

## Advances in Integrative Health

Pradeep B. Deshpande\*

Professor Emeritus of Chemical Engineering, University of Louisville,  
& Six Sigma and Advanced Controls, Louisville, KY 40241

### Abstract

A yogic six sigma perspective on integrative health is presented. This perspective identifies vibrational characteristics (photonic energy) as the fundamental attribute of health and wellness. Disturbances in our vibrational characteristics are suggested to be root causes of illnesses. Recent scientific progress makes it possible to measure our photonic energy giving a feedback signal for improvement. Meditation is proposed as a means to restoring photonic energy levels toward normalcy. The opportunity for integrative health is to use yogic practices to restore our photonic energy levels toward normalcy for better health and wellness in conjunction with standard medical care. Scientific yoga is “Science of Internal Excellence” [1a]. Because the outcome of the yogic process is now measurable in real-time, progress toward normalcy can be audited. Minimum variance is a theoretical standard, meaning that better performance beyond minimum variance is not possible. The wherewithal of how to achieve minimum variance in external activities is “Science of External Excellence” [1b]. Six sigma, a topnotch quality initiative, is appropriate for the pursuit of minimum variance in all repetitive processes and transactions including hospitals and patient related services. Interestingly, the two components of excellence are interlinked. In the absence of an adequate level of internal excellence, the best of the external excellence initiatives, including six sigma, do not, and cannot, deliver satisfactory performance [2]. Raise internal excellence and the performance will zoom. The linkage of external excellence to internal excellence is an additional impetus for introducing both components of excellence in medical curricula. The paper concludes with a proposal on a new four-credit course to teach medical students the science and practices of external and internal excellence.

**Keywords:** Integrative health, yoga, six sigma, meditation, photonic energy, internal excellence, external excellence.

### 1. Background

There appears to be a growing level of interest in integrative and complementary health across the US [3], while a Google search indicates that over fifty US medical schools now have some form of alternative and complementary health topics in their curricula [4, 5, 6]. A scientific understanding of yoga may further enhance the appeal of integrative health in medical curricula. A scientific scrutiny of yoga is essential as humanity has become increasingly rational-minded

---

\*Correspondence author: Prof. Pradeep B. Deshpande, Six Sigma & Advanced Controls, Inc., 7013 Creekton Drive, Louisville, KY 40241, <http://www.sixsigmaquality.com> E-mail: [pradeep@sixsigmaquality.com](mailto:pradeep@sixsigmaquality.com)

since the days of Copernicus in the fifteenth century, perhaps stung by Aristotle's false claims of our Earth-centric existence.

First, the term yoga in Sanskrit means "union" or "to connect" and not the bone-bending physical exercises that have come to be known as yoga in the West. In yoga, physical exercises go by the name "Asanas" and they are an integral part of yoga but the use of Asanas alone is a suboptimal use of yoga. Physical exercises must be combined with pranic (breathing) exercises and meditation. A scientific scrutiny of yoga sheds light on what to connect, why, and how, as well as the benefits of doing so. Scientific yoga is science of internal excellence.

We begin with a yogic explanation of our true nature and why we get sick. The explanation naturally sheds light on photonic energy as the fundamental attribute of our nature that determines everything about us including health and wellness. The next topic is scientific measurement of photonic energy. The availability of a device to measure photonic energy leads to an inquiry of how to restore our photonic energy to normalcy which is our true nature. Yoga is proposed as a means of restoring our nature to normalcy. Several years of data on the author himself corroborates the hypothesis. Next, a brief discussion of six sigma is presented and how an inadequate level of internal excellence leads to suboptimal performance in the external world. Raise internal excellence, and yoga will do this for us, and the performance will improve. Finally, a new course is proposed to train medical students in the science and practices of external and internal excellence. The proposed course should be a valuable addition to integrative health programs in medical curricula.

## **2. Knowing Our True Nature**

To know our true nature, it is necessary to drill-down to our most basic element, the cell. Human beings have trillions of cells. Each cell has a nucleus, a cytoplasm, and a cell wall. Inside the nucleus are 46 chromosomes. If we break down the cells further into even smaller parts, we find that they are made up of atoms. Atoms are not solid objects, they have protons and neutrons in their nuclei and electrons orbiting them. So, a question arises, what characteristics of an atom give specific character to matter? For example, why is Gold, Gold? Or, why is Iron, Iron? The answer is, vibrational characteristics of the specific atomic configuration (i. e., number of protons and neutrons in their nuclei and the number of electrons orbiting them). Similarly, since the cells are made up of atoms, the vibrational characteristics of the specific cellular configuration is what determines the cellular structure, which in turn determines if a cell is normal or not. Now, vibrations can be thought of as light, not necessarily visible light, with unknown frequencies along the entire electromagnetic spectrum, from infrared to ultraviolet, and hence the name, photonic energy, and it is unique for everyone. The specific cellular vibrational characteristics, our photonic signature, is our nature and they determine everything about us

including our physiological health and psychoemotional state. Perfect vibrational characteristics is our true nature, a state that is worthy of pursuit. The author's friend and associate, Jim Kowall, MD (Neurology, Internal Medicine, and Sleep Disorder Medicine), PhD (Theoretical Physics), explains that this discussion of our true nature is consistent with the wisdom of Adi Shankara and the holographic principle from Modern Physics.

### 3. Why Do We Get Sick

The forty-six chromosomes in each of our cells are inherited from our parents, 23<sub>x,x</sub> from our mother and 23<sub>x,y</sub> from our father. Thus, there is a clear link of ourselves to our ancestors. Physicians know that we inherit some of our physiological traits from ancestors but we may also inherit some of their psychoemotional traits. Thus, what happens in this life is dependent on what we inherit from our ancestors through the chromosomes and by our own willful actions from the time we were in our mothers' wombs to adolescence, when we had little or no control, to the present age. In Sanskrit the inherited traits go by the name *Sanchet Karmas*. Negative Sanchet Karmas and our willful actions are root causes of why our cellular vibrational characteristics get disrupted and why we get sick. There are only two ways to rid ourselves of negative Sanchet Karmas; to suffer from them, a process which in Sanskrit goes by the name *Prarabddha Karma*, or to eliminate them and replace them with positive Karmas in order to restore our vibrational characteristics to normalcy for better and health and wellness. Success in producing a positive impact on our autonomic functions that are ordinarily not under our control is indicative of progress in eliminating negative Sanchet Karmas in favor of positive aspects.

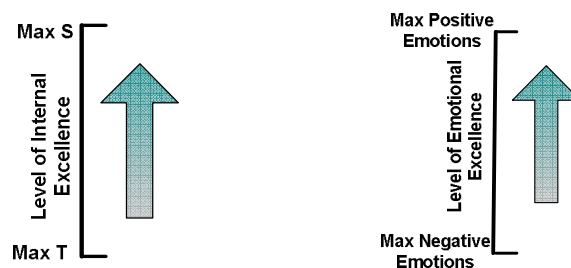
### 4. Internal Excellence & Emotional Excellence [1]

The notion of internal/emotional excellence facilitates an understanding of how negative Sanchet Karmas affect health and wellness. Each of the 7½ billion human inhabitants of Earth have three components of the mindset S, R, and T explained in Table I. The definition of these components is such that everyone, from the most noble to the worst among humans, is expected to possess a minimum amount of each. The possibility of perfection (all S), or for that matter, pure evil (all T), is thus precluded. Minimum variance (Max S, Min R, T) is the best possible state. The specific proportion of these components determines the level of internal excellence of an individual. These ideas lead to a scale of internal excellence depicted in Figure 1(a).

**Table I:** Mindset Components and Human Emotions

Mindset Component	Attribute of the Mindset Component
<b>S</b>	Truthfulness, honesty, equanimity, steadfastness
<b>R</b>	Attachment, bravery, ego, ambition, greed, desire to live
<b>T</b>	Lying, cheating, causing injury in words or deed, sleep
Emotions	Attribute of Emotion
<b>Positive Emotions</b>	Unconditional love, kindness, empathy, compassion
<b>Negative Emotions</b>	Anger, hatred, hostility, resentment, frustration, jealousy, fear, sorrow, etc.

Now, human beings are endowed with two types of emotions: Positive emotions and negative emotions, also explained in Table I. A little reflection will lead to an assessment, positive emotions strongly and positively correlate with the high S component while negative emotions strongly and positively correlate with excessive R and T components. This realization leads to a scale of emotional excellence depicted in Figure 1(b). The two scales are entirely equivalent. The noble ones are toward the top-end of these scales while the wicked ones towards the bottom, and



**Figure 1(a)** Equivalent Scales of Internal Excellence (Left) and 1(b) Emotional Excellence (Right)

the rest of us somewhere in between.

The goal of life should be to rise on these scales of excellence. Actually, everyone is trying to rise, but in ignorance, we are either searching for the wrong thing or we are going about it the wrong way, and in the process, creating major problems for ourselves and for others. Everyone is trying to be happy, but by happiness, we really mean something slightly different. This is because virtually every human emotion comes packaged as a pair of opposites. For example, if there is happiness, sadness and despair are also possibilities. So, when we say we want to be happy, we are really referring to a subtler form of happiness; *bliss*, a term which, by definition, is devoid of the opposite. So, unknowingly, everyone is searching for blissfulness. In Sanskrit, blissfulness goes by the name, *Sat Chit Ananda*. A subjective measure of internal/emotional excellence is one's capacity to remain centered in the presence of extenuating circumstances that are part of life. This state is toward the top-end of the scales of excellence where an individual is able to transcend the three components (and be in the state of bliss) and yet remain engaged in mundane activities of life. Yogis refer to this state as *Turya Avastha*. The level of internal

excellence has nothing to do with race, caste, religion, language, gender, or national origin. A low level of internal excellence is the root cause of many of the world's problems.

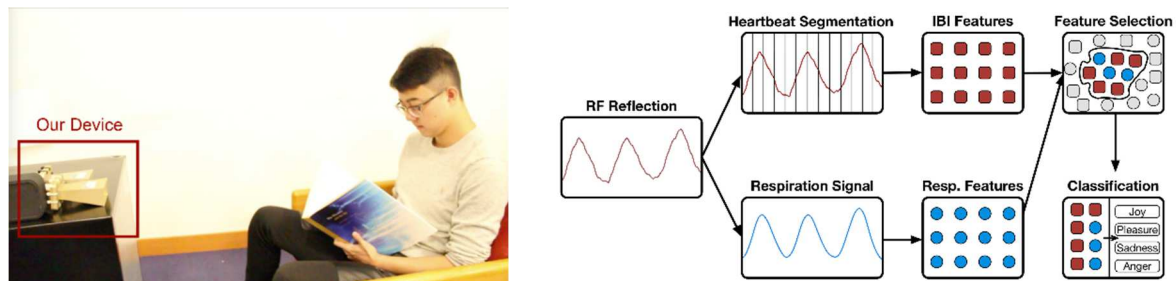
Dramatic examples of high and low levels of internal excellence are readily available [e. g., see 7, 8]. The YouTube video clip in [9] is reflective of a high level of internal excellence. The photograph of Yogananda Paramahansa in Figure 2(a), an hour before he passed away of congestive heart failure at the Millennium Biltmore Hotel in Los Angeles, California, on March 7, 1952 is another example of what a high level of emotional excellence looks like. So deeply moved was tech giant Steve Jobs by Yogananda's Autobiography of a Yogi that he gifted a copy of the book to everyone attending his memorial service [10]. The book has sold 4 million copies and it has been translated in 50 languages. There is a Self-Realization Fellowship (SRF) Center, an organization Yogananda founded, in virtually every major city in America and in many cities abroad. Yogananda spent half his life in the United States [11, 12]. Self-realization and Sat Chit Ananda are equivalent pursuits. Figure 2(b) shows Yogananda having lunch with Mahatma Gandhi. President of India is reported to have received a gift copy of Yogananda's book from the President of SRF not long ago. The reader may also find the article, "Steve Jobs – Yogananda Paramahansa Link Deciphered" interesting [13].

## **5. Measurement of Vibrational Characteristics/Emotional Excellence**

The cellular vibrational characteristics are not perceivable to the five senses because the signals are too weak. They must be stimulated and amplified. Computer Science and Electrical Engineering researchers at MIT used radio frequency (RF) signals for this purpose. The result is a wireless device they call EQ Radio, developed with funding from the National Science Foundation and the US Airforce with additional support from major US corporations [14, 15]. Here, the wireless device sends RF signals to the subject and captures and analyzes the reflected signals (see Figure 3) with a machine learning algorithm to determine the heart rate, heart rate variability (HRV), and respiration rate from which the subject's emotions are estimated, the researchers say at an accuracy of 87%. It is clear that our vibrational characteristics, photonic energy, and emotions are intricately linked. Other researchers had already known about the link of these measured outputs and emotions [16].



**Figure 2(a).** (Left) Yogananda Paramahansa one-hour before death, Figure 2(b). (Right) Yogananda Paramahansa having lunch with Mahatma Gandhi (Courtesy, Self-Realization Fellowship, Los Angeles, California)



**Figure 3.** MIT's EQ Radio

The heart rate, HRV, and respiration rate are subsets of our cellular vibrational characteristics, our photonic energy, and therefore, it is preferable to measure the vibrational characteristics explicitly. About twenty years ago, a Russian scientist developed a scientific device to estimate the vibrational characteristics of humans using the principle of gas discharge visualization (GDV) [17 - 19]. Here, instead of an RF signal as in MIT's research, a harmless electrical signal is applied to the fingers of both hands (one at a time), placed on the glass electrode of the GDV device connected to a digital computer with a USB cable as shown in Figure 4. The finger's response to this electrical stimulus is a burst of photons that are captured by the software. The light-energy characteristics of the photonic discharge (pixels - intensity, area) so captured are compared with the data for tens of thousands of subjects to estimate the physiological and psychoemotional state of the subject at a high confidence level. The measurement is painless, noninvasive, and takes only a couple of minutes to complete. The GDV technology is registered with the FDA [20]. The GDV results are presented in several tabs: (1) Overall energy in Joules, (2) Emotional pressure, (3) Energy of the seven chakras, Joules and the chakra alignments along the central vertical line, %, (4) Health status, Joules, and (5) Energy reserve, Joules. Several papers on yoga and GDV technology are available in the literature [21 - 25].

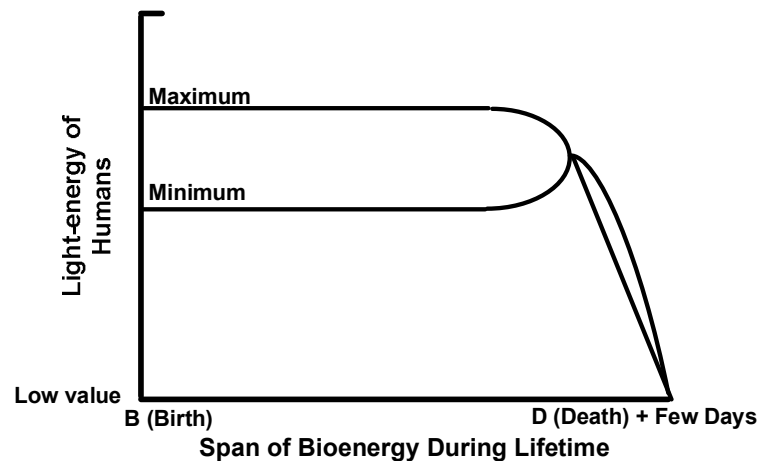
There are specifications for each of the five measurements. Restoring our vibrational characteristics toward normalcy is equivalent to shifting the measured outputs closer to

specifications. Changes in our physiological state occur rather slowly but our emotional state can change very rapidly and this gives us a way to assess the efficacy of whatever yogic processes we may be using to restore our vibrational characteristics toward normalcy.



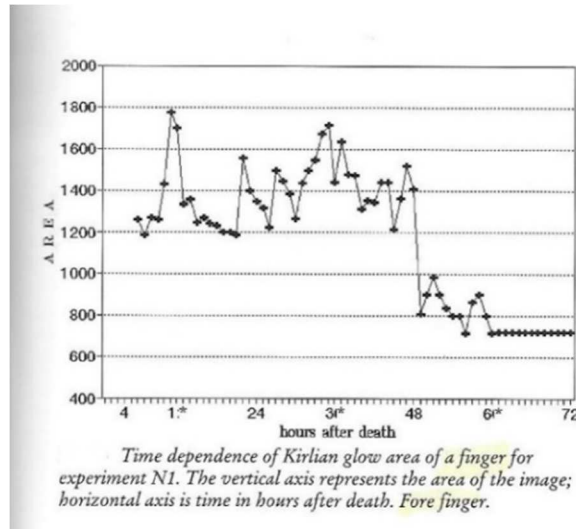
**Figure 4.** GDV Device Setup

As depicted in Figure 5(a), our photonic energy level is expected to lie within a band (about 40 to 80 Joules) throughout life, reducing to lower values when we get sick, eventually dropping to very low values at or few days after death. Figure 5(b) depicts the glow of a finger at death [26]. Figures 6(a) and (b) depict what a strong and weak photonic glow of a finger look like.



**Figure 5(a).** Photonic Energy during Lifetime

We have measured low energy values in some instances when the subject is not unwell for reasons that are unclear. However, this discussion suggests that we should strive to keep our photonic energy level up as late in life as possible.

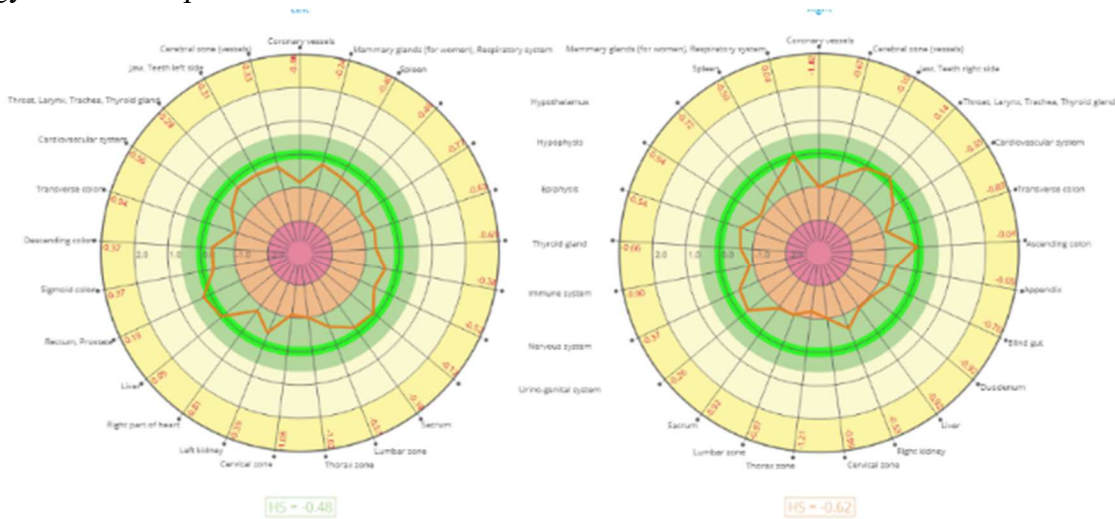


**Figure 5(b).** Photonic Energy of a Finger at Death [26]



**Figure 6(a).** Strong Photonic Glow (Left) and 6(b). Weak Photonic Glow (Right) of a Finger

Figures 7 depicts the health status diagram of a cancer patient. The green band is the normal range and the highlighted green circle is the optimal state. The diagram reveals that the photonic energy field is comprised.



**Figure 7.** Health Status Diagram of a Leukemia Patient



## 6. Process for Improving Our Vibrational Characteristics

Before the universe came into being, there was absolutely nothing, a void [27]. So, why did *nothing* change into *something*, the universe, at the Big Bang moment some  $13.8 \pm 0.2$  billion years ago? Here, there are two perspectives: One is that the universe is a self-excited circuit, and the other is that the desire of the undifferentiated consciousness of the void is what created the universe. The former is a dead-end for this hypothesis cannot be tested, but the latter hypothesis can be tested. This is because we all have consciousness, differentiated consciousness, suggesting that we may be a microcosm of the undifferentiated consciousness [28]. Western scientists have conducted numerous experiments showing that we all are connected at some level although not physically linked, just as everything was at the moment of the Big Bang when the universe was about the size of Planck length ( $10^{-33}$  cm in diameter). The fact that everyone is trying to be happy (state of Sat Chit Ananda, believed to be an attribute of the undifferentiated consciousness for millennia), is strongly supportive of the notion of connectivity, meaning that we are a microcosm of that. The notion of yoga, meaning to connect, may now be clear. There are untold number of yogis having reached the state of Sat Chit Ananda through the ages.

There are remarkable examples of individuals connecting to the source knowingly or unknowingly. Mathematical genius, S. Ramanujan is one. Barely a high school graduate, he would write down complex mathematical theorems and their proofs without knowing the steps in between. Prodded by his mentor, G. H. Hardy, how he does that, Ramanujan reportedly answered, *The Goddess speaks to me*. Albert Einstein is another example. During 1905, staring out of the large glass-window in his second-floor apartment in Berne, Switzerland, smoking a pipe, immersed in deep thought, he must have exponentially increased his focus of attention leading to some remarkable discoveries such as relativity. BBC News recently reported Sri Mata Amritanandamayi Devi, known as the hugging saint of India as saying, her remarkable stamina comes through being "eternally connected to the power source" of the universe [29]. A yogic process or another way of increasing our focus of attention is the way to connect to the source and to restore our photonic energy levels to normalcy.

The author is a regular meditator for many years. He has substantial amount of GDV data on himself over several years. The before-and after results corroborate the efficacy of yoga for improving the photonic energy field. Figure 8 depicts the chakra system and the health status

diagram on March 13, 2018, one of the best results for the author. The overall energy on that day was 74 Joules. Typically, it is in the range of 60 -70 Joules.



Figure 8(a). Chakra System, 94% Alignment (Left) and 8(b). Emotional Pressure, 2.01 (Right) on a Scale 0 to 10.

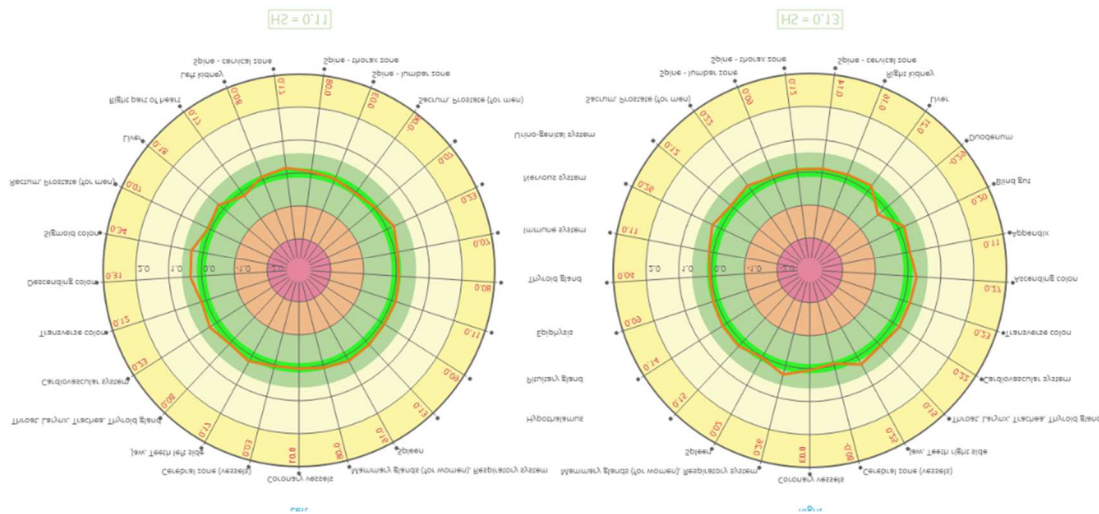


Figure 8 (c). Heath System Diagram

Figure 8. GDV Results of the Author

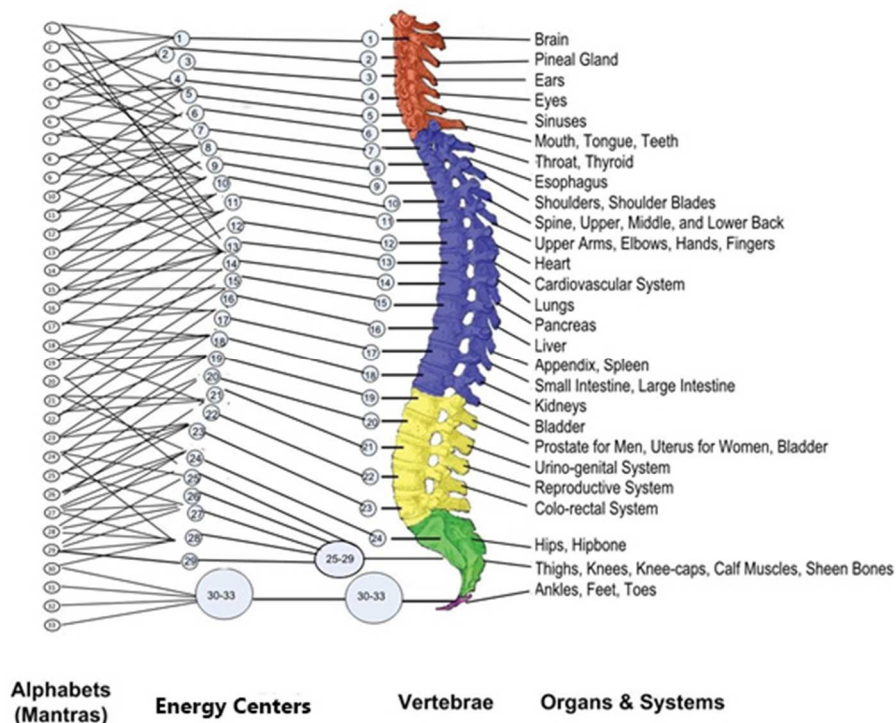
## 6.1 Science of Meditation [30]

Generally speaking, meditation practices involve specific forms of breathing, mantras, or a combination of the two. To understand how meditation is thought to work, the central nervous system (CNS - brain, spinal cord, and nerves) governs the functioning of various organs and systems. If mantras/breathing are to have an effect on health, they must have an impact on the

CNS. Ancient sages came up with ingenious languages with a set of alphabets for this purpose. Taking Sanskrit as an example, there are thirty-three plus alphabets in Sanskrit and not coincidentally, there are thirty-three vertebrae in the spine. Also, not coincidentally, there are thirty-three Energy Centers as depicted in Figure 9. The alphabets must be suitably combined in the form of mantras and properly pronounced to influence the vertebrae and through the vertebrae, the various organs and systems as illustrated in Figure 9. The links suggested in Figure 9 are purely for illustrative purposes only. For success, the words “Shabda” of a mantra with proper “Swara” (sound), converted into “Spandhana (vibrations), “Naad” (Cosmic vibrations), then, “Shakti” (Energy), lead to creation (Brahma).

## 7. Evidence

By now, there are a large number of publications in reputed science and medical journals that attest to the usefulness of meditation in diverse areas of health. Business publications attest to the benefits of meditation on business performance. Many of the author’s experiences with yoga are covered in a special issue of a peer-reviewed publication [30]. A word of caution. It is important to remain steadfastly committed to relying on data alone for decision making at all times except at the time of meditation. Then, send the rational mind on a well-deserved vacation or else it will turn into your worst enemy.



**Figure 9.** Linkages of Alphabets to Organs and Systems  
 (The specific linkages shown are for illustrative purposes only)

## 8. Six Sigma for External Excellence [2, 31]

A vast number of human activities and transactions are repetitive in nature, hospitals and patientcare related activities are no exception. The best possible performance of the outcomes of these processes occurs when their variance is minimized. The wherewithal of how to achieve minimum variance is science of external excellence. Quality initiatives enable us to strive for minimum variance. Six sigma, developed at Motorola by the late Mr. Bill Smith and the late Dr. Mikel J. Harry, is one of the more popular quality initiatives. By now, some 80% of Fortune 100 companies and 50% of Fortune 500 companies reportedly have six sigma programs in place. Pursuit of higher levels of internal excellence is itself a sophisticated six sigma problem. Several years ago, the author made a critical discovery: *In the absence of an adequate level of internal excellence, the best of the best external excellence programs, including six sigma cannot deliver satisfactory performance* [3]. Raise internal excellence and the performance will zoom. Every organization, hospitals and patientcare services included, employs some quality initiative for performance assurance. It is essential that they also introduce internal excellence to move toward minimum variance.

## 9. Proposal on a New Course

The author envisions a 4-credit course in medical curricula to cover the science and practices of external and internal excellence. Statistics should be a prerequisite for the course. The first semester of the medical school appears to be the suitable timeframe to offer the course, as that would give students sufficient time to experience the beneficial effects of yoga on the various aspects of their lives including academic performance. There must not be any religious overtones in the coverage of internal excellence. For the six sigma portion of the course, there are many books available (e. g., see [1(b), 31]) and the author's book has been specifically developed for use with the course on the Science of External Excellence [1(b)]. Reference [1a] is intended to serve as text for the course on the Science of Internal Excellence. If the enrollment in the course is sufficiently large to permit splitting it into two sections on a random basis, then a six sigma experiment could be conducted to assess the benefit of yoga. The idea is to conduct lectures only in one section and introduce yoga in the other section. The instructor will find that the performance of the class with yoga is statistically better than the section which did not practice yoga, a conclusion that students will corroborate in a survey.

The author presented a paper on such a course at the Annual Conference of an Engineering Education Society in 2017 [32]. He has introduced the scientific framework for external and internal excellence in the six sigma course of the MBA program of the University of Kentucky in Athens, Greece that he has been teaching for twelve years and the students are enjoying it. The author has presented a talk on the framework in several countries including the Office of the Prime minister of India, NITI Aayog, All India Council for Technical Education (AICTE) which

looks after engineering and management programs in India, Indian Statistical Institute, Peruvian Parliament, and many others, always to enthusiastic audiences. He presented a TEDx talk on the topic at the University of Louisville in 2017.

## 10. Discussion & Conclusions

The photonic energy measurements shine light on our true nature, however, unlike traditional measurements such as an MRI or a CT scan, this measurement is probabilistic in nature. The possibility of outliers, therefore, cannot be ruled out. The measurement device is not intended to serve as a medical diagnostic device, but rather as a complement to traditional medical approaches. Everyone will benefit from the regular practice of yoga, but to a varying extent. This is because, negative Sanchet Karmas are different from one individual to the next. Failure to rid ourselves of specific ailments with yoga means that not all negative Sanchet Karmas have been eliminated. At some point in life, even the best of the best yogic process will fail to deliver the intended benefit, but looking back, it will be concluded that regular practice of yoga had delivered a healthier life and a longer lifespan. Medical practitioners using the GDV Device will find six sigma training useful. The introduction of the proposed course should be a valuable addition to integrative health programs in medical schools. Students themselves will offer convincing evidence of success after one or two offerings.

In his last speech on the day he died in 1952, Yogananda Paramahansa remarked, “*Somewhere between the two great civilizations of “efficient America” and “spiritual India” lies the answer for a model world civilization*”. Science of External Excellence is what makes Efficient America and Science and Practices of Internal Excellence is Spiritual India. It turns out that Yogananda’s words were prophetic. Finally, the ideas and concepts presented here are a subset of a scientific framework for world transformation toward a better and more peaceful world [33].

Going by his interactions with Nikola Tesla, Swami Vivekananda too was intensely interested in validating yoga with science. Unfortunately, many of the scientific developments required just had not occurred by then. Coincidentally, Vivekananda delivered his famous speech in Chicago in 1893, the year Yogananda was born. Both of them would have been thrilled with the scientific framework for external and internal excellence for individual, organizational, and global transformation.

Practices of internal excellence are a product of the intuitive mind while the science of internal and external excellence, for the most part, are products of the rational mind. Einstein is said to have remarked once, “*The intuitive mind is a sacred gift and the rational mind is a faithful servant. We have created a society that honors the servant and has forgotten the gift*”. And theoretical physicist turned physician, Jim Kowall, comments, “*In the spirit of Einstein, the only*

*thing that can block the normal functioning of the intuitive mind as it's served by the rational mind is the emotionally driven, self-defensive, controlling, resisting, interfering, irrational mind, all based on the error of self-identification. Isn't that the essence of Yoga? Identify yourself with the consciousness that underlies the intuitive mind, not the emotionally animated creature that acts irrationally, and the problem is solved".* The scientific framework for external and internal excellence highlights the importance of both components of the mind.

**Acknowledgements:** This paper is written with the explicit blessings of Gurumahan Maharishi Paranjothiar, founder of Universal Peace Foundation, Thirumurthi Hills, TN, and implicit Blessings of Avadhoot Baba Shivanand Ji. Gurumahan has been going into long periods of meditation (three weeks) every year for the past twenty-seven years with no food and very little water or milk for world peace. The author has also learned much from the discourses and the yoga program of Baba Shivanand Ji that he had the privilege of attending not long ago. The author thanks Prof. Konstantin G. Korotkov, PhD, Department of Computer Engineering and Design at ITMO University in St. Petersburg for his review and comments on the paper. The author is grateful to Jim Kowall, MD, PhD and P. Krishna Madappa for invaluable interactions over the years.

## References

1. (a) Deshpande, Pradeep B. and Kowall, James P., *The Nature of Ultimate Reality and How It Can Transform Our World: Evidence from Modern Physics; Wisdom of YODA*, SAC 2015 (available on amazon). (b) Deshpande, Pradeep B., *Six Sigma for Karma Capitalism*, SAC 2015 (available on amazon).
2. Deshpande, P. B., *Profound Implications of Minimum Variance Control*, Dr. Mikel Harry's Blog *Business Improvement Times*, (<https://drmikelharry.wordpress.com>), May 2015.
3. MacMillan, Amanda, *Yoga is Officially Sweeping the Workplace*, Time magazine, January 5, 2017.
4. Kim Krisberg, Kim, *Bringing the Lesson of Mindfulness to Medical School*, AAMC (American Association of Medical Schools) Reporter, 2015; AAMC News September 27, 2016.
5. Murphy, Brendan, *Take a Mindful Approach to Manage Med School*, AMA (American Medical School) Wire, February 5, 2018.
6. Cowen, Virginia, S. and Cyr, Vicky, *Complementary and Alternative Medicine in US Medical Schools*, *Adv Med Pract.*, 6, 2015 pp. 113 – 117. Published online February 12, 2015 (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4334197/>).
7. Baba Shivanand Ji among Monkeys (<https://www.youtube.com/watch?v=5uzUw7RYyRg>).
8. Road Rage Nation (<http://abcnews.go.com/WNT/video/road-rage-worse-40594136>).
9. Gurumahan Maharishi Paranjothiar, *Blessings and Love to All of Creation*, <https://www.youtube.com/watch?v=j5AA2q1kY80>.
10. Yogananda Paramahansa, *Autobiography of a Yogi*, Reprint of the Philosophical Library 1946 First Edition, amazon.com.
11. Segall, Laurie, *Steve Jobs' Last Gift*, CNN Money, September 10, 2013.
12. Wadhwa, Hitendra, *Steve Job's Secret of Greatness*, Inc. Magazine, June 21, 2015.
13. *Steve Jobs – Yogananda Paramahansa Link Unraveled*, *Siliconeer Magazine*, June 2018.
14. <http://eqradiocsaail.mit.edu>.
15. Hotz, Robert L., *Researchers Use Wireless Signals to Recognize Emotions*, *The Wall Street Journal*, September 20, 2016.
16. McCraty, Rollin, *Science of the Heart: Exploring the role of the heart in human performance*, HeartMath Research Center Report, Institute of HeartMath, Boulder Creek, CA 2001.

17. Korotkov, Konstantin G., *Human Energy Field: Study with GDV Bioelectrography*, 2002, amazon.com.
18. Chez, Ronald A., Ed., *Proceedings. Measuring the Human Energy Field – The State of the science*, The Gerontology Research Center, National Institute on Aging, National Institute of Health, Baltimore, MD, April 17 2002.
19. Jakovleva E., Korotkov K., *Electrophotonic Analysis in Medicine. GDV Bioelectrography research*. 2013, Amazon.com, 2013.
20. (a) Korotkov, Konstantin, Private communication, May 2018.  
(b) Evoked Photon Image Capture Device, FDA Registration No. 3014299556, 2018.
21. C. Rajan Narayanan, Korotkov, Konstantin, Srinivasan, Thaiyar M., *Bioenergy and its Implication for Yoga Therapy*. *International Journal of Yoga* 2018, 11, (2) 157-165.
22. Shiva K.K., Srinivasan T.M., Dev, Guru, Girikumara, Venkata P., Nagendra H. R., *Electro-photonic imaging for detecting intervention (meditation)*. *International Journal of Current Medical and Pharmaceutical Research*. 2, 2016
23. Kushwah, Kuldeep K., Srinivasan, Thaiyar M., Nagendra, Hongasandra R., Ilavarasu, Judu V., *Effect of yoga based techniques on stress and health indices using electro photonic imaging technique in managers*. *Journal of Ayurveda and Integrative Medicine* 7, 119-123, 2016
24. Sushrutha S., Madappa, Krishna P., Nagendra, Hongasandra R., *Effect of Bhaishajya Maha Yajna on Human Energy Field and Environment*. *International Journal of Innovative Research in Science & Engineering*. ISSN (Online) 2347-3207. 2015
25. Sushrutha S, Hedge, Madhukeshwara, Nagendra, Hongasandra R., Srinivasan, Thaiyar M., *Comparative study of Influence of Yajña and Yogāsana on stress level as Measured by Electron Photonic Imaging (EPI) Technique*. *International Journal of Science and Research (IJSR)* ISSN (Online): 2319-7064. 3 (8):1402-1406, 2014.
26. Korotkov, K., *Light After Life*, Backbone Publishing Company, Fair Lawn, NJ 1998 (available on amazon).
27. Geffer, Amanda, *Trespassing on Einstein's Lawn*, Bantam Books 2014.
28. Kowall, James P., *Physicist's Dilemma: The Non-Physical Nature of Consciousness*, *Journal of Consciousness Exploration and Research*, 5, 4, 2014.
29. BBC News, *Who is India's hugging saint Kanye West tweeted about?*, May 22 2018 (Source: <http://www.bbc.com/news/world-asia-india-44207339>).
30. *Quest for a Better and a More Peaceful World, Focus Issue Featuring the Recent Work of Pradeep B. Deshpande and Associates*, *Journal of Consciousness Exploration and Research*, Vol. 8, No. 190, November 2017.
31. Harry, J. Mikel and Lawson, J. R., *Six Sigma Productivity Analysis and Process Characterization*, Motorola Press, 1992.
32. Deshpande P. B., *Turbocharge General Education Requirements with Science of External and Internal Excellence*, Paper Presented at the Annual Conference of the American Society for Engineering Education, Columbus, Ohio, June 25 – 27 2017.
33. Deshpande, Pradeep B., *Scientific Framework for World Transformation*, Paper in Submission to Dialogue and Alliance, a Publication of Universal Peace Federation, New York, New York.