

## Article

# How to Transform Ourselves, Our Nations, and the World Scientifically

Pradeep B. Deshpande \*

Professor Emeritus of Chemical Engineering, University of Louisville, & Six Sigma & Advanced Controls, Inc., Louisville, KY 40222 USA

### Abstract

This paper attempts to show that advance in the understanding of religion is also the pathway for a more just and peaceful world order and vice versa. That is, if we can solve one problem, we have solved the other. Such an understanding will be shown leading to a scientific framework for individual, national, and global transformation. The prerequisites for progress are an openness of mind but simultaneously a steadfast commitment to relying on data alone for decision making.

**Keywords:** world transformation, ourselves, nation, science, religion, world order, peace.

### Introduction

Since the mid-eighties, the University of Louisville has been giving internationally recognized awards established in honor of one of our department's most distinguished alumni, H. Charles Grawemeyer, in several areas not covered by the Nobel Prizes. One of these awards is in the category of Religion and another for Ideas Improving World Order. This paper attempts to show that advance in the understanding of religion is also the pathway for a more just and peaceful world order and vice versa. That is, if we can solve one problem, we have solved the other. Such an understanding will be shown leading to a scientific framework for individual, national, and global transformation. The prerequisites for progress are an openness of mind but simultaneously a steadfast commitment to relying on data alone for decision making.

The website describing the Grawemeyer Award in religion states: "*The Louisville Grawemeyer Award honors highly significant contributions to religious and spiritual understanding. By "religion" we mean, to paraphrase a classic definition by William James, the feelings, acts and experiences of humans insofar as they apprehend themselves to stand in relation to whatever they consider the divine. The purpose of the Award is to honor and publicize annually creative and constructive insights into the relationship between human beings and the divine, and ways in which this relationship may inspire or empower human beings to attain wholeness, integrity or meaning, either individually or in community.*"

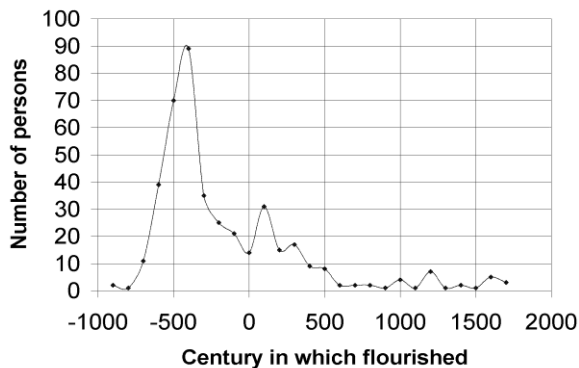
While the website on the Grawemeyer Award for Ideas Improving World Order says: "*They (Ideas for Improving World Order) may address a wide range of global concerns including foreign policy and its formation; the conduct of international relations or world politics; global*

---

\* Correspondence: Prof. Pradeep B. Deshpande, Six Sigma & advanced Controls, Inc., 1209 Holsworth Lane, Louisville, KY 40222, <http://www.sixsigmaquality.com> E-mail: [pradeep@sixsigmaquality.com](mailto:pradeep@sixsigmaquality.com) This paper is adapted from a presentation at 17th Annual Conference on Science, Information, and Consciousness St. Petersburg, Russia, July 5 – 7, 2013.

*economic issues, such as world trade and investment; resolution of regional, ethnic or racial conflicts; the proliferation of destructive technologies; global cooperation on environmental protection or other important issues; international law and organization; any combination or particular aspects of these, or any other suitable idea which could at least incrementally lead to a more just and peaceful world order.”*

I was serving as department chair of chemical engineering during 1985-90 when I was a finalist for the Grawemeyer Award for Instructional Development for a course in computer process control. The Grawemeyer awards for religion and ideas for improving world order had weighed on my mind ever since their inception as I had the hunch they somehow held the key to a more just and peaceful world. A deeper understanding of the two topics appeared to begin unveiling in the early nineties when working with the Late Prof. Phoebus M. Christopher, a dear friend and a colleague of Greek-Cypriot ancestry, we developed a theory of rise and decline of cultures. Inspired by certain Indian ideas over two thousand five hundred years old, we proposed three natural laws to explain the basis of human existence: (1) That the human mindset may be conceived of having three components: S, R, and T (definitions are at the end of the article), (2) That the three components undergo transformation over time for reasons we do not fully comprehend even to this time, which induces rise and decline of societies, and (3) That the phenomena of rise and decline are cyclical. We examined all twenty-three volumes of the Encyclopedia Britannica for the evidence of rise and decline of several cultures. The data for Greece depicted in Figure 1 plots the number of individuals of Greek origin listed in the twenty-three volumes of the reputed reference. The rise and decline of Greece is clearly evident.



**Figure 1. Rise and Decline of Greece**

The theory of rise and decline permitted us to predict that the rise of China and India, in that order, was imminent at a time in the early nineties when no one was talking about it.

Dr. Donald C. Swain an eminent historian and then President of the University of Louisville, Dr. Rutherford Aris, Professor of Chemical Engineering, University of Minnesota and a member of the US National Academy of Engineering, and Prof. Theodore Williams, Professor of Chemical Engineering, Purdue University all commented, “The theory is interesting and the use of the Encyclopedia to support the theory is unique”. However, they cautioned, “relying on a single

data source no matter how reputable to arrive at broad conclusions could be problematic.” My own dozen or so doctoral students in the nineties scoffed at the theory at the time but some of them remarked at my retirement dinner in 2005, “All that we hear about now is China, China, China, and India, India, India”. Writing in the nineties, I pegged the rise of India in this cycle to have begun with the 1857 uprising as depicted in Figure 2a as did former President of India, Dr. A. P. J. Abdul Kalam writing in *India Today* in 2003 as shown in Figure 2b.

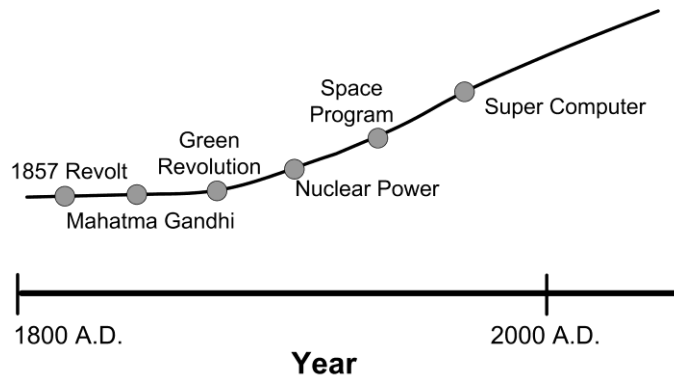


Figure 2a. Rise of India This Cycle -Author

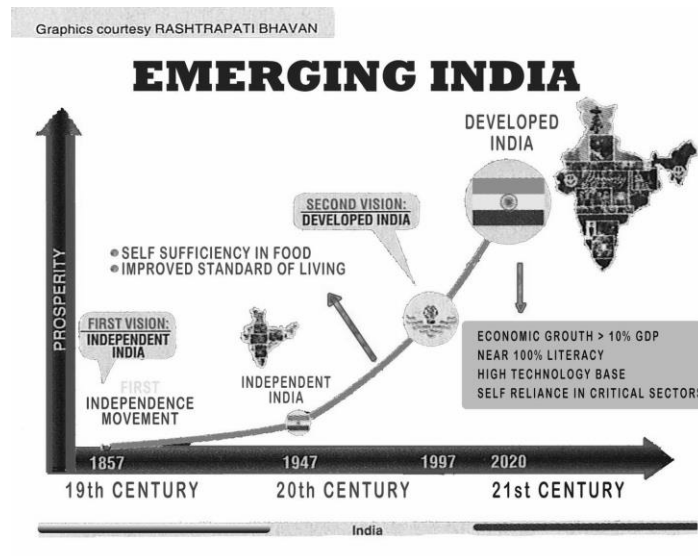


Figure 2b. Rise of India –Dr. APJ Abdul Kalam

### What Issues Do These Awards Highlight?

One might ask, why would an institution of higher learning backed by one of its distinguished alumni establish these awards. I haven’t spoken to anyone about this but I would have to believe the answer is, the University of Louisville believed that there were issues, problems, or opportunities around each of the two topics and that tackling them would benefit humanity. Let us consider each of the two topics.

**Religion.** I imagine the decision makers associated with the Grawemeyer Award for religion would have looked around the globe and examined historical evidence too to arrive at the assessment, there was too much violence in the name of religion globally whereas the purpose of religion was to achieve exactly the opposite effect. Mind you, this was a full decade before the 9/11 terrorist attacks in New York. Wouldn't it be nice to recognize outstanding contributions to improved understanding of religion leading to less conflict?

**World Order.** The issue here is similar. There is so much conflict in the world. Again, wouldn't it be nice to recognize outstanding contributions that could lead to a more just and peaceful world?

### Problems on Account of Religion

To develop an understanding of why problems arise, how intricately the two issues are linked, and to present a path forward for progress, we begin with an examination of the S, R, T Level of Human Consciousness depicted in Figure 3. This scale of human consciousness is strikingly similar to the Map of Human Consciousness independently devised by David R. Hawkins, MD. Dr. Hawkins, a psychiatrist now in his eighties, lives in Arizona. Among his several books, there is one titled, *Orthomolecular Psychiatry* he coauthored with The Late Linus R. Pauling, Nobel Laureate in Chemistry and Peace. The scale depicted in Figure 3 is arbitrary and there is evidence to back up Dr. Hawkins' assertion, it is likely logarithmic. For the simpler case, I have devised a linear scale with a minimum value of 82.5, corresponding to S (min), R (min) and T (max) and a maximum value of 1,000 corresponding to S (Max), R (min), and T (min). The upper limit of 1,000 designates an individual who is the best a human being can be while the lower limit of 82.5 represents an individual who is the worst he or she can be.

By now I have presented a talk on the scientific framework for individual, national, and global transformation, of which the current article is a subset, in four different countries: US, Peru, India, and Greece. I will make this presentation in St. Petersburg, Russia during July 5 – 7, 2013. When I ask the audiences to opine on who might be at the top of the scale, invariably they take such names as Mother Theresa, Mahatma Gandhi, Martin Luther King, etc. When I ask them to think of who might be even higher, the answers come back, Jesus, Buddha, Krishna, Prophet Mohammed, etc. When I ask them who might be at the bottom, they take the names of Hitler, bin Laden, Stalin, etc. When I ask where they might be on this scale, they uniformly agree, somewhere in between. And finally when I ask which direction they ought to try to go in their lifetimes, they all respond, upward!

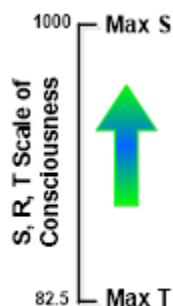


Figure 3. Author's S, R, T Scale of Human Consciousness

So, why has there been so much violence in the name of religion? Because, some human beings take the view their incarnation or Prophet is the only one at the top and that the only way for everyone else to progress is through their messenger. When such individuals are endowed with excessive R and T components, it spells trouble for humanity as it has in the past. In my presentations, I make the observation it is neither wise nor possible to rank order the messengers for three reasons: (1) it implies the ability to discern truth from falsehood. Our study indicates that only individuals at a very high level of consciousness possess such an ability and they would never use it to harm anyone, (2) as Dr. Hawkins puts it, “every level of consciousness has an understanding of reality that is valid only at that level of perception”. Given that there is widespread agreement we are way down from the top end of the scale, most of us simply do not have the capacity to grasp what the reality is. And (3) let us not forget, the messages of incarnations, Prophet, Son of God, etc., are nearly identical! On the side, Jesus is and has been in my prayer daily for many years and we are not Christian. My wife has had a photo of Mary holding baby Jesus in our Puja corner at home alongside our family deities for over four decades.

### Obstacles to a More Just and Peaceful World.

To grasp this topic, we must revert to the theory of rise and decline of cultures. As depicted in Figure 4, during the period of rise, the S component of the mindset is dominant and when the average S component of the society reaches its maximum, the society is at its best. Following this, the S component begins to decrease and the T component begins to assume dominance and the society begins to decline. The society continues to decline as the average T component of the society increases and when it reaches its maximum, the society is at its worst and then it is time for the S component to begin its ascent and the society begins to rise again. The rationale for why these components undergo transformation remains unclear.

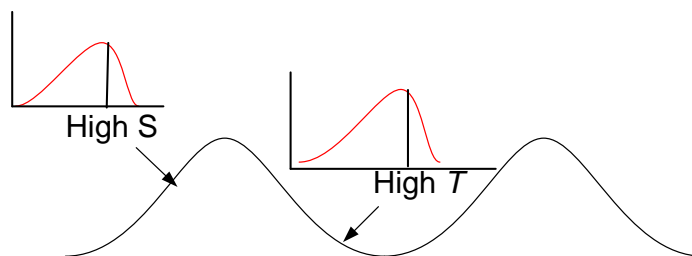


Figure 4. Mindset Transformation and Rise and Decline of Societies

At any given time, some societies are rising, some declining, some are in the risen state, and some in the depth of decline. It should not come as a surprise then that there is perpetual scope for violence perpetrated by the members of the societies in the depth of decline. Religion (or race and caste in the case of India) often gets blamed for this but the real culprits are excessive R and T components of the mindset.

In writing the foreword and Introduction to my 2008 monograph, *A Small Step for Man: Zero to Infinity with Six Sigma*, Prof. Deepak Jain, the then Dean of Kellogg School of Management, Northwestern University, and Prof. James C. Watters, the then chair of the chemical engineering

department at the University of Louisville, expressed a sense of disappointment for it appeared the phenomena of rise and decline left no scope for human intervention. This in fact is not the case. The rise and decline curves apply to societies at large and are indicative of their average level of consciousness and not individual values. Although rise and decline are unavoidable, there is nothing in the laws to suggest that the pace of rise cannot be accelerated for rising cultures, decline attenuated for cultures in decline, and decline kept at bay longer for risen cultures. Furthermore, the phenomenon does not preclude an individual in a society at whatever state of rise and decline to rise to the fullest extent possible for a human being.

### **How to Transform Ourselves and Our Societies**

It appears that we have distilled the objectives of both Grawemeyer Awards into a single pursuit: How to achieve individual and societal transformation, i.e., to raise the S component of individuals and societies. A framework for the pursuit of this goal has now become available arguably for the first time in human history made possible by ancient Eastern wisdom, recent contributions of Western and American scientists, and my own scientific scrutiny and contemplation spanning four decades. In the words of Max Plank the reason why it has taken so long is, *“In the ultimate analysis, the problem is difficult because we ourselves are part of the mystery we are trying to solve”*. Quantum physicist and a colleague of Albert Einstein at Princeton, David Bohm puts it this way: *It looks as if the thing we use to solve our problems with (thoughts) is the source of our problems.*

Let us take up individual transformation first. It should be clear that since we are trying to transform ourselves, the challenge is to find something within us which can raise our S component. Scientists at the University of Geneva, Russian Academy of Sciences, US Army, and the Institute of HeartMath in Boulder Creek, California, have conducted a number of scientific experiments in the last four decades that lead to several conclusions (Greg Braden, *The Divine Matrix*, 2009):

- ✓ Everything in the universe remains connected to everything else just as it was at the time of the Big Bang when there was only an extremely dense mass of the size of a subatomic particle at an exceptionally high temperature when the universe came into existence,
- ✓ Everything is connected to everything else with a field of energy heretofore unrecognized. Buddhists call it the Indra’s Net;
- ✓ This field of energy has intelligence in that it responds to the power of human emotion,
- ✓ Therefore, we may tap into the field using emotion as the language of communication.
- ✓ Human emotions not only have an impact on the DNA of their donor hundreds of miles away but they can also impact someone else’s DNA. Furthermore, the impact is instantaneous, i. e., the instant the emotions are generated, they are already at the destination without any time lag.
- ✓ Positive emotions produce life-supporting changes while negative emotions have the opposite effect.
- ✓ These results reveal that our DNA knows things that we ourselves are not aware of.

These findings are nothing short of paradigm shifting and have profound implications for human progress.

Now, we have what we need to discuss how to transform ourselves and the society around us.

### **Individual Transformation**

Here there are two approaches: (1) A conscious approach and (2) A process whose side-effect is a rise in the S component.

**Conscious Approach.** We know that in the absence of external events, our mind thinks of thoughts which in turn can produce emotions. Positive emotions promote life-supporting hormones and chemicals while negative emotions promote life-degrading hormones and chemicals such as elevated levels of cortisol. So, clearly, we must cultivate positive emotions. Now, the S component strongly correlates with positive emotions while excessive R and T components strongly correlate with negative emotions. Therefore, it is necessary to monitor our S, R, and T components on a minute by minute basis to ensure that the S component remains high and nudges higher while R and T components remain low and nudge lower.

While the conscious approach appears straight forward, it is a necessary but not a sufficient condition for progress. A second approach whose side-effect is a rise in the S component completes the quest for individual transformation.

**Process to raise the S component.** This approach is best illustrated with a story, that of the Buddha and the charging elephant. This example involves an external event, sighting of an elephant. The story has it that the Buddha and his followers were walking in the woods one day when they saw that an elephant was charging at them. Upon seeing this sight, the followers promptly fled but the Buddha stayed and just raised his hand as though in blessing and the elephant stopped in his track and retreated. Let us analyze this story. In the case of the followers, the external event was sighting of the elephant, their minds perceived it as a threat, this in turn evoked the emotion of fear, and the action ensued was to flee. The Buddha's mindset being Smax, Rmin, Tmin, it is filled with only positive emotions (unconditioned love, empathy, kindness, compassion, gratitude, forgiveness). So, when he raised his hand, these emotions traveled to the elephant's consciousness and the elephant realized no harm was intended and he stopped and retreated.

In order to prove that this story is neither allegorical nor metaphorical but factual, we have to prove two things: that emotions can travel from human consciousness to the elephant's consciousness and that the signal can travel sufficiently fast, much faster than the speed of the approaching elephant or else it would be too late.

As explained earlier, scientists have shown that emotions can travel from their donor to their own or another person's DNA hundreds of miles away and also that the travel is instantaneous without a time lag. Scientists at the Institute for HeartMath in California have presented two examples, one involving a boy named Josh and his favorite dog Mabel and a lady named Ellen and her favorite horse Tonopah showing how the heart rates of the pair become highly correlated while the respective owner displays positive emotions when in the same location with the dog/horse and become uncorrelated when they part ways.

Yoga Guru Paranjthiyar relayed the following story to me in December 2012. One day Gurujji and two of his followers were driving back from a place called Munnar in Kerala, India to his Ashram in Trimurthi Hills in Tamil Nadu. There was a car up front driving in the same direction

when they saw an elephant and her calf on the side of the road who were apparently unperturbed by the cars driving by. Guruji saw that the car in the front stopped and one of the occupants of the car in front rolled down the window and stuck his hand out with a banana in his hand hoping that the baby elephant would come and take it. Unfortunately, the mother elephant appeared to take this as a threat and began charging at the occupants. Realizing that they were in danger, the car sped away. Now, the mother elephant was alongside Guruji's car with a raised trunk as though ready to attack. Guruji said he raised his hand and the elephant retreated, pretty much like the Buddha's story.

Now, the question is how we could move in the direction of the Buddha, i. e., with a high S component and abundant positive emotions. Unlike many other incarnations, we know a lot about the Buddha. We know he was a prince growing up. So, the question is how did he go from being a prince to becoming the Buddha? Clearly, he wouldn't have had the maximum amount of S and minimum amount of R and T growing up as a prince for if he did, no further need for enlightenment would have been necessary. There is enough known about him and his works based on which to conclude that he developed the Smax, Rmin, Tmin mindset endowed with abundant positive emotions pursuant to meditation.

So, how does meditation achieve the intended result? We now have a considerable explanation. Our mind constantly thinks of thoughts. But then, the late Maharishi Mahesh Yogi would ask, "Where was the thought before we thought it"? i. e., the origin of thought where the thoughts spring from. Thoughts spring from that level of consciousness called pure consciousness which is beyond ordinary consciousness. There is absolute stillness in this field of consciousness like the bottom of a lake. Thoughts spring from this depth of consciousness and when they come to the surface, they burst into ordinary consciousness as thought. What meditation does is to attempt to take us in the opposite direction towards the origin of thought and when that field is reached, there is absolute stillness. Profound knowledge revealed by an untold number of incarnations, yogis, and saints over millennia is a clear indication that this field has creative intelligence. It is also known that all such individuals who connect to the Net in this fashion have been endowed with high S and abundant positive emotions. Readers are aware of numerous Eureka moments reported in history. In the past, such phenomena were thought to have just happened, without a discernable cause. What has been discovered in recent years is that the field of pure consciousness may be reached with a deliberate process.

By now a large number of papers on the health benefits of meditation have been published in prestigious journals like Proceedings of the US National Academy of Sciences, Science, Neurology Now, and others. Researchers and medical professionals have found that meditation induces favorable genetic changes. Meditation appears to be far more valuable than just a means to improve health. It is a pathway for transformation!

**How to Transform Societies.** At first glance this may appear to be nearly an impossible task given that the world population is 6 ½ billion and rising. The theory of rise and decline precludes global peace on a permanent basis since different societies are always in the depth of decline while the rest are in the various stages of rise and decline. However, with the present framework it should be possible to make the world more peaceful. For example, consider the current state of three of my favorite nations, namely Greece, India, and the US depicted in Figure 5. The figure shows all three types of societies that will be found at any given time; risen, rising, and in decline.



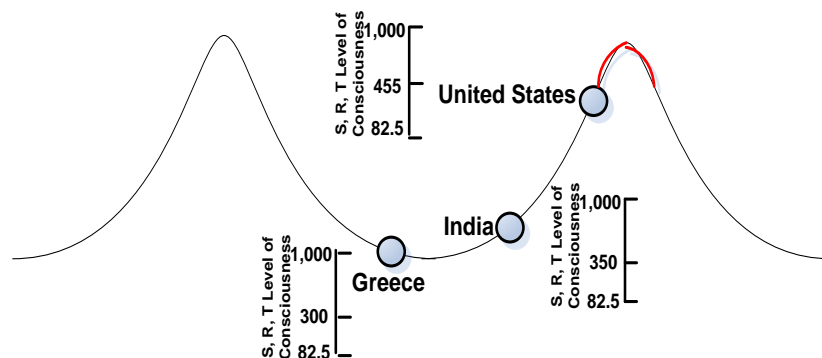


Figure 5. Current Status of Greece, India and the United States

After making phenomenal contributions to human civilization, India declined in its last cycle over two thousand years ago and is now rising again. The United States is thought to be somewhere in the region marked in red in Figure 5. Only in hindsight would we know where the US was at this point in time. The calibrations for the US and India in Figure 5 were reported by Dr. David R. Hawkins, MD in his work **Power vs. Force**. So powerful is the theory of rise and decline that the very culture whose wisdom led the theory itself finds calibrated considerably lower than the United States as depicted in Figure 5. I have been going to Greece for the past seven years to teach a two-week six sigma program for the MBA students of the University of Kentucky at TEI/Piraeus, Athens Greece. The average level of consciousness indicated for Greece is my estimate.

The challenge for Greece is to change direction, for India to accelerate its rise, and for the US to sustain rise or keep decline at bay longer as appropriate.

To understand how the present framework may contribute to a more just and peaceful world, we must first understand the notion of collective human consciousness and as a subset, certain attributes of non-human living systems and inanimate systems that are physically linked. Consider a set of three metronomes placed on a wooden plank atop two empty soda cans. Now, select a certain frequency of oscillation for each, wind them up, hold the arm of each at a different starting position, and let go. You will see that the metronomes synchronize quickly. For a YouTube demonstration of this experiment, visit

[https://www.youtube.com/watch?v=d\\_OIl-ftpwM](https://www.youtube.com/watch?v=d_OIl-ftpwM).

Of course, in this instance the three metronomes are physically linked in a way that facilitates energy transfer among them. But such a phenomena can occur among living systems, including human systems.

Take for example a non-human system first. The Late Dr. Lewis Thomas who was President of Memorial Sloan-Kettering Cancer Center in New York wrote in his book, **The Lives of a Cell** that termites with some 50,000 neurons in their heads are hardly able to do anything individually much less think. However, in a colony of tens of thousands of termites, *thinking begins and they wind up building colonies containing symmetrical columns and beautiful arches*. This example is indicative of the enormous intelligence of collective consciousness. Nonstop flights of migratory birds over thousands of miles too may be an intriguing illustration of the power of collective consciousness and the enormous energy associated with it. Unlike the Internet, access to this Net doesn't appear to be limited for humans only.

Now, let us take a couple of examples of human collective consciousness. Princeton University physicist, Roger Nelson directs a project underway named Global Consciousness project (noosphere.princeton.edu). Under the auspices of this project over one hundred electronic random number generators have been installed in different parts of the world. Under normal circumstances these RNGs produce a completely unpredictable sequences of zeros and ones but when the collective human consciousness becomes coherent/synchronizes because of a great event, good or bad, natural or man-made, the network of RNGs becomes structured, i. e., they quit producing random numbers. They peg the probability that the observed effect is due to chance at one in a billion. Figure 6 depicts the RNG output at the time of 9/11 attacks. The Institute of HeartMath in Boulder Creek, California uses a network of magnetometers in their program titled Global Coherence Initiative to arrive at similar conclusions.

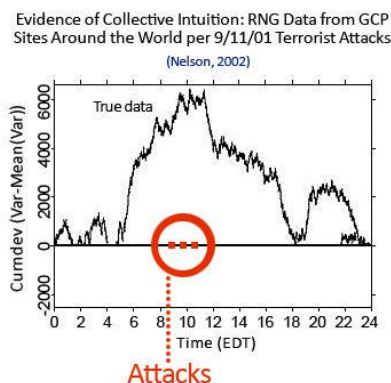


Figure 6. RNG Output at the time of 9/11 Attacks

Notice that the RNG output became nonrandom several hours before the attacks. It is as though human consciousness had a sense of the impending disaster. This too is indicative of how our DNA, our consciousness, appears to know that we ourselves are not aware of.

These two projects merely record the correlates of global consciousness and significant global events but the obvious extension is could we direct global consciousness to improve humanity. This appears to be a formidable task. How to convince national Governments and International bodies such as the United Nations to embark on a global meditation initiative. And even if we succeed in doing so, how many of the 6 ½ billion inhabitants of Earth would voluntarily undertake to meditate twice daily not only for themselves but also for humanity at large. Fortunately, there is a way out and this is where the Maharishi Effect comes in. The Late Maharishi Mahesh Yogi put forward an idea which has come to be known as the Maharishi effect. The Maharishi effect states that global peace requires that a mere  $\sqrt{1\%}$  of the people meditate on a regular basis. For a world population of 6.5 billion this number turns out to be roughly 8,000. Many outstanding scientists were subscribers to his transcendental meditation program and there is a university in Fairfield, Iowa named in his name. A team of scientists carried out an experiment in the Middle East in the eighties to assess the efficacy of the Maharishi effect in Lebanon and Israel. David W. Orme-Johnson, et al., reported the findings in an article titled, The Effect of the Maharishi Technology of the United Field, in The Journal of Conflict Resolution in December 1988. Group meditation produced the desired effect on several quality-of-life indicators in both countries that they validated with appropriate statistical tools.

Generally speaking, what this experiment teaches us and I have additional evidence that corroborates the hypothesis, are the following:

- Miraculous health benefits have been reported by some but not all members of the group. In our scheme of things, this is tantamount to connecting to the Net and the field of pure consciousness. It appears that even temporary access to the Net brings extraordinary benefits.
- The efficacy of meditating in a group is far greater even for individuals than meditating alone.
- The phenomenon of heart-rate/respiration-rate coherence/resonance among members of a meditating group can be readily observed. Another example of coherence/resonance is the Kumbh Mela in the city of Allahabad, India during February/March 2013 visited by tens of millions of devotees. International organizations and the Press reported outstanding performance during the two months of the Mela in a place that is generally known as one of the most inefficient in India.
- Serenity effects in the members of the group are apparent.

Unfortunately, the Middle East experiment was not continued. Serious interest in global peace will require sustained effort by a sufficiently large number of people on a daily basis indefinitely.

**Outcome Measures of Progress.** The framework for transformation being scientific and auditable, requires outcome measures indicative of performance so that its efficacy can be properly ascertained with six sigma principles. Such measures of performance exist. For individuals they are:

1. Ability to discern truth from falsehood,
2. Reflex (instantaneous) action in response to the most unfavorable of external conditions are always positive emotions,
3. Enhanced bioenergy levels,
4. Demonstrable affection shown by dogs, cats, butterflies, etc., towards the individual.
5. Health, wellness, and serenity,
6. Experiential.

And for organizations and societies they are:

1. Indicators of violence, discord, conflict,
2. Indicators of congeniality, acts of compassion,
3. Indicators of performance, creativity, innovativeness.

### **How to Measure Progress Scientifically**

In the mid-nineties, Dr. Konstantin Korotkov, Professor of Computer Science and Biophysics at Saint-Petersburg Federal University of Informational Technologies, Mechanics and Optics in Russia developed a scientific device based on the ancient Chinese system of energy meridians for measuring the bio-energy of living organisms and the environment. The devices are based on the Gas Discharge Visualization (GDV) concept which states that under the influence of a 10 microsecond pulsating electrical input in the range of 10 – 15 KV at applied over 0.5 to 30

microseconds, the living organism emits a burst of electrons and photons which can be captured and analyzed with proper software to reveal the physical, emotion, and spiritual condition of the subject. For a more in-depth understanding of GDV, the reader is referred to Pehek, Kyler, and Faust, *Science*, 1976; Korotkov K., 2012. 240 p. e-book, Amazon.com; Jakovleva E., Korotkov K., 2012. 160 p. Amazon.com; and Korotkov K. and Orlov D., 2010).

This device has been in the market for over fifteen years and has received registration as a routine medical device by the Russian Ministry of Health upon recommendation of the Russian Academy of Science.

This device has many applications the field of medicine and sports and can also determine such things as the state of the Chakras in the ancient Indian Kundalini system which appears to be is strongly correlated to the S, R, T level of consciousness of a human being. So when Sage Vashishtha is depicted as showing Sri Ram how Kundalini is awakened in the epic Ramayana, it may be far from the hypothetical. The GDV concept and its implications too are nothing short of paradigm shifting as they can be used to track progress in one's pursuit of transformation.

Note that the scientific framework presented in this paper, is impervious to the specific field of activity in which excellence is sought, whether academics or athletics, commerce or Government.

## **Discussion and Conclusions**

I have interacted with several Yogis and I mention to them, "For the wisdom, I bow to your feet". However, if the wisdom is purported to have a specific measurable effect on the human body, then it comes under the purview of six sigma principles subject to validation. It is remarkable that the essence of the four Vedas, eleven Upanishads, six shastras, and some five hundred thousand ancient Indian manuscripts should turn out to be so simple. That, the quest of a human being should be to raise his or her S component endowed with abundant positive emotions. It is no less remarkable that progress is amenable to validation with six sigma principles and scientific instrumentation. It would have been impossible to connect all the dots required for the framework presented here without six sigma principles pioneered at Motorola.

Some of the greatest scientific minds of the 20<sup>th</sup> Century, Albert Einstein, Max Plank, David Bohm, Werner von Braun, and others were tantalizing close to solving the mystery but couldn't quite connect the dots as the implications of the pioneering work of Nobel laureates Watson and Crick on the human DNA had not yet been fully unraveled.

I ask audiences at the conclusion of my presentations what in hindsight was the life's purpose of incarnations, prophet, Son of God, etc. In all presentations, the response has been quick and unanimous: To raise the S component of humanity! Finally I ask, what you think Krishna and Jesus might have meant when they said, Come to me or take a refuge in me given that they are not with us; the response from the audience has been equally quick; raise the S component.

The framework presented appears to meet the criteria of both Grawemeyer awards. Diligently pursued and regularly practiced it holds tremendous potential for individuals, organizations, nations, and the world.

## James Kowall's Work on the Non-physical Nature of Consciousness & the Papers in this Focus Issue

James Kowall's quantum mechanical perspective on the nonphysical nature of consciousness is intricately related to Pradeep Deshpande's papers in this Focus Issue. In Yogic terminology, Kowall's nonphysical consciousness is termed cosmic consciousness or simply Purusha, with a capital P. At the personal level, there is also an individual consciousness or purusha with a lowercase p. The individual purusha is a microcosm of the cosmic Purusha (I am that, So Hum, Aham Brahmasmi) but this link is weakened by the ego, intellect, and the mind or equivalently in Kowall's work, by a shift in the observer's focus of attention on self-defense (body survival) leading to bad feelings of disconnection.

The quest to strengthen this link translates into efforts to rise on the S, R, T scale of consciousness and its correlates, positive emotions (unconditional love, kindness, empathy, compassion). The papers in this Focus Issue present the wherewithal of how to materialize this intention. While this undertaking could be perceived as a spiritual quest, even partial success will bring a myriad of practical side-benefits which include improvements in health and wellness, creativity, and innovativeness, exemplary business performance, interfaith understanding & racial harmony, and less discord and violence. Adequate measurements are available to track progress and six sigma scrutiny will assist in the endeavor.

### About the Author



**Pradeep B. Deshpande** is Professor Emeritus in and a former Chair of the Department of + University of Louisville. He is also a Visiting Professor of Management, Gatton College of Business & Economics, University of Kentucky, and founder President and Chief Executive Officer of Louisville-based Six Sigma and Advanced Controls, Inc. (SAC). Born in Hyderabad and raised in Bidar, Pradeep obtained his Bachelor's degree in Chemistry from Karnatak University, Dharwar, India. He came to the United States over fifty years ago, completing his B. S. and M. S. in Chemical Engineering from the University of Alabama and a Ph. D. also in the same field from the University of Arkansas. He has four decades of academic and industrial experience and has briefly worked at IIT, Kanpur, IIT Madras, NCL Pune, and UDCT Mumbai.

Pradeep's expertise and experience in advanced process control & optimization and six sigma are internationally recognized. He has authored or coauthored seven text books and over one hundred refereed papers and presentations. He supervised twenty doctoral and over forty master's scholars while on the faculty of Chemical Engineering at the University of Louisville. Pradeep has made pioneering contributions to six sigma by deciphering what makes six sigma possible in the fundamental sense based on four natural laws he articulated and extending the applicability of six sigma to dynamic systems. With these enhancements, it becomes possible to apply six sigma to *any* work process whether manufacturing or transactional, static or dynamic, linear or nonlinear, continuous, batch, or discrete parts-manufacturing. Partnering with a well-known Business School in Pune in 2005, Prof. Deshpande helped establish the **SCMHRD-SAC, USA Six Sigma Excellence Awards Sponsored by the Sakaal Group** for corporate India, the first of its kind.

Dr. Deshpande has made breakthrough progress in the understanding of spirituality from a scientific perspective. He articulated three natural laws that are the basis of the theory of rise and decline of civilizations he developed in the early nineties. The theory allowed him to correctly predict the imminent rise of China and India in that order in the early nineties. That theory and his subsequent research have now culminated into a scientific framework for individual, organizational, national, and global transformation and peace. This framework consists of two components: Science of external excellence and science of internal excellence. Six sigma is the appropriate choice for the pursuit of external excellence while internal excellence requires raising of the level of consciousness. Pradeep's work has also shown that in the absence of internal excellence, six sigma programs yield suboptimal performance. It follows therefore that internal excellence will boost the performance of six sigma initiatives. Both components are essential for emerging as one's best.

Dr. Deshpande is a recipient of numerous awards for teaching, research, and professional excellence, including ISA's Donald P. Eckman Award in Process Control Education. Dr. Deshpande is a Fellow and a Life Member of ISA, and is listed in the Who's Who in the World.

**Acknowledgments:** I express a debt of gratitude to my late parents; my devotional mother and my father, perfectionist to the core, to my wife, Meena for putting up with me for forty five years, to my alma maters the University of Alabama and University of Arkansas, to chemical engineering education and process control & six sigma training, and last but not the least, to the University of Louisville for giving me the opportunity to serve on the faculty in chemical engineering for over thirty years. The review and helpful comments of Tony Belak, Ombudsman at the University of Louisville, are gratefully acknowledged.

### Definitions and Notes:

**S:** Truthfulness, honesty, steadfastness, equanimity;

**R:** Attachment, bravery, ego, ambition, greed, desire to live;

**T:** Lying, cheating, causing injury in words or deed, sleep.

Minimum S, R, T required for life.

**S:** component strongly correlates with the positive emotions (Unconditioned love, kindness, empathy, compassion, gratitude, forgiveness, etc.);

Excessive **R, T** components strongly correlate with negative emotions (Anger, hostility, hatred, irritation, sorrow, fear, resentment, guilt).

## References

### This Author

1. Deshpande, P. B., Sunkara, M., Deshpande, P. B., Power of Meditation: Materialization of Energy/Intentions, *Journal of Consciousness Exploration and Research*, 4, 4, April 2013.
2. Deshpande, P. B. and Kulkarni, B. D., Compassion, Performance, and programs of Excellence, *Journal of Consciousness Exploration and Research*, 4, 4, April 2013.
3. Deshpande, P. B., Science of Compassion, *Journal of Consciousness Exploration and Research*, 3, 9, October 2012.
4. Deshpande, P. B. and Kulkarni, B. D., The Brahma Uncertainty Principle, *Journal of Consciousness Exploration and Research*, 3, 2, February 2012.
5. Deshpande, P. B., Science of Enlightenment, *Journal of Consciousness Exploration and Research*, 3, 2, February 2012.



6. <http://2012daily.com/?q=node/17> (Pradeep B. Deshpande's Message for World Transformation, September 30, 2011).
7. Deshpande, P. B., *Six Sigma for Karma Capitalism*, Six Sigma and Advanced Controls, Inc., 2011.
8. Deshpande, P. B., *Six Sigma could change the world*, *The Economic Times*, 18 September 2009.
9. Deshpande, P. B., *A Small Step for Man; Zero to Infinity with Six Sigma*, Six Sigma and Advanced Controls, Inc., 2008.
10. Deshpande, P. B., *Six Sigma Enlightenment*, *Business World*, October 4, 2004.
11. Deshpande, P. B., *Six Sigma and the Lunch Box Delivery Boys*, *Wake up to Money Program*, BBC Radio-London Interview, November 6, 2003.
12. Deshpande, P. B., S. L. Makker, and M., Goldstein, *Boost Competitiveness via Six Sigma*, *Chemical Engineering Progress*, 95 (9), Sept.1999.
13. Deshpande, P. B., *On the Scriptural Notion of Varna: Is India on the Rise*, *Reflections*, 3, 1996.
14. Deshpande, P. B. and Christopher, P. M., *On The Cyclical Nature of Excellence*, *Reflections*, Vol. 1, No. 1, 1993.
15. Deshpande, P. B. and Christopher, P. M., *On the Cyclical Nature of Excellence*, *Reflections*, (1), 1993.

### Other Authors

1. Borg, M., *Jesus and Buddha - The parallel Sayings*, Ulysses Press, Berkeley, California, 1997.
2. Bhasin, Manoj K., et al., *Relaxation Response Induces Temporal Transcriptome Changes in Energy Metabolism, Insulin Secretion, and Inflammatory Pathways*, *PLOS One*, 8, 5, May 2013. pp. 1 – 13.
3. Braden, Greg, *The Divine Matrix*, Hay House, Inc., Carlsbad, CA, 2009.
4. Browne, Malcolm W., *Far Apart, 2 Particles Respond Faster than Light*, *New York Times*, July 22, 1997.
5. Deutsch, Claudia H., *Six Sigma Enlightenment*, *the New York Times*, December 7, 1998.
6. Harry, Mikel J., *India should use 6 Sigma to catch up with the world*, *Times of India*, August 18, 2004.
7. Hawkins, David R., *Power vs. Force, The hidden Determinants of Human Behavior*, Veritas Publishing, W. Sedona, AZ 2004.
8. Hawkins, David, R., *Qualitative and Quantitative Analysis and Calibration of the Level of Human Consciousness*, Veritas Publishing, W. Sedona, AZ 1995.
9. Guruji Paranjotiyar, Private Communication, December 2012. Universal Peace Foundation Website is [www.universalpeacefoundation.org](http://www.universalpeacefoundation.org).
10. Korotkov K.G., *Energy fields Eletrophotonic analysis in humans and nature*, 2012. 240 p. e-book: Amazon.com.
11. Jakovleva E., Korotkov K., *Eletrophotonic Analysis in Medicine*. GDV Bioelectrography research. 2012. 160 p. Amazon.com.
12. Korotkov K. and Orlov D., *Analysis of Stimulated Eletrophotonic Glow of Liquids*. [www.WaterJournal.org](http://www.WaterJournal.org) V 2, 2010
13. Yokovleva, E. and Korotkov, K., *Eletrophotonic Applications in Medicine*, Available from amazon.com.
14. Lewis Thomas, *The Lives of a Cell*, Penguin Books, 1974.
15. Lutz, Antoine, et al., *Long-Term Meditators self-induce high amplitude Gamma-Wave Synchrony during Mental Practice*, *Proc. Nat. Acad. Sciences*, Nov. 16, 2004.
16. Mallet, V., *Pop-up Megacity a Lesson for India*, *Financial Times*, March 1, 2013.
17. Orme-Johnson, David W., et al., *The Effects of the Maharishi Technology of the United Field*, *Journal of Conflict Resolution*, 32, 4, 1988.
18. Paturel, Amy, *Meditation as Medicine*, *NeurologyNow*, August/September 2012.

19. Pehek J. O., Kyler, H. J., and Foust, D. L., Image Modulation in Corona Discharge Photography, *Science*, Vol. 194, 263 – 270, October 1976.
20. Wallace, Physiological Effects of Transcendental Meditation, *Science*, Vol. 167, No. 3926, 1970.
21. Wikelski, Martin, et al., Costs of Migration in Free-flying Songbirds, *Nature*, Vol. 423, 12 June 2003.