

Essay

Science of Creativity & Innovation

Pradeep B. Deshpande* & James P. Kowall

Abstract

Is it possible to demonstrate that our energy changes with meditation? And does that in turn make us more creative and innovative? The first author has done extensive research showing that the answer to both questions is a resounding yes. Even modest success with meditation leads to a number of auditable benefits: health and wellness, improved performance, better leadership decisions, less discord and violence, and improved creativity and innovativeness.

Keywords: Science, meditation, energy, creativity, health, innovation.

Wikipedia tells us that in Greek, Eureka means “*I have found it*”. For Archimedes, the Eureka moment happened when he discovered the buoyancy principle purportedly sitting in a bathtub. Einstein’s theory of relativity and Isaac Newton’s law of gravity too may be examples of Eureka moments although they are not so credited. A recent article in Scientific American wonders, “We all have had sudden, smart insights. How do they arise? And is there a way we can conjure them up at any time?” This article suggests that we can, and attempts to explain how.

In 1995, science writer, Amanda Geffer, began her quest to understand *ultimate reality* and the meaning of *nothing* at the prodding of her father. During the pursuit that lasted more than a decade, she interacted with renowned physicists including John Archibald Wheeler, a colleague of Albert Einstein at Princeton and the famed Stephen Hawking finally concluding that ultimately, nothing (physical) is real.

There are two ways to look at nothingness. In 1929, Edwin Hubble discovered that the universe was expanding at an accelerated rate. It still is! Clearly, going backwards in time, the universe would be smaller. Going sufficiently back in time, some 13.8 billion years, a point would be reached when the universe would be about the size of Planck’s length (10^{-33} cm in diameter), which is *nothing* for all intents and purposes. This is when creation happened with what has come to be known as the Big Bang.

The second way to look at nothingness is that the big bang is a singularity, which in some sense is nothing, but in the non-dual traditions of Tao, Zen and Advaita, nothingness or the void doesn’t mean singularity, but an empty space of potentiality within which the singularity occurs. In the

*Correspondence: Prof. Pradeep B. Deshpande, Six Sigma & advanced Controls, Inc., 7013 Creekton Drive, Louisville, KY 40241, <http://www.sixsigmaquality.com> E-mail: pradeep@sixsigmaquality.com

sense of Advaita, void is the nature of Brahmanic consciousness while the singularity is the nature of Atmanic consciousness. The differentiation of Atmanic consciousness from Brahmanic consciousness only occurs at a singularity. If we understand Atmanic consciousness as differentiated in nature, then we can only understand Brahmanic consciousness as undifferentiated. The differentiation of consciousness always requires the expenditure of energy. This is the energy that creates a world through the expansion of the big bang event.

So, a question arises, how can *something*, the universe, come out of *nothing*, the void? At the Science and Ultimate Reality Conference in Princeton in 2002, Wheeler told the Gefters that the universe was a self-excited circuit, meaning that no creator is required for the universe to come into existence. Several Thousand years ago, Rig Veda too had come to a similar conclusion, proclaiming, *Yatha Purvam Akalpayat* (as it was before, it is now) [R.V. 10.190.3]. In other words, within the unmanifest itself, lies the manifest. The process of creation is automatic, just as a huge tree comes out of the nothingness of a hollow seed.

Inspired by the work of Adi Shankara and Nisarga Datta, the second author expanded on Wheeler's perspective. True that there was nothing physical left at the moment of the Big Bang as the four fundamental forces (electromagnetism, gravity, strong nuclear force, and weak nuclear force) had all vanished, but, something nonphysical must have been present and that something had to be *consciousness* which he termed *undifferentiated (Brahmanic) consciousness*. In other words, conscious intention of the void is what created the universe. This perspective offers some exciting possibilities including the notion of creativity and innovativeness. Here is how.

We all have consciousness, let's call it differentiated consciousness to distinguish it from the undifferentiated consciousness of the void. So, an interesting question arises. Is our individual (differentiated) consciousness a microcosm of the undifferentiated consciousness? If it is so, then, perhaps we too possess the capacity to create just as the nothingness of the void created this universe. Now, everything was connected to everything else at the moment of the Big Bang when the universe was about the size of Planck's length (10^{-33} cm in diameter). How could it not be? The question is, is it still so connected? And the answer is yes, it is. Western scientists have conducted numerous experiments to demonstrate that we remain connected at some level even though not physically linked. So, it appears that there is a prima facie reason to accept for further scrutiny the hypothesis, *Aham Brahmasmi* – I am a creator (*So Hum* – I Am That).

The path forward for progress is to devise a process with which to reach the state of nothingness in our minds and then examine if creation happens, that is, if conscious intention materializes. Ancient Eastern wisdom has known for millennia that the process to reach the level of nothingness (the state of no thought) is meditation. To understand the mechanics of how meditation works, take a lake as an example. Our thoughts are akin to the surface of the lake that is full of waves. But the bottom of the lake is absolutely still. So, how do thoughts arise? Again taking an analogy, thoughts arise like a tiny bubble at the bottom of the lake. As the bubble rises,

its size increases and when it finally reaches the surface of the lake, it bursts into our consciousness as a thought. What we have to do is to begin going downward toward the bottom of the lake from the surface through meditation and as we make progress, the frequency of thoughts begins to diminish and after some time, thoughts cease to exist. Creativity and innovativeness is associated with this state and it is automatic. No further action is required on the part of the meditator just as the Scientific American article suggested other than the intention sought to be materialized in the subconscious mind.

How do we prove the hypothesis of creativity? Maharishi Mahesh Yogi and his followers had proved it with the aspirants lifting from the ground followed by hopping forward pursuant to the deliberate intention to become light as cotton. Try lifting even an inch from the ground from a cross-legged sitting position and you will find that it is impossible. It only becomes possible pursuant to meditation imbedded with the specific intention. A few years ago, Sanjeev Aroskar, a friend of the first author and an alumnus of IIT Bombay in Electronics and Computers, had assembled a team and demonstrated this phenomena. This so called yogic flying requires a great deal of practice but fortunately, there is an easier way to demonstrate rising levels of creativity and innovativeness and it is based on our photonic signature.

Every human being has a unique photonic signature that is reflective of his/her physiological and psychoemotional state. The forty-six chromosomes we inherit from our parents and our own willful actions from adolescence to the current age are contributing factors for this signature. To elaborate, we all have trillions of cells. If the cells are broken down further, they are made up of atoms which have protons and neutrons in their nuclei and electrons orbiting them. Atoms are not solid objects and, so, a question arises: what characteristics of an atom give the specific character to matter? For example, why is Gold, Gold? Or, why is Iron, Iron? The answer is: atomic configuration. Similarly, in the case of cells, the cellular configuration is what determines the cellular structure which in turn determines if a cell is healthy or not. The vibrational characteristics of the cells determines our physiological and psychoemotional state.

Human vibrations can be thought of as light, not necessarily visible light, with unknown frequencies along the entire electromagnetic spectrum. Konstantin Korotkov, Professor of Biophysics and Computers at the St. Petersburg Federal University in Russia developed a scientific device based on the Gas Discharge Visualization principle over fifteen years ago to determine the photonic signature of subjects. Here, the subject places the fingers of his/her hands on a glass plate of the device, one finger at a time, and a harmless 11 KV electrical input is applied to the finger for a millisecond. The result of this stimulation is a burst of photons which the device-software analyzes to estimate the subject's physiological and psychoemotional state. The GDV device was approved in Russia by their Ministry of Health over fifteen years ago for use as a routine medical diagnostic device in hospitals and doctor's offices.

Returning to the problem at hand, the question is, is it possible to demonstrate that our light-

energy increases with meditation? And does that in turn make us more creative and innovative. The author has done extensive research showing that the answer to both questions is a resounding yes. Even modest success with meditation leads to a number of auditable benefits: health and wellness, improved performance, better leadership decisions, less discord and violence, and improved creativity and innovativeness.

To test the veracity of our assertions, the readers could perform a four-month experiment. In the experiment, two groups of sufficiently large number of subjects would be formed to serve as “controls” and “Test”. The photonic signature of the control group would merely be measured, before and after the four months period while the members of the test group would additionally practice meditation daily. Various performance measures would be identified and tracked for both groups. A comparison of the results of the two groups should offer convincing evidence of the veracity of the assertion in this paper.

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