Article

Can the Excellence of the Internal Be Measured? – A Preliminary Study

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Abstract

The scientific framework for internal excellence (1) is reviewed in the context of a scientific measurement device that may be used to track progress. This device has been approved by Russian Health Authorities for general use, following clinical trials and the recommendation of the Russian Academy of Sciences. A case study is presented with this measurement device and the results corroborate the scientific framework for transformation.

Keywords: Internal excellence, consciousness, emotions, meditation, six sigma, gas discharge visualization.

Introduction

Over the past few years the first author has published several papers on a scientific framework for internal and external excellence for personal, organizational, national, and global transformation (1 – 7). To briefly review this work, consider the S, R, T Level of Human Consciousness depicted in Figure 1.

The definitions of S, R, and T are as follows:

- **S**: Truthfulness, honesty, steadfastness, equanimity; **R**: Attachment, bravery, ego, ambition, greed, desire to live; **T**: Lying, cheating, causing injury in words or deeds, 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). The scale depicted in Figure 1 is arbitrary and for simplicity a linear scale is indicated 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 and the lower limit of 82.5 represents an individual who is the worst he or she can be while the rest of us are somewhere in between.

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- The quest for internal excellence means to rise on this scale of consciousness. Now, positive emotions strongly and positively correlate with the S component while negative emotions similarly correlate with the R, T components.

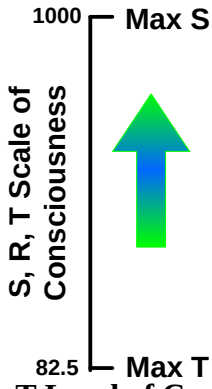

Figure 1. S, R, T Level of Consciousness

Thus an individual with a high level of consciousness is endowed with abundant positive emotions while an individual with a low level of consciousness with negative emotions. Progress in the pursuit of internal excellence may be made with two approaches: (1) A conscious approach wherein the three components of the mindset are tracked literally on a minute by minute basis to ensure that the S component remains high or nudges higher while the R, T components remain low or nudge lower, and (2) A process whose side-effect is a rise in the S, R, T level of consciousness. There is ample evidence, both historical and scientific, suggesting that meditation is one such process.

Humanity has known for millennia about several tell-tail signs of progress in internal excellence such as an ability to discern truth from falsehood, spontaneous affection shown by animals, birds, and butterflies, and the capacity to remain serene in the midst of the most unfavorable of external conditions that are part and parcel of life. Still, in the scientific community there is considerable interest in a scientific measurement device which can track progress. The scientific community knows that a theory in the absence of validated measurements is but a conjecture and we are perfectly content with the wise consul, "Scientific theories are always provisional and subject to modification or change".

We are happy to report that there is such a scientific measurement device with which to assess progress. This device makes it possible to put the scientific framework for global transformation on a firm footing. In the following paragraph, we briefly describe the device and present a case study of a recently completed program that supports the framework.

Scientific Measurement of Internal Excellence

In the mid-nineties Konstantin Korotkov 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 device provides non-invasive, painless and almost immediate evaluation which

can highlight potential health (physiological and psycho-emotional) abnormalities prior to even the earliest symptoms of an underlying condition, and suggests courses of action (9).

GDV utilizes a weak, completely painless electrical current applied to the fingertips for less than a millisecond. The body's response to this stimulus is the formation of a variation of an "electron cloud" composed of light energy photons. The electronic "glow" of this discharge (invisible to the human eye) is captured by an optical CCD camera system and then translated into a digital computer file. The data from each test is converted to a unique "Photonic Profile", which is compared to the database of hundreds of thousands of data records using 55 distinct parametric discriminates, and charted so that it is available for discussion and analysis. A graph of the findings is presented as a two-dimensional image. To study these images, fractal, matrix, and various algorithmic techniques are linked and analyzed. In addition, the system provides instant graphic representations of the data to provide easy reference and interpretation. To enhance the understanding and meaningfulness for ease of explanation and discussion, a further graphic representation is generated, placing the indicators within the outline of the human form. For a more in-depth understanding of GDV, the reader is referred papers numbered 8 to 12 under References. GDV has been in the market for over fifteen years and has received registration as a routine medical diagnostic device by the Russian Ministry of Health upon recommendation of the Russian Academy of Sciences.

The GDV device has numerous applications the field of medicine and sports. It can determine the physiological and psycho-emotional state of a human being. The parameters that the GDV provides indicative of physiological and psycho-emotional state are: (1) Stress level, (2) Bioenergy intensity, (3) Normality of various organs and systems, and (4) Sate of the Chakras. These parameters will allow aspirants to gage the extent of progress they are making with their practices such as Yoga, Pranayam, meditation, medical interventions, etc.

A special software environment processes and analyzes BIO-grams oriented towards the work in different problem domains. Adaptation for a particular assessment is performed through a combination of optimal operations from the library for the given problem domain, selection of corresponding procedures, and (or) selection of optimal threshold values.

The following main algorithms are included in the library:

Pseudo-coloring. For visual estimation of the image, there are several algorithms of pseudo-coloring oriented towards marking out several peculiarities of BIO-grams. The following **Intensity palette** is most commonly used. In this processing, image points are colored in one of eight colors. The brightest glow points are colored in the shades of blue, less bright points are colored in the shades of red. Points are colored in yellow when the intensity is higher than the noise level, but lower than the base noise level for the given frame. All image points removed by noise filtration are shown as white background. Special programs are designed for the calculation of the following BIO-gram parameters: ***Total image area (S)****: the number of pixels in the image having brightness above the threshold*. ***Average Intensity (I)*** is an evaluation of the Intensity spectrum for the particular BIO-gram. **Entropy (Entr)** of the image is calculated in accordance with a non-linear algorithm, presented in (13). **Energy (E)** of light emitted by the subject is equal to:

$$\mathbf{E = k\ S^{*}I}\ \text{(Joules)}$$

Where k is a numerical coefficient depending on spectral parameters of the particular CCD camera. For the GDV instruments, $k = 2*10^{-4}$.

The first author has asserted that the scientific framework outlined in his papers is also for organizational excellence, and national, & global transformation. Central to this assertion is the assumption of enormous intelligence of collective consciousness. It is also claimed that an appropriately-sized sample of people engaged in the practice of meditation regularly can have positive influence on the wider society. Theory of stochastic resonance is suggested to explain why and how the efficacy of a group activity for an individual is far greater than the individual pursuing the same activity alone.

Here again, the assertion requires scientific validation. The GDV among its suit of accessories comes with an accessory called the eco-sensor which measures the energy intensity and entropy of the space. If the claim of collective consciousness is true, then it must be possible to measure its effects with instrumentation. The eco-sensor is a tool that can provide the answer.

The primary outputs of the GDV connected to the eco-sensor are the energy intensity and entropy of the space. We may state that bias current in the electrical chain depends on the capacitance of space between the antenna and environmentally-grounded and electroconductive subjects. Both geophysical parameters of the particular environment and manmade electromagnetic field and constructions influence this capacitance. This process is being modeled both experimentally and theoretically (9). Emotions are related to the activity of the parasympathetic division of the autonomic nervous system, which changes blood microcirculation, perspiration, sweating, and other functions of the body, resulting in the changes of the overall conductivity of the body and the conductivity of acupuncture points in particular. Therefore, in the vicinity of the instrument, emotional people may change the conductivity of space and, hence, the signals of the sensor. This may be related to the formation of areas of decreased entropy in space, or, according to Prof. Bill Tiller, "associated with the buildup of a negative magnetic charge manifesting in the environment" (11). Some quantum effects may be involved as well.

Case Study

The first author presented a two-day program titled **How to Transform Ourselves, Our University Community, and the World** at the University of Louisville on September 30 – October 1, 2013. Attendance ranged between 85 and 135 participants. The program was supported by the Office of Ombuds, Chemical Engineering Department and Get Healthy Now. The three-hour program spread over two days consisted of lectures and Prana Kriyas (Breathing practice), Loving Kindness Intention, and Meditation. Six participants volunteered for their before-and-after bioenergy measurements. All GDV measurements were made and analyzed by the second author. Figure 2 is a photograph of the group during the process of meditation. The GDV and eco-sensor are visible on the table.

Figure 2. The Group Engaged in Meditation

Physiological and Psycho-Emotional State of Volunteers. The GDV determines the subject to be in a good physiological and psycho-emotional state if the energy field is normal and the chakras are of proper size and aligned at the central line. The smaller the chakras and farther away they are from the central line, the more unbalanced the state is. The analysis of the EPC/GDV images taken from the fingertips is based on digital image analysis and processing of the image as a whole and of specific image sectors by artificial intelligence techniques. In 1986 Prof. Peter Mandel from Germany had suggested a diagnostic table based on sectorization of the Kirlian images taken from finger tips and toes. Using digital image processing technology Korotkov and his team updated the diagnostic table based on clinical studies of more than 10,000 patient cases with different health challenges. This way the initial diagnostic table was updated and verified (8). Today there is a large difference between the diagnostic table used by Prof Mandel and the table that forms the base of EPC/GDV-Analysis.

The principle of GDV technique is as follows (9): Under a high intensity electromagnetic field, the finger emits a burst of electrons and photons. With the help of an optical system and camera, the electro-photonic emissions are transformed into video-signals, which are recorded in the form of single snapshots or fingertip images called GDV-grams. The data processor utilizes a specialized software complex that permits the calculation of system parameters. The software GDV Diagram facilitates the implementation of standardized processing of GDV-images. The process involves capturing GDV-images with a special CCD camera, filtrating GDV-images, obtaining numerical characteristics, creating graphs and diagrams, and saving and transferring data for additional processing. In the GDV Software Programs, the glow from the different sectors of the finger images is projected onto the shape of a human body in correspondence with the location of the different organs and systems. The result are Energy Field images that allow for intuitive analysis of the physiological level of human body functioning. However, it must be kept in mind that this energy field image is created by data analysis in the computer and does not constitute what is referred to as Aura or Aura-photography.

Complex mathematical calculations are performed to derive statistics that characterize the strength, shape, dimensions, and irregularities of the fingertip images. These calculations are

used in the analysis of areas or sectors of fingertip images that are believed to reflect different organs and systems of the body. Relying on extensive research utilizing the application of small electrical potentials to detect the location of acupuncture points and the energy "meridians" which connect them together, and with their endpoints on the fingertips, it is possible to carry out "sector analysis" of these fingertip images. Each individual sector or portion of the fingertip is connected energetically with specific organs and organ systems such as the respiratory system. When the data of the 10 individual BIO-grams are collated and interpolated, an image of the entire full body energy field is created. An example of the full body energy field from a healthy and unhealthy/emotionally unbalanced individual are shown in Figure 3. The gaps and the reduced emissions and out-of-balance Chakras for the unhealthy individual are quite obvious.

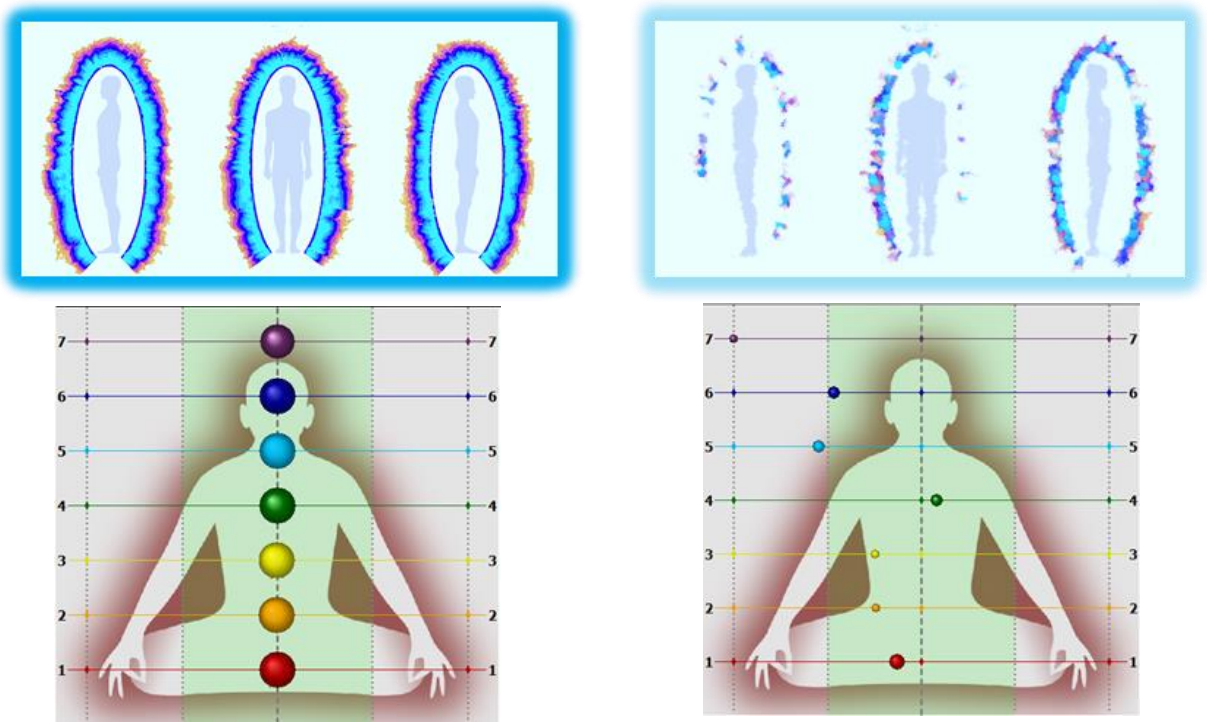

Figure 3. Energy Field and Chakras of a Healthy (left) and Unhealthy/Emotionally Unbalanced Individual (Right)

According to Eastern metaphysical theories and principles of Ayurvedic Indian medicine, there are seven "Chakras" or integrated energy centers that are considered to affect physical, mental, emotional, and spiritual well-being. These energy "disks" are positioned or embedded into the spinal column at various locations starting at the coccyx and rising to the crown of the head. Each Chakra is considered to resonate at a different frequency level. With new BioWell software, it is now possible to quantitatively estimate the energy of chakras and graphically display their level of activation, and indicate whether this level of activation is above or below the level found from large numbers of subjects. The most important in evaluation is Chakras distribution. Ideally they should be aligned along Sushumna – central line of a spinal cord. In most cases several Chakras are misaligned and their size is much less than in the ideal case. When people have strong stress, depression, very bad mood, chakras may be totally out of order.

In the GDV programs, a particular part of every finger is associated with particular Chakra (9). This is based on the principles of Ayurvedic medicine and tested by many Ayurvedic doctors in India and USA. Balance between correspondent parts of the left and right fingers allows to calculate the shift of the particular Chakra from the central line in accordance with the following nonlinear equation:

$$\text{Simmetry} = 0.56*\text{delta}^3+1.68*\text{delta}^2-0.12*\text{delta}$$

Where delta is the numerical difference between the correspondent parts of the left and right fingers. Coefficients are selected based on a large volume of experimental data.

Figures 4 (a) and (b) show energy field and the state of the chakras of two of the volunteers.

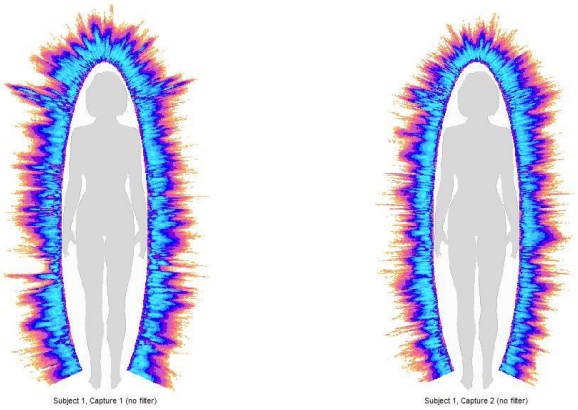

Figure 4(a) Energy Field of Volunteer 1 Before (Left) and After (Right) the Program

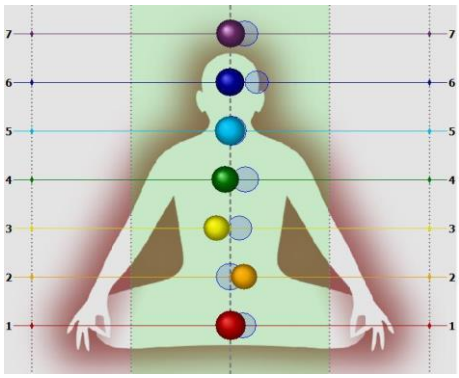

Figure 4(b) Chakras of Volunteer 1 (Before are shaded and After are solid color)

Figures 4(a) and 4(b) indicate the subject was calmed, relaxed and nourished from her participation. This can be clearly observed as the smoothning of the energy field by the pre and post Energy Field Images. The chakras also indicate inner empowerment. Figures 5(a) and (b) depict the same information for a second volunteer.

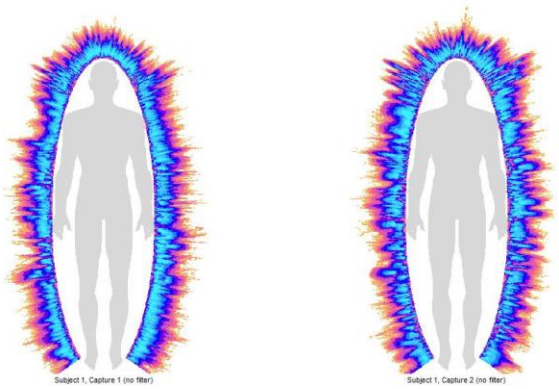

Figure 5 (a) Energy Field of Volunteer 2 Before (Left) and After (After) the Program

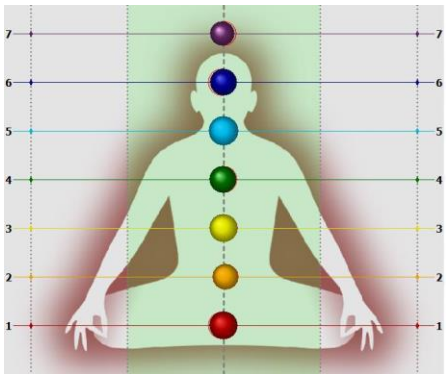

Figure 5(b) Chakras of Volunteer 2 (Before are shaded and After are solid color)

Observe the loosening of the energy field, post meditation, indicated by the nature of the energy field distribution, which has been activated and stirred. The chakras of the second volunteer were strengthened to almost perfect alignment from an already strong position with very minor shifts.

Energy of the Space during the Program

The GDV and the eco-sensor were used to assess the changes in the energy intensity and the entropy of the space during the program. If in fact the stochastic resonance of participants is a reality then these two parameters should reflect it. The energy level of the space should go up and the entropy indicative of disorder should go down. Figure 6 shows the energy intensity of the space during the course of Day 1 of the program selected for illustrative purposes while Figure 7 depicts the entropy behavior during the same period.

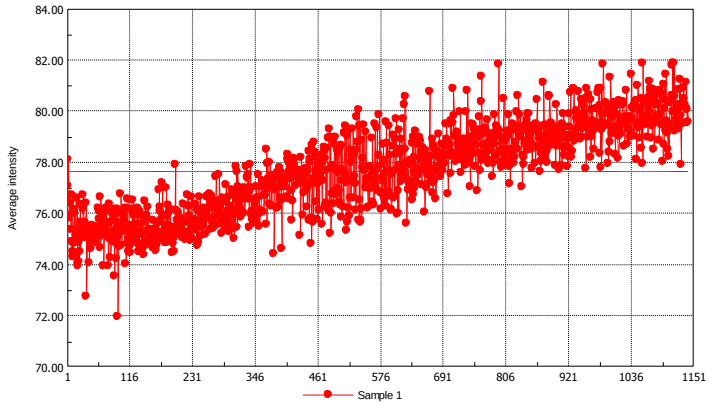

Figure 6. Energy intensity increased during course of the program

In Figure 6, the x-axis denotes the number of frames (20 frames per minutes) while the y-axis is the measured value of light as a unit. From Frame 1 to 90 the trend shown may be taken to be the baseline for the room as attendees enter and take their seats. This is followed by the University of Louisville speakers and the Metro Louisville Mayor's Chair of the Compassion Committee from 90 to 180 frames. From 180 to 340 frames refer to the second author's Prana Kriya breathing meditation. From 340 – 1151 frames is the bulk of the program of the first author. Here, the first author engages the audience providing a synopsis and relevance of six sigma principles in the context of the scientific framework for internal excellence. Participants see that a powerful tool to use in the pursuit of internal excellence is meditation and learn how the pursuit leads to improved health & wellness, creativity & innovativeness, compassion & empathy, and higher levels of consciousness for themselves and to unparalleled excellence and exemplary business performance for organizations. Parallel measurements of the room temperature demonstrated that it was kept stable +/- 2C due to the air conditioning system.

Figure 7 depicts the changes in the entropy of the space. In Figure 7, the x-axis denotes the number of frames while the y-axis is the measures entropy value as a unit. Again, from frame 1 to 90 the trend shown may be taken to be the baseline for the room as attendees enter and take their seats. This is followed by the University of Louisville speakers and the Metro Louisville Mayor's Chair of the Compassion Committee from frames 90 to 180. Frames 180 to 340 refer to the second author's Prana Kriya breathing meditation. Frames 340 – 1151 refer to the bulk of the program as mentionee. The curve remains flat during all this period which means that sensor did not reflect any significant changes in the environment. Note that there is a significant reduction in entropy from the start of the program to the end of the program.

Observing the spectrum of charts from the two days of sensor data, we have observed the effect of coherence and the responses in the environment. A sampling of male and female response also affirms the hypothesis, given the time cycle of the seminar. We have come to realize the transmissions from wisdom traditions that have been conveyed for millenia: "What is within us is perfection; the outer world can attain perfection only when the inner world guides, molds and shapes the outer world."

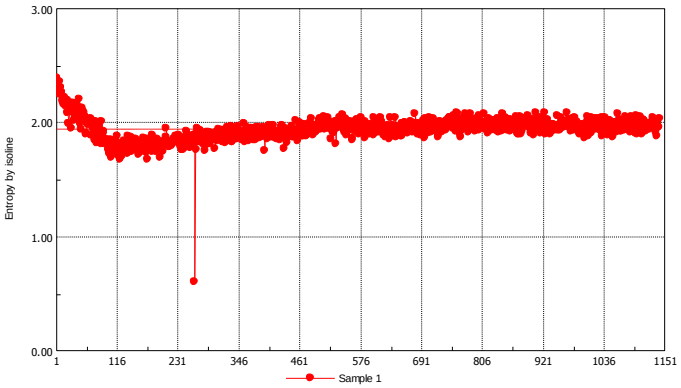

Figure 7 Entropy reduces during the course of the program and stabilizes

Discussion and Conclusions

A scientific framework for individual, organizational, and global transformation is now available thanks to ancient Eastern wisdom reinforced by the work of several internationally-known yogis together with the outstanding work of European, American, and Russian scientists. A scientific device is also available with which to assess performance and track progress. We have begun to understand why for millennia people in the pursuit of internal excellence have sought refuge in difficult to live places such as the Himalayas, insisted on limiting themselves to simple foods limited in quantity, refrain from interactions with the outside world as much as possible, and devoted tens of thousands of hours to meditation. . A few among them have come down to teach the wherewithal of how to achieve what they achieved. In the ancient times, this privilege was limited to a select few disciples. A person desirous of reaching the very top the S, R, T scale of consciousness will have to solicit the help of these self-realized souls. For the rest of us the scientific framework together with the measurement device is sufficient to raise our level of consciousness adequately for individual excellence & organizational, national & global transformation and peace.

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