

Theory and research on conflict resolution through the Maharishi effect

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Abstract

Maharishi Mahesh Yogi approaches peace from collective consciousness, the holistic level of society where all its component parts are integrated. Collective consciousness arises from the consciousness of all individuals in society and to reciprocally influence each individual's consciousness and behavior. The basis of all levels of individual and collective consciousness is transcendental consciousness, which is the direct experience of the unified field of nature's intelligence and infinite organizing power. Extensive, well-controlled research demonstrates that the square root of 1% of a population experiencing transcendental consciousness through Maharishi's Transcendental Meditation and TM-Sidhi program propagates coherence in collective consciousness, thereby resolving conflict and improving the quality of life. This phenomenon is known as the Maharishi Effect.

The Theory of the Maharishi Effect

Just as modern physics has recently postulated that nature is fundamentally composed of quantum fields that mediate action at a distance, Maharishi Mahesh Yogi has postulated that there is a fundamental level of consciousness, transcendental consciousness, at the basis of each individual's mind. A direct experience of transcendental consciousness is an experience of the unified field of nature's intelligence. Extensive research, to be reviewed below, has demonstrated that individuals experiencing transcendental consciousness through the Transcendental Meditation and TM-Sidhi program create coherence in society, a phenomenon that scientists have named the Maharishi Effect.

Although action-at-a-distance phenomena have not been reliably observed within contemporary social research, they are now well accepted in the natural sciences. Gravity and the transmission of radio and television signals are both examples of action at a distance that have become familiar to us today. To understand these phenomena, physics developed the concept of abstract quantum fields that mediate these effects. The basic understanding given by quantum theory is that all of creation is the expression of fluctuations of underlying universal fields, and all bodies and processes are therefore connected at fundamental levels. (Hagelin, 1987; 1989; please refer to Hagelin article in this issue.)

Collective Consciousness in the Social Sciences: It bears keeping in mind that while contemporary social theory views human beings "classically" as ontologically separate individuals, the longest tradition of philosophical thought in the West — the idealist tradition — has maintained, at least implicitly, the connection of human beings on the level of consciousness. It is also the case that several of the founding theorists of modern psychology proposed the concept of consciousness as a field through which individuals may be fundamentally connected. One of the founding fathers of modern psychology, Gustav Fechner, for example, described a unity or continuity of "general consciousness" underlying

the discontinuities of consciousness associated with each individual, accessible in principle simply through lowering the threshold of conscious experience (in James, 1898/1977).

William James, the founder of psychology as an academic discipline in America, suggested that the brain may serve to reflect or transmit, rather than produce, consciousness, which in turn may be conceived as a transcendental, infinite continuity underlying the phenomenal world (ibid.). Emile Durkheim, who is considered to be one of the chief founder of modern sociology, proposed that *aconscience collective* was the essence of the underlying social fabric unifying individuals in society. This “collective conscience” or “collective consciousness” was described by Durkheim as the mind of society, created when “the consciousness of the individuals, instead of remaining isolated, becomes grouped and combined” (1951, pp. 310, 312, 313).

Collective Consciousness in the Physical Sciences: In the 20th century, a number of the founders of modern physics were propelled by the implications of their discoveries into what might be described as a field theory of consciousness. Sir Arthur Eddington, who provided empirical confirmation of Einstein’s General Theory of Relativity, wrote:

“The idea of a universal Mind or Logos would be, I think, a fairly plausible inference from the present state of scientific theory; at least it is in harmony with it.” (1984, p. 206; c.f., Dossey, 1989, p. 125)

The eminent astronomer, mathematician, and author Sir James Jeans wrote:

“When we view ourselves in space and time, our consciousnesses are obviously the separate individuals of a particle-picture, but when we pass beyond space and time, they may perhaps form ingredients of a single continuous stream of life. As it is with light and electricity, so may it be with life; the phenomena may be individuals carrying on separate existences in space and time, while in the deeper reality beyond space and time we may all be members of one body.” (1981, p. 204; c.f., Dossey, 1989, p. 125)

Quantum field theory gives consciousness an ontologically fundamental position. As the French physicist Bernard D’Espagnat (1979/1983) commented in a Scientific American article : “The doctrine that the world is made up of objects whose existence is independent of human consciousness turns out to be in conflict with quantum mechanics and with the facts established by experiment.” Max Planck, the father of quantum theory, more directly said, “I regard consciousness as fundamental. I regard matter as derivative from consciousness” (quoted in Klein, 1984). Hagelin (1987, 1989), one of the architects of unified field theory, has gone the furthest of any physicist in providing a conceptual link between the most recent advances in unified field theory and the precise descriptions of natural law found in the ancient Vedic tradition of India from which Maharishi has revived his approach to world peace.

Maharishi’s Principles of Collective Consciousness: The key to Maharishi’s approach to creating world peace is collective consciousness (Maharishi Mahesh Yogi, 1986a, 1986b). Each level of social organization is said to have an associated collective consciousness. For example, one clearly experiences the change in collective consciousness when crossing a national border. Individual consciousness is said to be the basic unit of collective

consciousness, influencing collective consciousness and being in turn influenced by it (Maharishi Mahesh Yogi, 1976, p. 124). Maharishi states:

“Just as the consciousness of an individual determines the quality of his thought and behavior, so also there exists another type of consciousness for 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 collective consciousness of a society is a direct and sensitive reflection of the level of consciousness of its individual members.” (1976, p. 91)

Stressed individuals create stress in collective consciousness, which in turn influences everyone else in society. A palpable influence of stressed collective consciousness is experienced, for example, in a tense office, an unhappy home, or a crime-ridden city. When stress predominates collective consciousness, behavior automatically becomes cautious and defensive. The turbulence created in the mind of an individual by the anxiety, anger, and dullness in the collective consciousness obscures the subtle level of feelings and creative intuition. Consequently, social relations become coarse and creativity inhibited. On the other hand, a harmonious office, happy home, or peaceful city provides a soothing atmosphere that is conducive to trust, cooperation, and creative expression. In Maharishi’s view, all of the different problems in society are expressions of stress throughout the system as a whole, i.e., in its collective consciousness. Maharishi states:

“All occurrences of violence, negativity and conflict, crises, or problems in any society are just the expression of growth of stress in collective consciousness. When the level of stress becomes sufficiently great, it bursts out into large-scale violence, war, and civil uprising necessitating military action.” (1979, p. 38)

Maharishi further explains that terrorism is also an expression of stress in collective consciousness.

“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 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. The 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.” (1986, pp. 83-84)

If stress in the collective consciousness is the cause of war and terrorism, then neutralizing the stress in the whole society in one operation would be an ideal means to creating peace. The difficulty with achieving peace by any other means (unaided by creating coherence in collective consciousness) is that peace, like war, must be systemic. War has many complex determinants — economic, political, historical, individual, ethnic — that must all be addressed simultaneously if peace is to become a stable reality. The beauty of Maharishi’s approach to peace is that deals with the whole system at once through its collective consciousness, which is possible because collective consciousness touches every aspect, every phase, and every level of life in society.

Maharishi’s Technology to Create Coherence in Collective Consciousness: How is it possible to have a holistic beneficial influence on collective consciousness? According to Maharishi’s Vedic Science, the source of the individual mind, and hence, the source of all levels of

collective consciousness, is the unified field, the source of the order in nature, which has been intuitively apprehended and logically derived by the world's great physicists. The unified field of nature's intelligence can be systematically experienced through the Transcendental Meditation and TM-Sidhi program. Thus raising individual consciousness, and those individuals, becoming less stressed and more coherent in their own thought and action, generate an influence of coherence in collective consciousness, thus nipping violence at the bud while at the same time creating an atmosphere in which an ideal society would spontaneously emerge. Further, the theory holds that only a small proportion of people experiencing the unified field of natural law are needed to neutralize stress in collective consciousness because coherence is more powerful than incoherence.

Implicit in this view are a number of assumptions that need to be made explicit regarding the nature of the human mind, the nature of natural law, and the relationship between the mind and natural law at their fundamental levels.

Transcendental Consciousness at the basis of the mind. The first assumption is that individual consciousness is structured in layers from gross to subtle, from sensory and cognitive processes to finer processes of intellect and feeling, to the sense of self (ego), to the subtlest level which is the abstract, transcendental consciousness, the basis of all processes of the mind. Whereas the more expressed levels of the mind are familiar to psychologists and lay persons, transcendental consciousness is less commonly appreciated and needs some explanation. It is called "transcendental" consciousness because it is "beyond" or transcendental to all other levels of the mind. It is also called "pure" consciousness because it is consciousness in its essential nature, unmodified by experience. By analogy, pure consciousness can be likened to an ocean and mental activity to the waves on the ocean. When the localized waves settle down, the unbounded ocean (transcendental consciousness) is experienced. Transcendental consciousness is also called the Self, large "S", because it is the universal Self within every person, in contrast to the self, small "s" which is a person's unique individuality. Pure consciousness is the knower/observer/experiencer within each of us.

Maharishi has brought to light this ancient understanding about the structure of the mind with transcendental consciousness at its basis as it is described in many branches of the Vedic tradition, for example in the *Bhagavad-Gita*, *Upanishads*, and the *Upangas* (Maharishi Mahesh Yogi, 1969; Dillbeck, 1988). Moreover, this hierarchical structure of levels of the mind has recently gained recognition in modern psychology. For example, this structure is able to explain the sequence of human cognitive development from sensory-motor processes to logical reasoning to higher states of consciousness as the development from outer to inner levels of the mind (Alexander, et al., 1990).

Experiencing transcendental consciousness. Thus the first assumption of Maharishi's theory of world peace is that transcendental consciousness exists at the basis of the mind. The second is that it can be experienced. Transcendental consciousness ordinarily remains hidden or transcendental to conscious experience because the conscious experiencing mind is "object-referral," meaning that the observer, which is transcendental consciousness, is looking outward onto the objects of the sensory world and in observing them, does not observe itself, just as we do not observe our glasses when looking through them. Even during introspection, in which the mind is exploring its own contents and operations,

consciousness does not observe its own essential nature as transcendental consciousness because it is observing contents and operations, that is, thoughts, feelings, discriminative processes, and other denizens of subjective life.

The endless and bewildering array of conscious activities observed during introspection is the reason that understanding consciousness is generally held to be the most difficult problem there in nature. During introspection, the mind still has a tripartite division of the observer observing the observed, or said another way, it is divided into knower, known, and processes of knowing which connect the two, the observed or known being the mind's own activities and contents. Therefore it is *in principle* impossible for the thinking mind to experience transcendental consciousness. A trick is needed in order for transcendental consciousness, the knower or Self to experience/observe/know itself, i.e., to transcend its activities and become self-referral, the knower knowing itself rather than being object-referral, in which the knower knows something outside of itself.

Maharishi's Transcendental Meditation is a technique that takes the mind from an "object-referral state" to a "self-referral state." Maharishi explains:

"The Transcendental Meditation technique is an effortless procedure for allowing the excitations of the mind to settle down until the least excited state of mind is reached. This is a state of inner wakefulness with no object of thought or perception, just pure consciousness aware of its own unbounded nature. It is wholeness, aware of itself, devoid of differences, beyond the division of subject and object—transcendental consciousness. It is a field of all possibilities, where all creative potentialities exist together, infinitely correlated yet unexpressed. It is a state of perfect order, the matrix from where all the laws of nature emerge." (1976, p.123)

Maharishi further describes the self-referral state of transcendental consciousness this way:

"The awareness is open to itself, and therefore the awareness knows itself. Because awareness knows itself it is the knower, it is the known, and it is the process of knowing. This is the state of pure consciousness, wide-awake in its own nature, and completely self-referral. This is pure consciousness, transcendental consciousness." (1986b, p. 29.)

Maharishi explains that self-referral consciousness, being the experience of the source of the creative intelligence in nature, creates field-effects of coherence in collective consciousness.

"When consciousness is flowing out into the field of thoughts and activity, it identifies itself with many things [object-referral], and this is how experience takes place. Consciousness coming back onto itself gains an integrated state, because consciousness in itself is completely integrated. This is pure consciousness, or transcendental consciousness [self-referral]. From this basic level of life emerge all fields of existence, all kinds of intelligence. This self-sufficient, self-referral state of consciousness is the basis of the phenomenon of coherence that radiates from such assemblies [of practitioners of Transcendental Meditation and TM-Sidhi program] and influences the whole world consciousness." (1986b, p. 25)

Coherence means coordinated activity: the functions and structures of every part of a system perfectly reinforce the whole and the whole supports all the parts. With respect to the individual, coherence means physiological, psychological, and sociological integration

producing health, happiness, and right action, as research on individuals practicing the Transcendental Meditation program has shown (Please refer to Alexander article in this issue). Because collective consciousness arises from the individuals in society, when they become more coherent, so too does collective consciousness, and through this influence, society as a whole becomes peaceful.

The purpose of natural law. Given that the unified field of natural law is a universal field of consciousness, as envisioned by many of the great pioneers of modern physics, and given that it can be directly experienced in the self-referral state of one's own consciousness, why or how would this experience produce coherence in the individual and society? An implicit assumption in this view is that natural law has a fundamental purpose, which is to structure coherence as defined above. Whereas the observed universe is created from the unmanifest, self-referral dynamics of the unified field of nature's intelligence, the purpose of this self-referral activity is self-referral, that is, self-knowledge of the entire range of the unified field from infinity to a point (Maharishi Mahesh Yogi, 1986b). The human nervous system is nature's instrument for knowing itself in its entirety. The nervous system has the capacity to experience the unified field of nature's intelligence as transcendental consciousness. Since transcendental consciousness is the basis of the human mind and is the knower, the Self, the expansion of self-knowledge means increasing knowledge of our own consciousness from its infinite basis to all its finite expressions. Because one of the basic qualities of the unified field, and hence transcendental consciousness, is bliss (please refer to Hagelin article in this issue) the expansion of self-knowledge is accompanied/motivated by the expansion of happiness. The purpose of human life can thus be said to be the expansion of happiness (Maharishi Mahesh Yogi, 1966).

It may be remarkable for a scientist to think that the human nervous system is not just an accidental outcome of the evolution of physical matter (a very unsatisfying and epistemologically problematic point of view), but rather that it is nature's instrument through which nature, which is fundamentally the unified field of pure consciousness, can know itself in its entirety. From this perspective, all human activities are fundamentally for the purpose of expanding self-knowledge and happiness. As the human mind looks out onto the galaxies, it is ultimately looking for itself. Anything we do increases our self-knowledge, and if it increases our happiness, it is nature's signal that we are evolving in the direction of Self-knowledge, knowledge of the unified field within us.

Higher States of Consciousness. Maharishi has brought to light that higher states of consciousness are higher states of self-knowledge, a sequential development resulting from greater experience of transcendental consciousness, the unified field of natural law (Maharishi Mahesh Yogi, 1969; Orme-Johnson, 1988a, b). There are seven states of consciousness of which the first three are the familiar states of waking, dreaming, and sleeping. Transcendental consciousness is the fourth, and the three higher states, cosmic consciousness, God consciousness, and unity consciousness are a sequence of stable states of enlightenment in which one increasingly experiences and expresses the unified field of nature's intelligence (Alexander & Boyer, 1989).

In the fourth state, transcendental consciousness, the unified field of nature's intelligence is experienced to the exclusion of all other experience. All the active phases of the mind are inhibited at that time. In the fifth state, cosmic consciousness, further neurological

refinement allows transcendental bliss consciousness, the Self, to be experienced as a stable background or witness throughout the cycle of waking, dreaming, and sleep. The mind becomes permeated with bliss in cosmic consciousness, which cultures the mind to appreciate the most refined, celestial levels of perception, giving rise to a tidal wave of love and devotion for the creation and its creator, hence the name God-consciousness. Through further neurophysiological refinement, the seventh state, unity consciousness, dawns in which even the environment, which was previously conceived to be objective and external, is appreciated in terms of the Self. This is the climax of self-knowledge, in which all phases of existence, subjective and objective are appreciated to be nothing other than the unified field of nature's intelligence, the Self moving within itself. One of the *mahavakyas* (great sayings) of the Upanishads declares "I am That, Thou art That, all This is That".

The practical significance of this evolution of consciousness is that as self-knowledge grows, one becomes increasingly in tune with the invincible, evolutionary power of natural law, because the Self is the unified field of natural law. In Maharishi's view (1986b), sickness, suffering, conflict, and all other negativity in the individual and society stem from not being in accord with natural law due to lack of experiential and intellectual knowledge that fundamentally one's nature is pure consciousness. Stress in the individual and collective consciousness is the consequence of life not being in accord with natural law, and as noted above, stress in collective consciousness is the cause of war. Thus in Maharishi's approach to world peace, Self-knowledge, the bliss that it affords, and the coherence that it creates in collective consciousness bring life in accord with natural law in society, creating peace.

Maharishi has brought to light that several thousand year ago Patanjali (Prasada, 1912/1978) referred to this approach to peace in his *Yoga Sutras* (from which the TM-Sidhi program is derived) in his statement "*tat sannidhau vairatyagah*" which translates as "in the vicinity of coherence [yoga], hostile tendencies are eliminated."

Maharishi explains that an influence of coherence spreads because transcendental consciousness is a state of infinite correlation:

"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." (1986b, p. 75)

The real genius of Maharishi's theory of collective consciousness and its application to peace that sets it apart from all other theories and approaches is that it is empirically testable in actual international conflicts.

The Discovery of the Maharishi Effect

In the early 1960's Maharishi predicted that as little as 1% of a population practicing the Transcendental Meditation technique would create an influence of harmony throughout the entire society. Maharishi based his prediction that a few could effect many on the principle of coherence in physics in which influence of the coherent elements in a system is much greater than that of the incoherent elements (Borland & Landrith, 1976; Hagelin, 1987, 1988; Orme-Johnson, et al. 1988). Research on the Maharishi Effect began in 1974, when

researcher Garland Landrith of Maharishi International University (MIU) tested Maharishi's prediction on crime rate in four Midwestern cities where 1% of the population had learned the Transcendental Meditation technique. He reported that crime rate decreased significantly the year after each became 1% cities, compared with other cities of similar size and geographic location. Using FBI data, the study was expanded to include all 11 cities over 25,000 population (Borland & Landrith, 1976), and by using data from local police for cities with 10,000 population, it was expanded again to include all 24 cities that had reached 1% of their population practicing TM in 1972 (Dillbeck, Landrith, & Orme-Johnson, 1981). The finding of significant reduction in crime rate was replicated both times. In the second replication, not only did crime rate decrease the year after 1% was reached, but the crime rate trend was lower for those cities over the following six years, controlling for total population, geographic region, college population, unemployment rate, median education level, stability of residence, percentage of persons 15-29 years old in the population, and a number of other variables.

Causal Analysis

The most comprehensive studies of the Maharishi Effect on the city level employed causal analyses of crime trends over a period of seven years in random samples of 160 US cities and 50 Standard Statistical Metropolitan Areas (SSMA's), the latter sample representing approximately half the urban population of the US (Dillbeck et al, 1988). These studies, which were published in the *Journal of Mind and Behavior*, found that cities and metropolitan areas with higher proportions of meditators in 1973 had reduced crime trends for the next six years. In neither study did the level of crime predict the number of meditators in the population in future years. Thus, TM apparently influenced the crime rate but crime rate did not influence TM, suggesting that TM was the causal element in the correlation between the two. Both studies statistically controlled for virtually all demographic variables known to influence crime, and a significant and stable causal structure was found for both samples, the 160 cities and the 50 SSMA's.

The TM-Sidhi Program and Super-Radiance

A major breakthrough in the Maharishi Effect research came in 1976 with the development of the more powerful TM-Sidhi program. The incredible power of TM-Sidhis on impacting collective consciousness was discovered in 1978 during Maharishi's Ideal Society Campaign, which was conducted in selected provinces in 20 countries. Maharishi sent teams of teachers of the Transcendental Meditation technique to these countries in order to try to inspire the 1% of the local populations to learn the technique in to create an ideal society. As it happened, these teachers practiced the TM-Sidhi program together in groups, particularly the powerful Yogic Flying technique (Orme-Johnson & Gelderloos, 1987; Travis & Orme-Johnson, 1990). It was discovered that groups of the order of the square root of 1% of a population collectively practicing the TM-Sidhi program were sufficient to produce a measurable and holistic influence of harmony and integration in the entire population (Dillbeck et al., 1987; c.f. Maharishi Mahesh Yogi, 1986b, p. 76). This phenomenon has been named Super-Radiance, after the super-radiance phenomenon in lasers. Studies now have demonstrated its effect on the city, state, national, and international levels. For example, the first study of Super-Radiance was conducted on the state level in Rhode Island, which was published in *The Journal of Mind and Behavior*. It found improvements on a quality-of-life

index that included crime, deaths, unemployment, alcohol consumption, cigarette consumption, pollution, motor vehicle fatalities, and accidents (Dillbeck et al., 1987).

The square root of 1% of a population is a relatively small number, making controlled studies even on the national and world level possible. For example, the square root of 1% of the US population is currently approximately 1600, and the square root of 1% of the world population is approximately 7000.

The Establishment of a National Super Radiance Group

Since 1979, a group of Transcendental Meditation and TM-Sidhi participants ranging in size from a few hundred to over 8000 has gathered twice a day at Maharishi International University in Fairfield, Iowa for the purpose of creating coherence in the US and world. A study published in *Social Indicators Research* found a significant effect of the MIU group on US violent deaths per week (homicides, suicides and traffic fatalities) from 1979 to 1985. The square root of 1% of the US population in 1985 was approximately 1550, and the study found that an increase in Super-Radiance groups size at MIU from zero to 1550, corresponded to a decrease of 106 fatalities per week. The study used time series analysis that controlled for seasonal fluctuations, trends, and drifts in the data (Dillbeck, 1990). A similar time series analysis found a reduction in violent deaths in Canada when the threshold of 1600 for North America was reached (Assimakis, 1989).

Using a similar research design, a series of papers presented at the Business and Economics Statistics Section of the American Statistical Association, Cavanaugh and his collaborators found significant reductions in the Misery Index of inflation and unemployment for both the US and Canada, controlling for a number of economic factors (Cavanaugh, 1987; Cavanaugh and King, 1988; Cavanaugh, King and Ertuna, 1989; please refer to Cavanaugh article in this issue).

A study of the effects of the MIU Super-Radiance program on the quality of life in the United States used an equally weighted 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, & Dillbeck, 1988). 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 root of the number of TM and TM-Sidhi participants in the group practice at MIU.

Analysis of the quality-of-life index showed a virtually continuous downward trend in the overall quality of life in the United States from 1960 to 1975. This negative trend began to level off starting in 1975, the year that Maharishi inaugurated the Dawn of the Age of Enlightenment (Maharishi Mahesh Yogi, 1975). During the years 1982-1984, when the group of Transcendental Meditation and TM-Sidhi program participants at MIU was large enough to have a predicted effect on national consciousness, there was a dramatic increase in US quality of life. The total improvement of 7.17% on the quality-of-life index over this three-year period was 5.2 times greater than any three-year improvement in the prior 22 years. Clearly, an unprecedented change in recent US history had occurred.

A further analysis of the different quality-of-life variables used a multivariate method of analysis of covariance structures (e.g., Jöreskog & Sörbom, 1979; Long 1983) implemented by the LISREL VI program (Jöreskog & Sörbom, 1986). The covariance structure model combines the approaches of factor analysis and structural equation causal modeling to assess the impact of independent variables on a set of *latent* variables underlying a group of observed variables. Two quality-of-life factors were found, a general factor and a second factor, and the MIU Super-Radiance group had a significant effect on both factors, accounting for 80.4% of the variance of the general factor and 60.3% of the secondary factor.

These studies provide strong evidence that the MIU Super-Radiance group has significantly impacted on the quality of life in the United States, as seen in a reduction of deaths due to suicides, homicides, and traffic fatalities (Dillbeck, 1990), a reduction in inflation and unemployment (Cavanaugh, 1987; Cavanaugh and King, 1988; Cavanaugh, King and Ertuna, 1989), and an improvement in the general quality of life (Orme-Johnson et al., 1984).

The World Peace Project

Immediately following the discovery of the Super-Radiance effect in the Fall of 1978, Maharishi decided to apply it to resolve conflicts in the international arena. More than 1400 experts in the Transcendental Meditation and TM-Sidhi program were sent for approximately two months (November and December, 1978) to several trouble spots of the world, including Central America (Nicaragua), the Middle East (Lebanon), Southern Africa (Rhodesia-Zimbabwe) and Zambia), and to Southeast Asia (Cambodia) as well as to surrounding countries. Their effect was studied using an independent data base, the Conflict and Peace Data Bank (COPDAB), 1948-1978: Daily Aggregations (Azar, 1982). The COPDAB file is the largest daily data bank in the world coding for conflict in international affairs, including data from over 70 major news sources.

During the World Peace Project the percentage of hostile actions between countries as well as between factions within the trouble spots decreased 36% relative to the baseline period, and cooperative events increased by 37%. The proportional reduction in hostile acts in these trouble-spot countries was twice as great as the change at that time in the rest of the world, which was used as a control (Orme-Johnson, Dillbeck, Bousquet, & Alexander, 1990).

The COPDAB data also showed that the type of events shifted significantly from military issues (troop deployment, security pacts, defense treaties, wars, prisoner-of-war releases or exchanges, guerrilla raids, etc.) to non-military issues (cultural, economic, political order, legal, human environmental, physical environmental, and natural resources). Thus, for the time that the groups of Maharishi's TM and TM-Sidhi participants were in or near the trouble spots conflict decreased, cooperation increased, and balance was restored as seen in an increase in non-military interactions. This finding can be interpreted as a shift in the focus of collective consciousness from destructive toward cooperative interaction as stresses in collective consciousness began to be neutralized and coherence increased.

The International Peace Project in the Middle East

A major experimental test of the application of the Maharishi Effect to resolve international conflict took place in 1983 in Israel during the war in Lebanon for a two-month period

(August and September) (Orme-Johnson, Alexander, et al., 1988). The project was funded in part through a grant in honor of William Ellinghaus, then president of American Telephone and Telegraph Company, from the Fund for Higher Education. Predictions were lodged in advance with scientists in the US and in Israel. The variables, such as traffic accidents, crime rate, and fires, all of which are major problems in Israel, were selected because they had been used in previous experiments. As a measure of the war in Lebanon, two war variables, war deaths and war intensity, were derived by content analysis of a major newspaper and other media sources using a scaling method modeled after Azar's (Azar, 1982). Other variables included the Israeli national stock market and the national mood from content analysis of a major newspaper. All variables were derived from publicly available data sources. The independent variable, the group size of TM and TM-Sidhi participants, was sent on three different occasions to members of the review board before any of the data analysis was undertaken.

During the first two weeks, the numbers rose gradually in response to the call for the project, and then remained high for a 13 day period, after which they fluctuated. The 13-day high period was created at an arbitrarily selected time in order to approximate as closely as practical a true random-assignment experiment. During that time, course participants were offered advanced meditation techniques as incentives attend the course. During this 13-day period, war deaths were a mean of 1.5 per day compared with a mean of 33.7 per day for the 13-day periods immediately before and after the experimental period.

The overall composite index composed of all the variables mentioned above and the size of the coherence-creating group closely track one another. Statistical analysis using the Box-Jenkins (1976) ARIMA (auto-regressive, integrated, moving, averages) time series methods of transfer functions showed that change in the size of the coherence creating group significantly led change in the composite index by one day, controlling for any seasonal fluctuations in the data, as well as controlling for changes in the weather and holidays. This means that the up and down variations in the size of the coherence creating group were followed by a corresponding variation in the overall quality of life in the region, supporting a causal interpretation.

Using two time-series methods, transfer function and impact assessment, all the individual and composite variables were found to be statistically significant. Of particular interest was an index of the war in Lebanon, computed as the arithmetic mean of the normalized (Z-transformed) war deaths and war intensity variables. This variable was subjected to an exhaustive time series analysis and the results were verified using 14 alternative specifications of the "noise" model. The noise model is the mathematical model of the dependent variable (the index of war) that statistically removes all cycles, trends, and drifts from the data (hence reducing it to "noise" with respect to any time-dependent structure that it may have had; that is, removing these spurious effects so that the effect of the independent variable can be accurately evaluated). Then the independent variable (the coherence creating group) is entered into the equation to see if it has an independent effect on the war. Because cycles in sociological data are statistical (stochastic) rather than exact, there can usually be alternative ways of modeling, i.e., there may be alternative specifications of the noise model. One objective criteria of "best" model is minimization of the Akaike Information Criterion (AIC, Akaike, 1973) which provides the model with the optimal balance between the opposing goals of parsimony and model fit when evaluating

model order and model structure. The model with the lowest AIC indicates is the model that gives the best prediction with the least numbers of parameters (Larimore, 1983, 1986; Larimore & Mehra, 1985).

By analyzing 14 alternative noise models of the war index, we found that the better the noise model (i.e., the lower the AIC), the more highly statistically significant was the effect of the coherence creating group on reducing the war. This indicates that the effect was not spuriously due to some particular noise model. Moreover, this analysis showed that as more of the background variation in the index of war was accounted for by better noise models, the more clearly the effect of the coherence creating group emerged from the data ($t=5.0$, $p < .0001$ for the best model).

There were several interesting aspects about this data which support a causal interpretation that increasing the size of the coherence creating group *caused* a reduction in the war in Lebanon:

- 1). During the arbitrarily selected period when the group size was experimentally increased by offering incentives to course participants, the war in Lebanon subsided dramatically.
- 2) The results of time series analyses were robust with respect to different specifications of the noise model and the best model yielded the most significant effect, as noted above. This shows that the reduction in hostilities during days when the coherence creating group was largest was not due to a spurious correspondence of changes in the size of the coherence creating group with already existent cycles or trend in the data, nor due to any unknown variable(s) that might be causing these variations.
- 3) The 15 out of 61 total days when the group was largest were randomly distributed over the experiment, yet there were 76% fewer war deaths during these days compared to the 15 days when the group was smallest.
- 4) The results could not be accounted for by holidays or temperature, whose effects were accounted for by entering them as separate variables in the time series analysis
- 5) None of the dependent variables systematically led in time the changes in the size of the coherence creating group, whereas the group size did lead changes in many of the dependent variables, suggesting causality, because the cause must precede or be at the same time as the effect. In the case of the index of war variables there was a same day (lag 0) effect, indicating that the war decreased on the same day that the coherence creating group increased. In this case, it is significant to note that the group met in the morning and early afternoon, whereas if hostilities occurred, they usually did so in the evening. Thus, even for lag 0, the mediator variable preceded or took place at the same time as the change in hostilities. These different results all support a causal interpretation (Orme-Johnson, Alexander, et al., 1988, p. 804; Orme-Johnson, Alexander, & Davies, 1990).

Another very interesting finding in this study was that when the individual variables were combined into a composite variable, the results were the clearest, showing the clear covariance between the composite of all the raw data and the coherence creating group. Adding the individual variables together is a type of signal averaging that enhances the common variance. As a result, the composite of all the variables most clearly shows their

common variance. The finding that changes in the composite variable correspond most clearly to changes in the coherence creating group is strong empirical evidence that the common variance underlying these diverse social processes was in fact generated by the coherence creating group functioning at a fundamental level of natural law (Orme-Johnson, Alexander, 1988, p. 806).

Replication of Reduced War in Lebanon

Experimental replication is the most powerful test of the reliability of a new discovery. These dramatic results on the Lebanon war have now been replicated *seven* times with a statistical probability of less than 10⁻¹⁹, or one in ten million trillion that the results were due to chance (Davies and Alexander, 1989; please refer to Davies article in this issue). This study, which was presented at the annual conference of the *American Political Science Association* in 1989, found that during the seven coherence creating assemblies large enough to have a predicted impact on the war in Lebanon that war fatalities decreased by an average of 71%, war injuries decreased by 68%, and cooperation among antagonists increased by 66%. The degree of statistical certitude of this finding is unheard of in even the physical sciences, lending strong support to the reliability and legitimacy of the theory and empirical evidence of the Maharishi Effect.

The Global Maharishi Effect

This research showing that coherence creating groups can reliably quell regional conflict makes it imperative to establish groups large enough to create coherence for the whole world. After seeing the results of the first study in the Middle East, even before the evidence of extensive replication was amassed, Maharishi in late 1983 set out to create an assembly of 7000 practitioners of the Transcendental Meditation and TM-Sidhi program, the square root of 1% of the world's population, in order to give the world a "Taste of Utopia". In addition, he created a tradition of holding large assemblies every quarter in the hopes of raising world consciousness and demonstrating effects that would inspire the world leadership to establish permanent coherence creating groups as a sustained peace keeping forces in every country.

A study of the effects of these assemblies on worldwide international conflicts, terrorism, and economic confidence was presented at the American Political Science Association and American Psychological Association in 1989 and 1990, respectively (Orme-Johnson., Dillbeck, Alexander, Chandler, & Cranson, 1989; Orme-Johnson, et al. 1990). This study found that on the three occasions when the world assemblies approached the 7000 threshold needed for global coherence, that international conflicts decreased by more than 30%, according to a content analysis of the *New York Times* and *London Times*, and that international terrorism decreased by more than 70%, using data compiled by the Rand Corporation. In addition, the World Index of international stock prices in the 19 major industrial countries increased significantly, indicating increased economic confidence. As in other studies, time series analysis ruled out the possibility that the results were spuriously due to cycles, trends, or drifts in the measures used. The study also showed that the results were not due to changes that usually occur during the year-end holiday seasons when two the assemblies were held.

Improved US/Soviet Relations

The most dramatic political change of the twentieth century is the warming of relations between the superpowers with its enormous worldwide implications. In some of the studies reviewed above, the Maharishi Effect had a calming effect in trouble-spot areas in which the Americans and Soviets were involved on opposite sides, indicating indirectly and sometimes directly that the coherence creating groups soothed the relations between the superpowers. This evidence is further strengthened by studies of the statements of heads of state. According to Maharishi's principles of collective consciousness, the statements of the head of state reflect the quality of national collective consciousness because the head of the state is the innocent mirror of national consciousness (Maharishi Mahesh Yogi, 1976). For example, one study analyzed statements by the President of the United States (President Reagan) published by the US government's Office of the Federal Register of National Archives and Records Administration in the *Weekly Compilation of Presidential Documents* from April 1985 to September 1987. Box-Tiao impact assessment analysis revealed a highly significant effect of the collective practice of the TM and TM-Sidhi program at MIU on improving US/ Soviet relations (Gelderloos, Frid, & Xue, 1989). These findings indicate that increased coherence in US national consciousness through the Maharishi Effect was reflected in the increased positivity of the President's statements about the USSR.

Another study on the effects of the MIU Super-Radiance group on US-Soviet relations used the data base from the Zurich Project on East-West Relations, which has tracked US-Soviet relations by content analysis of news events from 1979 to 1986. The study divided the size of the MIU group into quartiles; less than 1100, 1100-1500, 1500-1700, above 1700. When the group reached the Super-Radiance threshold of the square root of 1% of the US population (1500-1700), the US actions towards the Soviets began to become significantly more positive. US behavior towards the Soviets became even more positive when the MIU group was over 1700, and moreover, Soviet behavior towards the US also became significantly more positive when the group was largest (Gelderloos, Cavanaugh, and Davies, 1990). This data is the first empirical demonstration of why East-West relations have suddenly improved. The Maharishi Effect, by creating coherence in national and world consciousness, has dramatically changed the historical destiny of our time.

Conclusion

Only a technology that operates from the unified field of nature's intelligence could be powerful enough and unifying enough to bring harmony to all the diversity of cultures and political systems in the world. Just as quantum field theory has provided a deeper level of analysis of physical phenomena which complements the value of the classical level of analysis, so too a deeper level of analysis of social phenomena is possible which complements the behavioral levels of analysis of contemporary social science theory. Studies of the Maharishi Effect provide empirical demonstration of the efficacy of such an approach. Methodologically, the studies on the Maharishi Effect are the first experimental research in history to actually attempted to resolve real conflicts on national and international scales, and they have used state-of-the-art statistical methodologies. There is no other research program in the conflict resolution literature that is more directly relevant and more rigorously validated for creating world peace than Maharishi's. The studies have been replicated on many different populations across a variety of measures in virtually all of the world's major conflicts. The studies have included all instances of the phenomenon, such as all 1% cities (Borland & Landrith, 1977; Dillbeck et al., 1981), the entire period of the MIU

Super-Radiance group since its inception in 1979 in studies of violent death and inflation/unemployment (e.g., Dillbeck, 1990; Cavanaugh, 1987), and all cases in which the size of a Transcendental Meditation and TM-Sidhi group was large enough to have a predicted impact, as in the study of the Lebanon war (e.g., Davies & Alexander, 1989) or on the world (Orme-Johnson et al., 1989). With all of this evidence and profound theory, if this technology of peace is not being implemented it can only be for the political reasons of special interest groups, and does not serve the purpose of the people of the world who deeply desire peace and prosperity for themselves and for the generations to come.

Maharishi (1986, pp. 21-24) outlines three simple steps to permanent world peace. First step: Create coherence in world consciousness through establishing a permanent group of 10,000 experts in Maharishi's Vedic Science and Technology. Second step: Create coherence in national consciousness in every country by establishing a coherence creating group numbering the square root of one percent of that nation's population. Third step: Create coherence in city consciousness by establishing a coherence creating group numbering the square root of one percent of the citizens of the cities of every country. As Maharishi has commented:

"Whether it's done by individuals in the continent or by governments, whoever creates the groups of 7000 will have the flag of eureka! for world peace. I don't see any other effective program for world peace." (Maharishi Mahesh Yogi, 1986b, p. 163)

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