

Scientific Relevance of *OM* for Holistic Well-being

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Abstract—According to Upaniṣads, Transcendental Reality can be seized only through a transcendental mode of apprehension i.e. mode of direct and immediate revelation. But, the straight and direct approach to the Supreme/Absolute is full of great risk, it is as sharp as a razor's edge, hard to cross and difficult to tread and open only to the exceptionally proficient seekers. Hence the Upaniṣads, being fully aware of the difficulties involved in this straight way of soaring flight or the way of the eagle, go on to propound a less hazardous circular way or the way of an ant, where one can move slowly but steadily upwards through gradual stages. This circular or spiral way is symbolized as "Om" or Udgītha, Omkāra, Ekashara and Praṇava. Therefore, the paper undertakes an in-depth philosophical analysis of the "Divine syllable Om" with special reference to Māṇḍūkya Upaniṣads.

The discussion is organized as follows: At the outset, first of all the paper will talk about the origin and historical background of the sacred syllable Om from ancient Indian Vedic texts. Secondly, the development of the sacred character of the syllable within Upaniṣads will be discussed. Then in the next section, the philosophy of Om in Māṇḍūkya Upaniṣad will be pondered upon. Finally the paper will summed up, by highlighting the scientific relevance of chanting of Om for reducing mental stress, curing depression, improving focus and concentration, calming the mind and leading to overall holistic well-being.

Keywords: Om, Māṇḍūkya Upaniṣad, Vaishvaanara, Prāṇa, Turīya

1. ORIGIN AND HISTORICAL BACKGROUND OF *OM*

The origin of the word 'Om' is wholly indecisive. There are many theories concerning its origin. It has been traced to a pronominal base "av" and its formation has been compared with of ay-am, "this". But the evidence in support of this view is quite inadequate. It does not appear at all in the *Rigveda*, but it is mentioned in the other Vedas and several Upaniṣads allied with them.

The word "Om" first occurs in the *Taittirīya Samhitā* (III.2.9.6), where it is called the *Praṇava* and indicates the sound at the end of the offering verse uttered by the *hotṛ*. In the *Vājasaneyi Samhitā*, we find 'Om' in the phrase *Om Pratiṣṭha* and in the *Maitrāyaṇi Samhitā* in the phrase *Om Sravaya*.

It is, however, in the *Brāhmaṇa*, that we first find the definite use in the assertive sense, but much more important than this

use, is the development of its use as a mystical symbol, embodying in itself the essence of the Vedas and of the universe. (*Aitareya Brāhmaṇa* V.32).

2. DEVELOPMENT AND POPULARITY OF THE SACRED CHARACTER IN *UPANIṢADS*

In the Upaniṣads, the doctrine of the sacred character of the syllable "Om" is steadily developed. The *Taittirīya* (1.8) and *Chāndogya* (1.1) declare that 'it is the *Brāhmaṇ*'. *Kathasays*, 'it is the best support', the bow off which the soul as the arrow flies to *Brāhmaṇ* (*Muṇḍaka* 2.2;4), the arrow which is shot from the body as bow in order to pierce the darkness (*Maitrāyaṇi* 6.24), the upper fuel is kindled by the fire of the vision of God (*Śvetāsvatara* 1.14), the net with which the fish *prāṇa* is drawn out and sacrificed in the fire of the atman (*Maitrāyaṇi* 6.26), the ship on which a man voyages over the ether of the heart (*Maitrāyaṇi* 6.28) and the chariot which bears him to the world of *Brāhmaṇ*. (*Amṛitab* 2)

In *Bhagavad-Gita*, 'Om' is identified with *Kṛṣṇa* as the universe and the *Brāhmaṇ*, and the triad 'Om tat sat' is declared as comprehending the nature of the *Brāhmaṇ*.

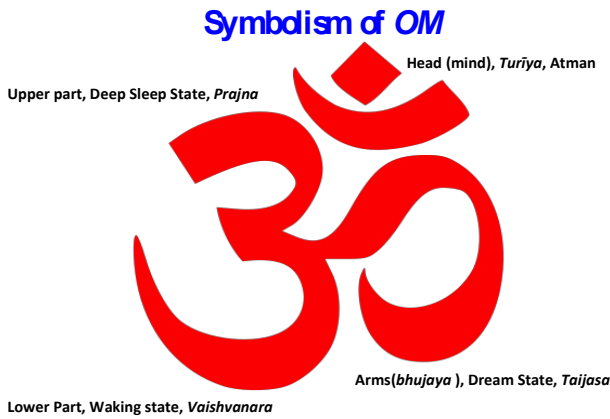
3. *OM* CONSIST OF 3 LETTERS OR PRIMARY SOUNDS

Om is made up of three syllables: A, U, and M, or, phonetically, "aaah," "oooh," and "mmm." A is the first of the guttural sound, so it is the very first sound that man can utter, M is the last of the labial sounds and U is the sound produced by rolling the wind over the whole of the tongue. Hence the conjunction of these three primary sounds can be comprehended to contain the rudiment of all sounds that man can ever give utterance to and so it can be taken as the fittest sound symbol of Brahman.

Moreover, the syllable *Om* represents several important triads: Worlds - Earth, Atmosphere, and Heaven; Major Hindu Gods - Brahma, Vishnu, and Shiva; Gunas: Tamas, Rajas and Sattva; Sacred Vedic scriptures - *Rg*, *Yajur*, and *Sama*; Actions: Creation, Preservation, and Destruction; Time: Past, Present, and Future; Stages of survival: Birth, Life, and Death; Elemental Deity: Fire (*Agni*), Sun (*Aditya*), Wind (*Vayu*).

4. SYMBOLISM OF OM

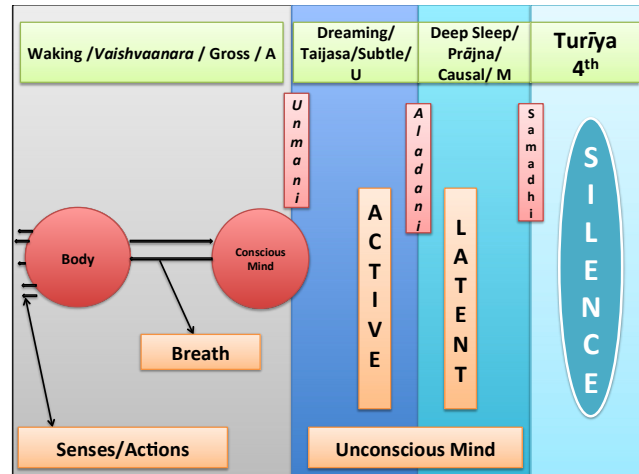
Just as the sound of *Om* represents the above-mentioned triads as well the sound of Brahman, the visual symbol of *Om* written in Sanskrit also represents everything. The symbol of *Om* contains three curves, one arc/semicircle and a bindu/dot. Each aspect of its appearance is said to symbolize something deeper. First of all it symbolizes human figure: the large lower curve represent the lower part of the human form, the upper curve represents upper part, the third curve which lies between the two curves represents arms (*bhujaya*) and the semicircle with dot represents head (mind) of the human form. Similarly the symbol also represents four states of consciousness (waking, dreaming, deep sleep and *turiya*) and four types of soul (*vaishvanara*, *taijasa*, *prajna* and *atman*), which we will discuss in length with reference to *Māṇḍūkya Upaniṣad* in the next point.



5. OM IN MĀṆḌŪKYA UPANIṢAD

Māṇḍūkya Upaniṣad is the shortest *Upaniṣad* comprises of twelve verses about the syllable *Om*. One of the great innovations which the *Māṇḍūkya Upaniṣad* introduces is the division of the symbol *Om* with the four states of consciousness on the one hand and the four aspects of soul on the other. In *Māṇḍūkya Upaniṣad*, verses from 1-2 describe the Self and the Absolute, verses from 3-7 explain the four levels of consciousness and verses from 8-12 outline the four aspects of *Om*.

Below is the detailed explanation of each of the seven levels of consciousness and four types of soul mapped out in *Om* Mantra with diagram in the following manner:



(1) Waking / Vaishvanara / Conscious / Gross / "A" of Om/AUM

The "A" sound of the *AUM* symbol represents the Waking state of consciousness and its name is *Vaishvanara*. The individual person experiences it and he gets to know the Gross objects of the phenomenal world through its seven instruments and nineteen channels. Further; the individual is an extrovert in this state.

(2) Unmani / Transition between Waking and Dreaming (A and U of Om resp.)

There is a transition stage namely: *Unmani*, between Waking and dreaming states (or between Conscious and Unconscious states). We all have experienced this stage when we are neither fully awoken nor in a dreaming state.

(3) Dreaming / Taijasa / Unconscious / Subtle / "U" of Om/AUM

The Dreaming state of consciousness is represented by the "U" of the *Om* is known as *Taijasa*. *Taijasa* contains mind-stuff, the dream world and it deals with memory more than facts. In this state consciousness is turned towards the inner world and again through its seven instruments and nineteen channels know its subtle objects of mental realm. In this people twist and make the non-facts as seen facts and vice-verse.

(4) Aladani / Transition between Dreaming and Deep Sleep (U and M of Om resp.)

There is a transition stage namely: *Aladani*, between Dreaming and Deep Sleep states. One does *not* experience this stage consciously and in this the latent, *formless* facts or impressions start to stir, and end up taking form in the Unconscious mind. This transition is very different from the *Unmani*.

(5) Deep Sleep /Prājña / Subconscious / Causal / "M" of Om/AUM

The Deep Sleep state of consciousness is represented by the "M" of the *Om* and it is known as *Prājña*. In this state impressions/*Samskaras* are stored in their latent form, like seeds waiting to become active in dreaming or waking states. Moreover, *Prājña* means supreme knowledge, it's the state which is prior to the creation/manifestation of thoughts, emotions, objects and activities. This is the state of silence where *anand* is the object of renunciation and sustenance.

Further, this level of Deep Sleep or *Prājña*, is similar to *Yoga Nidra*, or Yogic Sleep. Except that in the former we from Conscious, Waking state, 'A' proceeds to unconscious states, whereas in the later we leave waking state proceeds to deep sleep and come back again to conscious waking state.

(6)Samadhi

The last transition state below Waking, Dreaming, and Deep Sleep (the A, U, and M of *Om*) is called *Samadhi*. There are many forms of *Samadhi* depending upon the nature of the object (gross or subtle) on which one was meditating before dropping into the state of *Samadhi* with that object. Moreover in meditation we have three things: observer, process and the object, where as in *Samadhi* all three are no more separated, all are collapsed into one. Further, *Samadhi* can be with or without form.

(7) Turīya/ Consciousness / Absolute / Silence after Om/AUM

After the "A, " the "U, " and the "M" of the *Om* there is Silence that is representative of the fourth state known as *Turīya*. It is neither the objects outside nor the objects within. It cannot be seen, used or touched. It cannot be experienced or comprehended. It is beyond the universe. It is ever tranquil, the final beatitude and the only one, the real self/atman itself.

There is a fine distinction between *Samadhi* and *Turīya*. *Samadhi* is dualistic, while *Turīya* is non-dualistic, leading one to the experience 'I am That', or Self-realization. After practicing meditation on any object one can enter into *Samadhi*, whereas, *Turīya* is atman itself or self itself.

6. SCIENCE BEHIND OM: REAL AND SCIENTIFIC EXPERIMENTS/STUDIES/CASES

"If you want to find the secrets of the universe, think in terms of energy, frequency and vibration" – Nikola Tesla

In today's scenario scientific experiments/studies has proven the fact that, meditation/chanting of *Om* is a remedy to stress and therapeutic to many more mental and physical health problems like: reduces blood pressure, improved brain function, denser bones, immune health, improved nervous system functioning and strength, tranquil the mind and many more.

Now let us discuss one by one different scientific experiments and studies which has shown the relevance and importance of chanting/meditation of *Om* producing energy/vibration in the body of different wavelength.

Scientific Experiments/Studies Cases

(1) In the year 2004, for the first time in the world, one pilot study was conducted by Devi H.J., Swamy NVC and Nagendra H.R on the "*Spectral Analysis of the Vedic mantra Omkara*" which shows that the waveform of A-U-M mantra is made up of 3 syllables. This study deals with the sound patterns and features while chanting of *Om* mantra in order to have qualitative and quantitative analysis through speech synthesis, analysis and recognition. Spectrograms were used to show the difference between male and female voices and frequencies while chanting *Om* mantra. It was the first study of its kind.¹

(ii) Two Indian scientists: Ajay Anil Gurjar and Siddharth A Ladhake (2008) have conducted an experiment with the participants who have never chanted *Om* mantra in their life. They were asked to chant *Om* mantra on regular interval of time period and their time frequency were recorded each time. The time-frequency analysis witnessed dramatic improvements in their focus, concentration & steadiness as compare to their early life period.²

(iii) In one more such instance, again the above two scientists along with Ajay P. Thakare(2009) conducted an experiment to study the effect of *Om* mantra on nervous system through repeated practice. Using sophisticated software tools, mathematical transforms were applied to raw samples of the chanting's and similar results improvements in focus concentration, steadiness, peace, reduction in stress etc. were observed.³

(iv) In one more pilot study, scientists; Bangalore G Kalyani, Ganesan Venkatasubramanian, Rashmi Arasappa, Naren P Rao, Sunil V Kalmady, Rishikesh V Behere, Hariprasad Rao, Mandapati K Vasudev, and Bangalore N Gangadhar in the year 2011, on "*Neurohemodynamic correlates of 'OM' chanting: A pilot functional magnetic resonance imaging study*" concluded that regular chanting of *Om* mantra could treat even depression & epilepsy by analyzing functional Magnetic Resonance Imaging scans (f-MRI scans) before & after *Om* mantra chanting. The neurohemodynamic correlates of 'OM' chanting reveal limbic deactivation, which is a similar observation with vagus nerve stimulation treatment used in depression and epilepsy. The study outcomes contend that 'Om' chanting has impending role in clinical practices.⁴

(v) Current discoveries in the medical field endorse that chanting of *Om* can lower blood pressure.⁵

Chants could be a fine thing: It may sound daft but some doctors believe meditation really can lower blood pressure

By NICK HARDING

UPDATED: 08:49 GMT, 22 March 2010

Despite living what doctors described as a 'virtuous life', Claudia Zeff was at risk of heart disease. A genetic predisposition to high blood pressure meant she faced a lifetime of medication and the risk of health problems in later life, including stroke and kidney damage.

Indeed, although she was put on blood pressure drugs two years ago, a recent scan had showed one of the walls in her heart was beginning to thicken - a worrying sign.

'I knew that could be hugely problematic as I got older and that motivated me to do something about it,' says the 54-year-old.

What Ms Zeff did is sign up to a pioneering programme run by a cardiologist where meditation and chanting are used to combat high blood pressure. Amazingly, she is not only now medication-free, but her damaged heart had repaired itself.



Convert: Claudia Zeff, who faced a lifetime of medication

- It increases the production of endorphin so making us feeling relaxed and refreshed every time.
- It has a positive effect for cardiac vascular health by lowering blood pressure and increasing competence of all the cells and organs in the body.
- It relives the stress levels by delivering more oxygen to the body.
- It removes toxin from our body and give us strong immunity and self-healing power.
- It also helps in reducing weight as it puts our entire body in a heightened state of sensitivity and its sensations stimulate our metabolism.
- It strengthened our spinal cord because of the vibrations caused by sound of 'Aaaa' that is generated from our abdomen.
- It is beneficial for the thyroid glands and the throat because of the sound 'Uuuu' created by vocal cords.
- It is also said that rubbing our hands jointly while chanting *Om* and putting those charged hands on different parts of body, it will heals or activates those body parts. For eg. If that energy charged hands are put on our eyes, our eyesight will start improving.

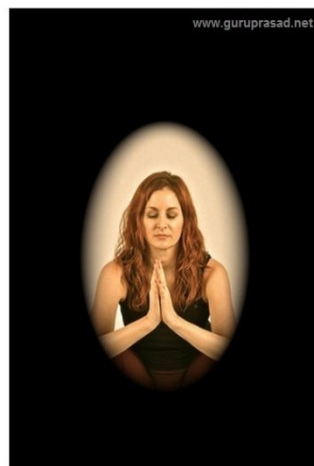
(vi) Even alteration of genes for better well-being after *Om* chanting was proved in recent scenario⁶

May 2, 2013 | 6:26 AM | Rachel Zimmerman

Say 'Om': Researchers Find Gene Action Altered After Relaxation Practice

It's widely accepted that yoga, meditation and other practices that involve conscious relaxation can reduce stress and enhance a person's general well-being. But for many, notions of "mindfulness" and "wellness" still come off as a tad New Age-y and amorphous.

So here, for skeptics, is a molecular-level reality check: Researchers at Massachusetts General Hospital and Beth Israel Deaconess Medical Center report that the relaxation response — a state of deep rest attained through breathing, meditation, yoga and other practices — triggers changes in gene expression that can affect the body's immune function, energy metabolism and insulin secretion. The new research — the first to look at rapid, gene-level changes following the relaxation practice — is published in the journal PLOS ONE.



Hence, some more of the scientific benefits of chanting *AUM* are given below:

- *AUM* chanting is an effective tonic, which increases the competence of the human organism in a profound manner.

7. CONCLUSION

In this way, it may be concluded that the syllable *Om* persists throughout the whole of Indian religion as the proper accompaniment of mantras, whether Vedic or not. Further, from the point of view of the ultimate Reality and *Om* itself, it is incomprehensible and indivisible and yet from the point of view of the *sadhak*, he has to comprehend the comprehensible portion which is the universe and also a part of his self and then do the *sadhana* given in the *matras* of *Om* before he can merge himself in the *Om* that is beyond divisions and *matras*. Thus, *Om* is only after all a word and ascending from it man attains to nothingness in that which is not a word.

Moreover, we can say that chanting of *Om* continuously would bring many benefits, such as cleansing of the mind, the body and the nature, elimination of the sins, calmness of the mind, eradication of desires, delusion and attachment and attainment of all the four pursuits of human life, namely *Dharma*, *Artha*, *Kama* and *Moksha* and many more physical and mental health benefits as mentioned above.

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