will prosper. That is a real means of defense.
>
> The best means of defense is to radiate this enrichment, to radiate an influence of harmony to the neighbor. Feed the neighbor with increasing charm, harmony, and happiness. Let these beautiful, positive qualities be radiated from the national consciousness. A soothing, fresh air will always come from the borders of the country. Then all its neighbors will always love that country. The way to independence and self-reliance, the way to be completely free from fear, is to amass positive values by enlivening in national consciousness the self-sufficiency that belongs to the unified field of natural law. Radiate that unified influence to the neighboring countries, and one's own country will always be loved by all those that surround it. This is how to defend oneself.
>
> We invite all countries to raise their nations to true self-sufficiency, the real means of defense. Naturally and spontaneously everyone will be evolutionary, enjoying more and more as time goes on and radiating that greater joy, happiness, and charm to the neighboring countries. So the best means of defense is not through offensive arms but by the integrity of one's own national consciousness and through the charm, happiness, and joy of life that the people of such a country radiate. This will disallow the birth of an enemy, and the need for defending will not arise. This is perfect defense. (1986, pp. 141–143)

If world peace is to be a stable reality, Maharishi holds, then every nation has to rise to the status of perfect health and invincibility (Maharishi Mahesh Yogi, 1986, p. 91). When no nation is weak internally, then there will be no ground for violence, terrorism, or war to develop. Thus, the requirement of world peace is the requirement of a method to create a holistic quality of coherence in the whole of world consciousness. It is the great fortune of our age that through Maharishi's Vedic Science the knowledge of the deepest level of the laws of nature is being made available to directly enrich the life of the individual and society in a manner that can be applied anywhere and scientifically verified, so that each nation will rise to enjoy harmony and strength, and peace will abide in the family of nations.

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