

YOGA SUDHA

A Monthly Journal of S-VYASA Yoga University



Maa Bharat has taken back into her heavenly abode, on the completion of his assigned duty, her Gem of a Son **Abdul Kalam** who is a Yogi dedicated to the nation, as Hanuman is to Sri Ram, as Bheeshma to a Principle and Swami Vivekananda to the Mankind. His Soul is ever bright as a beacon light to all.

Salutations to a Great Soul – Dr. APJ Abdul Kalam

Departed from Body, Resting in Peace and Growing in the Hearts

■ *Dr. Prahlada, Advisor, S-VYASA*

I met Dr. Kalam first time in 1982 though I had heard about him in 1971 itself. I used to work in the areas of control and guidance at DRDL and he had just taken over as Director, DRDL.

When Integrated Guided Missile Development Program was approved by Govt. of India in 1983, he became the first Program Director. He had picked Five Project Directors and I was one of them and that too for the most Complex Project, called Akash. He then became my Guru, Mentor, Advisor, Father Figure, Boss and Role Model.

I learnt from him working hard to achieve the desired end result, facing failures, building the team, learning from everybody, approaching scientifically and technically, carrying people with you, not losing sight of big picture and making a difference.

I remember a large number of days when he would sit with me in my office from 8pm to 9pm in the initial stages of Project Akash and guide me in attacking problems and issues. Similarly I would sit with him after dinner up to midnight for tuning up his addresses and talks and providing him inputs. He would meticulously go through every sentence and finalise the speech and get it typed. But he would keep improving the script, english and contents till the last minute and when he delivers, it would be perfect address with maximum impact! He has a unique way of communicating his thoughts, very informal, minimum jargons but best mix of words! He knows where to touch you and he will reach you.

Though he was not the greatest scientist or an engineer, he was a Task Master, Great Human Manager and an ideal 'Project Director'. Through these he made Missile Program a big success and became famous as 'Missile Man'. India can now develop any kind of missile needed by the country. He has built the industries, management systems and infrastructure. He raised the level of DRDO into international standards.

Because of his special quality as an integrator of diverse personalities and tasks, he had a lead role in integrating and testing of Nuclear Bomb in Pokhran during Vajpayee regime.

The first non political person and a scientist to raise to the position of President of India and probably would be the only one!

The 'Bharata Ratna' is simultaneously a Loveable Father of the Nation and Great Son of India.

May his soul rest in peace.



YIC (Yoga Instructors' Course) - 159th Batch, July, 2015



तं विद्यादुःखसंयोगवियोगं योगसंज्ञितम्
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EDITORIAL

Thanks to the tremendous support of the Prime Minister Shri Narendra Modi Ji, the whole world became 'Yoga mayam Jagat' and Rajpath became Yoga Path on 21st June. National Council of Teacher Education (NCTE) has prepared the curriculum to introduce Yoga education for teachers from pre-primary to Med. Even NCERT has introduced Yoga for students and is made compulsory for students from 6th to 12th standard. The standard Yoga Teachers competency model has been developed by AYUSH Ministry and Quality Council of India (QCI), on success full completion of the exam based on the competency model evolved one can become a Yoga teacher. For all these rapid developments, especially with Yoga, we thank the Prime Minister for his support. After, we being entrusted with the responsibility of Chairman of the Technical Expert Committees S-VYASA has come to the forefront. Now it's our greatest responsibility to take all these yoga related activities in the right direction and to the forefront to attain success, as done during International Day of Yoga (IDY) by creating two world records, and this could be attributed to the co-operations of all Yoga masters in our country. We are proud to place on record their vital contributions for the success and seek their continued co-operation, in all our future endeavors.

From the beginning S-VYASA is projecting Yoga as a Science of holistic living. Based on the teachings of Swami Vivekananda Jnana, Bhakti, Raja and Karma yoga are practiced as the 4 main streams of yoga along with little emphasis on the physical aspects of Yogasanas. The yoga that is practiced & taught is captioned as **Vivekananda Yoga**. Using the best of the Eastern wisdom base of India, based on traditional texts of yoga - Prasthanas

Traya (Shruti Prasthanas: Upanishads; Smriti Prasthanas: Bhagavadgita and Nyaaya Prasthanas; Brahma Sutras) as Jnana yoga; Patanjala yoga as Raja Yoga; Narada Bhakti approach in his Sutras as Bhakti Yoga; turning every action into yoga by adopting the secrets enunciated in Bhagavadgita and put forth by Swami Vivekananda (using the text of Karma Yoga sutra Shatakam authored by Swami Harshananda of Ramakrishna Mission). As mentioned by Swami ji, the modern scientific approach is adopted to make yoga socially relevant to resolve the challenges in the new era of science and technology. With 400 and odd research papers published in indexed journals, S-VYASA has emerged leader in the field of Yoga research all over the world. Being the leader, it's aimed to publish future research papers in top end journals as Lancet, etc, with a view to scale up the efforts to reap the benefits of Yoga to larger sections of the society the Stop Diabetes Movement (SDM) is initiated to make Madhumeha Mukta Bharat.

During June 21st to 28th nearly 1500 camps of SDM are conducted throughout India, catering to nearly 56000 people, The SDM model has been scaled up to reach more and more section of the society. Challenge now is to follow them up for the next one year including collecting and correlating data pertaining to 3rd, 6th and 12th month. Co-operation from all yoga institutions is requested in this endeavor. The glimpse of these camps is covered in this issue of Yoga Sudha.

■ *Dr H R Nagendra*



Indian Yoga Association (IYA) - MEMBERSHIP CAMPAIGN



Indian Yoga Association is a self-regulatory body of leading Yoga Institutions in India. IYA is having its Registered Office at New Delhi.

To bring up all the Yoga Masters and Teachers under single umbrella has started Membership Campaign.

For the Membership Form and other details please log on to www.yogaiya.in

Contact +91 98108 00689 | iyayog@gmail.com



ब्रह्मसूत्रम् (Brahmasūtram)

■ Prof. Ramachandra G. Bhat
Vice Chancellor
S-VYASA Yoga University, Bengaluru



वाक्यान्वयात् (ब्रह्मसूत्रम्-१-४-१५)

Vākyañvayāt (Brahmasūtram-1-4-15)

Meaning: *The Self to be seen, to be heard etc., is the Supreme Self on account of the connected meaning of the sentences.*

It is said in Maitribrāhmana of Brihadāranyaka - न वारे पत्युः कामाय पतिः प्रियो भवति ॥ The complete Upakrama goes as follows: ‘न वारे पत्युः कामाय पतिः प्रियो भवति । न वा अरे सर्वस्य कामाय सर्वं प्रियं भवति । आत्मनस्तु कामाय सर्वं प्रियं भवति । आत्मा वारे द्रष्टव्यः श्रोतव्यः मन्तव्यः निदिध्यासितव्यः । मैत्रेयी आत्मनः वा अरे दशनिन श्रवणेन मत्या विज्ञानेन इदं सर्वं विदितम् ॥”

As it is well known to all Vedānta seekers, this particular portion in the fourth chapter of Brihadāranyaka is very significant because it deals with very important part of Vedānta Darshana. Here the main context is the dialogue between husband and wife – Yajñavalkya and Maitreyi.

Maitreyi, a divine consort of Yajñavalkya got special insight about Vedānta. At one point of his journey when Yajñavalkya gave his whole property to two wives Katyayani and Maitreyi, Maitreyi asked this very pertinent question, namely, which has universal and permanent value. Her main query was whether she will be Amrita Syama (is it possible to become immortal if I acquired all these properties given by you). The answer to this is very important ‘अमृतत्वस्य तु न अशास्ति वित्तेन’ . Yajñavalkya says, “If you are in search of immortality, this property and all the rest cannot help you; you have to overcome and go beyond all these things”. The very important aspect is whatever we like here, one has a glimpse

of happiness since everywhere the permeating factor is Brahman. You may like something, for example, a flower, a smile of child or a tasty fruit or the company of noble and gentle people, saints, Mahatmas; wherever you have the sense of liking, you get a glimpse of the eternal bliss. In all cases, Brahman is permeating and all pervading, and hence Brahman alone manifests through fruits, flowers and entire nature. Even in this mundane world when you have the glimpse of divinity, that glimpse of bliss is none other than Sat-Chit-Ananda Brahma.

So ‘Sarvam Priyam Bhavati – Na va aree patyuh kaamaaya ’. A wife may like her husband, but it is not just because he is her husband. Anytime you like something, it is “आत्मनस्तु कामाय ।” ATMA is the all-pervading, which reflects on the objects of your likes - husband, children etc. If one analyses who a son is, he is nothing but biological outcome, a temporary entity who comes and goes. Why do you shower love only on your own daughter and son so much? One normally lives and dies for family members. It is for you. They are not just a bio outcome. A son or a daughter are not a mere bio - structure of you, they are divine manifestations. One should bring divinity in one’s relation to wife, children and to everything else so that one likes them. Any biogenesis is just a physical structure if the divine presence (ATMA) is not invoked and



installed. Divine expression, divine manifestation makes one always happy. In this context it may be said that everyone in this world likes or dislikes something or the other.

One should get wonderful insight from the statement - Aatmanastu KamAya sarvaM priyaM bHavati. The contextual question is "Who is Atma?" Normally in this chapter, samanvaya is the main word. Samanvaya means all these important statements taken from the upaniShads. They donate Brahman in a single voice unitedly, that is samanvaya.

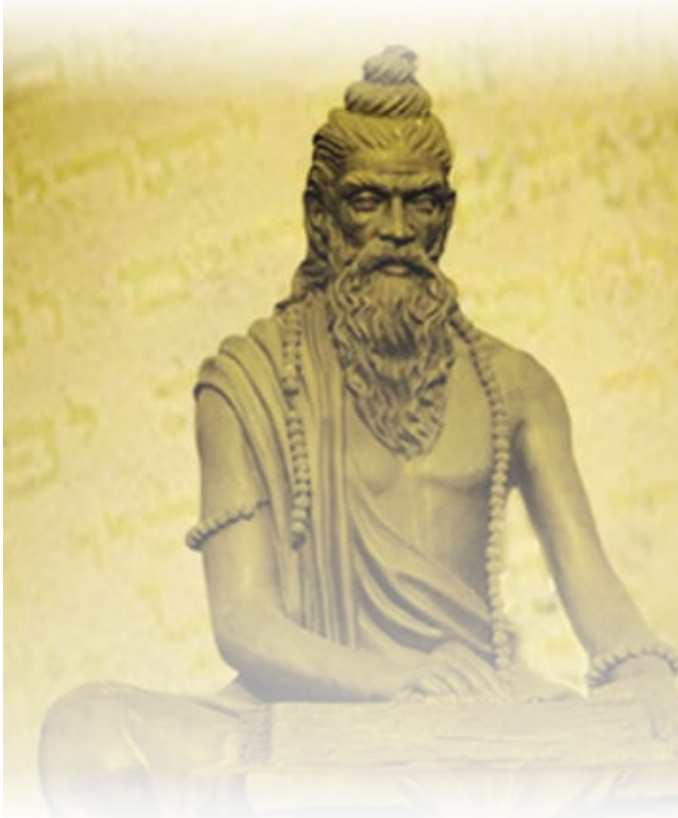
So here also this ATMA is not an ordinary individual soul, but universal. Maharshi Vyasa projects through this aphorism. Samanvaya means TATPARYA (intension). Yajnavalkya intends universal soul, not something individual, while using the word ATMA, which is the actual intention of this Adhikarana. But there are some statements in this context; इदमद्भूतं अनन्तं अपारं विज्ञानं घन एव एतेभ्यो भूतेभ्यो समुत्थाय. These worlds indicate the individual soul (Jivatma). The very reason for this discussion is that many sentences do not confirmed whether individual or universal is being referred to; hence the discussion takes place. Paramatma is the main thing because it is presented coherently in many contexts. Many statements say that it is a thing which is everything. It is not something, which is everything. It is not something has connectivity

with everything. It is everything expressing through something. So, the drum analogue is given here. That also indicates that this is the real; something very big, beyond that there is nothing. That is what is indicated here, so अस्य महतो भूतस्य निःश्वसितं एतत् ऋग्वेदः. Many such statements are quoted in the context from the same chapter. Therefore, Maharshi Vyasa states that the word ATMAN is used here in the sense of Brahman only. It is not an individual entity. Later on Vyasa presents other opinions, other schools of thoughts projected by different sages, such as Ashmarathya, Audulomi and Kashkritesna. Both Ashmarathya and Audulomi say the same; hence we cannot simply ignore and take ATMA as individual soul only. One might say that individual soul is important because it is the witness of all stages (Jāgrat, Svapna, Suṣupti and Turiya). However, the decision in this context is that the word ATMA means Universal, not individual soul, though there are different opinions from different scholars identified by VYASA. "The theory of omniscience by knowing only one" is advocated very firmly, all these statements confirm the idea that this entire chapter is dedicated to Brahma Vastu, but in a passing manner JIVATMA (individual soul) is also referred to in brief. Ultimately, the Individual entity is nothing but Brahman.

to be continued...

Recently, Holinesses
Jagadguru Shankaracharyas
Sri Sri Sri Bharati Tirtha
Mahasannidhanam
and Sri Sri Sri Vidhushekhara
Bharati Sannidhanam
of Sri Sharada Peetham, Sringeri
gave a visit to
Veda Vijnana Gurukulam
at Channenahalli, Bengaluru.
And gave their blessings.





ಪಾತಂಜಲ ಯೋಗಶಾಸ್ತ್ರ 15 ವಿಚಾರ ಶೂನ್ಯತೆ



■ ಶ್ರೀ ರಾಜೇಶ ಎಚ್.ಕೆ.
ಸಂಯೋಜಕರು ಹಾಗೂ ಸಹಾಯಕ ಪ್ರಾಧ್ಯಾಪಕರು
ಯೋಗ - ಅಧ್ಯಾತ್ಮ ವಿಭಾಗ
ಎಸ್-ವ್ಯಾಸ ಯೋಗ ವಿಶ್ವವಿದ್ಯಾಲಯ

ವಿತರ್ಕವಿಚಾರಾನಂದಾಸ್ಮಿತಾರೂಪಾನುಗಮಾತ್ ಸಂಪ್ರಜ್ಞಾತಃ

|| ಪ.ಯೋ.ಸು - 1.17 ||

ವಿತರ್ಕ, ವಿಚಾರ, ಆನಂದ, ಅಸ್ಥಿತಾ ಈ ನಾಲ್ಕು ವಿವಿಧ ಸ್ತರಗಳು ಸಂಪ್ರಜ್ಞಾತ ಸಮಾಧಿಯ ಸ್ವರೂಪವಾಗಿವೆ.

ಈ ಸೂತ್ರದಿಂದ ನಮಗೆ ತಿಳಿದುಬರುವುದೇನೆಂದರೆ ಅಭ್ಯಾಸ ಮತ್ತು ವೈರಾಗ್ಯಗಳೆಂಬ ಉಪಾಯದಿಂದ, ಸಾಧಕನು ತಾಮಸ ಮತ್ತು ರಾಜಸ ವೃತ್ತಿಗಳನ್ನು ಸಂಪೂರ್ಣ ನಿರೋಧಿಸಿದ, ಏಕಾಗ್ರತಾ ಸ್ಥಿತಿಯಲ್ಲಿರುವ ಪುರುಷನಿಗೆ ಸಬೀಜ ಅಥವಾ ಸಂಪ್ರಜ್ಞಾತ ಸಮಾಧಿಯ ವಿವಿಧ ಸ್ವರೂಪಗಳನ್ನು ನಿರ್ವಚಿಸಲಾಗಿದೆ.

ಸತ್ಯವು ಏಕ ಮತ್ತು ಅದ್ವಿತೀಯ. ಅವಿಭಾಜ್ಯವಾದುದು. ಅದು ಎಂದೂ ವಿಭಾಗಿಸಲ್ಪಡುವುದಿಲ್ಲ. ಆದರೆ ಈ ಸ್ಥಿತಿಯು ಸಂಪೂರ್ಣವಾಗಿ ಎಲ್ಲ ವೃತ್ತಿಗಳನ್ನು ನಿರೋಧಿಸಿ ಅಸಂಪ್ರಜ್ಞಾತ ಸಮಾಧಿಯ ಸ್ವರೂಪವನ್ನು ಅನುಭವಿಸುವವನಿಗೆ ಮಾತ್ರ, ಆದರೆ ಇನ್ನೂ ಸಾತ್ವಿಕ ಚಿತ್ತವೃತ್ತಿಯಲ್ಲಿರುವವನಿಗೆ, ಇನ್ನೂ ಮನಸ್ಸು ಅಸ್ತಿತ್ವದಲ್ಲಿರುವ ಸಾಧಕನಿಗೆ, ಆರಂಭದ ಸ್ತರದಲ್ಲಿ ಉಂಟಾಗುವ ವಿಭಿನ್ನ ಅನುಭವಗಳು ಮೇಲೆ ನಿರ್ವಚಿಸಿರುವಂತೆ ವಿತರ್ಕ, ವಿಚಾರ, ಆನಂದ, ಅಸ್ಥಿತಾ ಸ್ವರೂಪದಿಂದ ಕೂಡಿರುತ್ತದೆ. ಇಲ್ಲಿ ಮನಸ್ಸು ಶುದ್ಧ ಸ್ವರೂಪದಲ್ಲಿ ಧೈಯವಸ್ತುವಿನಲ್ಲಿ ನಿರಂತರ ತಾದಾತ್ಮ್ಯವಾಗಿರುತ್ತದೆ.

ಮನಸ್ಸಿನ ಸ್ವಾಭಾವವು ಚಂಚಲವಾದರೂ ಯಾವಾಗಲೂ ಅದು ಪೂರ್ಣತೆಯನ್ನು ಬಯಸುತ್ತದೆ. ಅಪೂರ್ಣವಾದಲ್ಲಿ ಅದು ಮತ್ತೆ ಮತ್ತೆ ಪೂರ್ವ ಸ್ಥಿತಿಗೆ ಎಳೆಯುತ್ತಿರುತ್ತದೆ. ಒಬ್ಬ ಕೃಷಿಕ, ಒಂದು ಮಗು, ಒಬ್ಬ ಚಿತ್ರಕಾರ, ಒಬ್ಬ ಕವಿ - ಕಾದಂಬರಿಕಾರ, ಒಬ್ಬ ಸಂಗೀತಗಾರ ಎಲ್ಲರು ಯಾವುದನ್ನು ಬಯಸುತ್ತಾರೋ ಅದು ಪೂರ್ಣವಾಗುವವರೆಗೆ ಪ್ರಯತ್ನವನ್ನು ಎಂದು ನಿಲ್ಲಿಸುವುದಿಲ್ಲ.

ಹೀಗಾಗಿ ಕೈವಲ್ಯದ ಗುರಿ ಇರುವವನಿಗೆ, ಅಂತಿಮ ಸ್ಥಿತಿ ತಲುಪುವವರೆಗೆ ಎಲ್ಲವೂ ಅಪೂರ್ಣವೆ. ಒಂದು ವೇಳೆ ಲೌಕಿಕ ಮಾರ್ಗವಾದರೆ ಅದು ಸಂಸಾರ ಬಂಧನಕ್ಕೊಳಪಡುತ್ತದೆ. ಇಲ್ಲವಾದಲ್ಲಿ ಮೋಕ್ಷಕ್ಕೂ ಕಾರಣವಾಗುತ್ತದೆ. “ಮನ ಏವ ಮನುಷ್ಯಾಣಾಂ ಕಾರಣಂ ಬಂಧಮೋಕ್ಷಯೋಃ”

ಮಹರ್ಷಿಗಳ ಪ್ರಕಾರ ಸಮಾಧಿಯೋಗವು ಸಂಪ್ರಜ್ಞಾತ ಮತ್ತು ಅಸಂಪ್ರಜ್ಞಾತ ಎಂದು ಎರಡು ವಿಧವಾಗಿದೆ. ಸ್ಥೂಲಸ್ತರದಲ್ಲಿ ಮನಸ್ಸು ಯಾವಾಗಲೂ ಬಹಿರ್ಮುಖವಾಗಿರುತ್ತದೆ. ಕಾರಣ ಮನಸ್ಸು ಸಹ ಒಂದು ಇಂದ್ರಿಯವೇ. (ಮನಃ ಷಷ್ಠಾನೀಂದ್ರಿಯಾಣಿ... ಭ.ಗೀತಾ 15.7) ಇಂದ್ರಿಯಗಳ ಸಹಜ ಸ್ವಭಾವ ಬಾಹ್ಯ ವಿಷಯಗಳನ್ನು ಅನುಸರಿಸುವುದು. ಹೀಗೆ ಬಹಿರ್ಮುಖವಾಗಿರುವ ಮನಸ್ಸನ್ನು ಮತ್ತೆ ಮತ್ತೆ ಧೈಯವಸ್ತುವಿನೆಡೆಗೆ ಹರಿಸುವ ಮೂಲಕ ಈಶ್ವರನ ಸ್ವರೂಪವು ಯಾವುದೇ ಸಂಶಯ ಮತ್ತು ಮಿಥ್ಯಾಜ್ಞಾನಗಳಿಲ್ಲದೇ ಅರಿಯಲ್ಪಡುತ್ತದೆ. ಈ ರೀತಿಯ ಸಮಾಧಿಯನ್ನು ಸಂಪ್ರಜ್ಞಾತ ಸಮಾಧಿಯೆಂದು ಹೆಸರಿಸಲಾಗಿದೆ. ಈ ಅರಿಯುವ ಪ್ರಕ್ರಿಯೆಯಲ್ಲಿ ಉಂಟಾಗುವ ಭೇದಗಳು ನಾಲ್ಕು ರೀತಿಯದ್ದಾಗಿರುತ್ತವೆ ಎಂದು



ಸೂತ್ರದಿಂದ ತಿಳಿದುಬರುತ್ತದೆ. ಈ ಭೇದಗಳೇ ಸಂಪ್ರಜ್ಞಾತ ಸಮಾಧಿಯ ವಿವಿಧ ಸ್ತರಗಳು.

ಈ ಭೇದಗಳಿಗೆ ಕಾರಣ ಮನಸ್ಸಿನ ಅಸ್ತಿತ್ವ ಎಲ್ಲಿಯವರೆಗೆ ಮನಸ್ಸಿನ ಅಸ್ತಿತ್ವವಿರುತ್ತದೋ ಅಲ್ಲಿಯವರೆಗೂ ಈ ವಿಭಿನ್ನ ಅನುಭವವನ್ನು ಮೀರಿ ಮುಂದಿನ ಸ್ಥಿತಿಯನ್ನು ತಲುಪಲು ಅಸಾಧ್ಯ. ಹಠಯೋಗದಲ್ಲಿ ಸ್ವಾತ್ತಾರಾಮರು ಹೇಳುವಂತೆ **ಅಮನೀಭಾವ** (ಅಂದರೆ ಮನಸ್ಸು ಅ-ಮನವಾಗುವುದು) ಉಂಟಾಗುವವರೆಗೆ ನಿರ್ಬೀಜ ಅಥವಾ ಅಸಂಪ್ರಜ್ಞಾತ ಸಮಾಧಿಯು ಕಷ್ಟಸಾಧ್ಯ. ಮೇಲಿನ ನಾಲ್ಕೂ ರೀತಿಯ ಸಮಾಧಿ ಭೇದಗಳಿಗೆ ಕಾರಣ ಮನಸ್ಸಿನ ಅಸ್ತಿತ್ವ ಹಾಗಾಗಿ ಸಬೀಜ ಸಮಾಧಿಯು ಸವಿತರ್ಕ, ಸವಿಚಾರ, ಸಾನಂದ ಮತ್ತು ಸಾಸ್ಥಿತಾ ಎಂಬ ವಿಭಿನ್ನ ಸ್ವರೂಪದಿಂದ ಕೂಡಿದೆ.

ಇದನ್ನೇ ಭೋಜರಾಜನು ತನ್ನ ಯೋಗಸೂತ್ರ ವೃತ್ತಿಯಲ್ಲಿ ಕೆಳಗಿನಂತೆ ನಿರ್ವಚಿಸಿದ್ದಾನೆ.

ಸಮ್ಯಕ್ ಸಂಶಯವಿಪರ್ಯಯರಹಿತತ್ವೇನ ಪ್ರಜ್ಞಾಯತೇ ಪ್ರಕರ್ಷೇಣ ಜ್ಞಾಯತೇ ಭಾವ್ಯಸ್ಯ ಸ್ವರೂಪಂ ಯೇನ ಸ ಸಂಪ್ರಜ್ಞಾತಃ ಸಮಾಧಿಭಾವನಾವಿಶೇಷಃ ||

ಮನಸ್ಸು ಯಾವುದನ್ನೂ ಇದ್ದ ಹಾಗೆ ಸ್ವೀಕರಿಸುವುದಿಲ್ಲ. ವಿಚಾರ ತರ್ಕಗಳಿಲ್ಲದೆ ಅಂತಿಮ ಸ್ವೀಕಾರ ಅಸಾಧ್ಯ. ಆದರೆ ಒಮ್ಮೆ ವಿಚಾರದ ಮೂಲಕವಾಗಲಿ ಅಥವಾ ತರ್ಕದ ಮೂಲಕವಾಗಲಿ ಪೂರ್ಣಸ್ವೀಕಾರವಾದ ನಂತರ ಮತ್ತೆ ಮತ್ತೆ ಹಳೆಯ ವಾಸನೆಗಳಿಗೆ ಅಂಟಿಕೊಳ್ಳದೆ ತನ್ನ ಅಸ್ತಿತ್ವವನ್ನು ಪೂರ್ಣ ಕಳಚಿಕೊಂಡು ಮುಂದಿನ ಸ್ಥಿತಿಯನ್ನು ಅವಚಿಕೊಳ್ಳುತ್ತದೆ. ಸ್ವಾಮಿ ವಿವೇಕಾನಂದರ ಅಥವಾ ಯಾವುದೇ ಮಹಾಪುರುಷರ ಜ್ಞಾನಾನುಭವದ ಪೂರ್ವ ಸ್ಥಿತಿಯನ್ನು ಅವಲೋಕನ ಮಾಡಿದಾಗ ಈ ರೀತಿಯ ವಿತರ್ಕ, ವಿಚಾರಗಳ ಮೆಟ್ಟಿಲುಗಳನ್ನು ಹತ್ತಿಯೇ ಮೇಲುಮೇಲಿನ ಮೆಟ್ಟಿಲುಗಳನ್ನು ಏರಿ ಎಲ್ಲ ಮೇರೆಗಳನ್ನು ಮೀರಿ ಮಹದಾನಂದದಲ್ಲಿ ಒಂದಾಗಿದ್ದಾರೆ. ಈ ರೀತಿಯಲ್ಲಿ ಪತಂಜಲಿಗಳು, ಪ್ರತಿಯೊಬ್ಬ ಸಾಧಕನನ್ನು ಕೆಳಸ್ತರದಿಂದ ಉನ್ನತ ಸ್ತರಕ್ಕೆ ಕೊಂಡೊಯ್ಯಲು ವೈಚಾರಿಕತೆಯ ನೆಲೆಗಟ್ಟಿನಲ್ಲಿ ತರ್ಕವನ್ನು ಬಳಸಿ ಆನಂದ ಮತ್ತು ಅಸ್ತಿತ್ವಗಳ ಅನುಭವವನ್ನು ಪಡೆಯಲು ಅತ್ಯಂತ ವೈಜ್ಞಾನಿಕ ಮಾರ್ಗವನ್ನು ಅನುಸರಿಸಿದ್ದಾರೆ.

ನಾವು ಹಠಯೋಗ ಮತ್ತು ಪಾತಂಜಲ ಯೋಗಮಾರ್ಗಗಳನ್ನು

ಅವಲೋಕನ ಮಾಡಿದಲ್ಲಿ ಸ್ಪಷ್ಟವಾಗಿ ತಿಳಿಯುವುದೇನೆಂದರೆ ಆರಂಭದ ಹಂತದ ಸಾಧಕರಿಗೆ ಯಮನಿಯಮಾದಿಗಳನ್ನು ಪೂರ್ಣ ಅಭ್ಯಸಿಸಲು ಕಷ್ಟಸಾಧ್ಯ. ಹೀಗಾಗಿಯೇ ಹಠಯೋಗ ಮಾರ್ಗ ಸಾಮಾನ್ಯರಲ್ಲಿ ಸಾಮಾನ್ಯನು ಅಭ್ಯಾಸಮಾಡಲು ಅನುವಾಗುತ್ತೆ ಸ್ವಾತ್ತಾರಾಮಾದಿ ಹಠ ಸಾಧಕರು ರೂಪಿಸಿದ್ದಾರೆ. ಶರೀರ ಶುದ್ಧಿ, ವಿವಿಧ ಆಸನಗಳು, ಪ್ರಾಣಾಯಾಮ, ಬಂಧ-ಮುದ್ರೆಗಳು ಮತ್ತು ನಾದದ ಅನುಸಂಧಾನ ಇತ್ಯಾದಿ... ಈ ರೀತಿಯಲ್ಲೇ ಸಂಪ್ರಜ್ಞಾತ ಸಮಾಧಿಯು ಪತಂಜಲಿಗಳಿಂದ ನಿರ್ವಚಿಸಲ್ಪಟ್ಟಿದೆ. ಸಾಮಾನ್ಯ ಸಾಧಕರಿಗೆ ಪ್ರಾರಂಭದಲ್ಲಿ ಚಿತ್ತವನ್ನು ಧ್ಯೇಯವಸ್ತುವಿನಲ್ಲಿ ಅಥವಾ ಈಶ್ವರನಲ್ಲಿ ಕೇಂದ್ರೀಕರಿಸುವುದು ಅಸಾಧ್ಯ. ಈ ಕಾರಣದಿಂದಾಗಿ ಮುಂದುಮುಂದಿನ ಸಮಾಧಿಯ ಸ್ತರಗಳ ಅನುಭವವು ಅಲಭ್ಯ. ಹೀಗಾಗಿ ಸ್ಥೂಲ ಆಲಂಬನದಿಂದ ಆರಂಭಿಸಿ ಸೂಕ್ಷ್ಮ ಸ್ತರಕ್ಕೆರಲು ವಿತರ್ಕದಿ ಸಮಾಧಿಗಳನ್ನು ಕ್ರಮವಾಗಿ ಹೇಳಲ್ಪಟ್ಟಿದೆ.

ಪ್ರಾರಂಭದಲ್ಲಿ ಮೂರ್ತ ಕಲ್ಪನೆಯಿಂದ ಆರಂಭಿಸಿ ಅಮೂರ್ತವನ್ನು ನಿರಂತರ ಧ್ಯಾನದ ಮೂಲಕ (ಸ್ಥೂಲದಿಂದ ಸೂಕ್ಷ್ಮ) ಎಲ್ಲ ದೋಷದರ್ಶನದಿಂದ ಉಂಟಾಗುವ ರಾಗಾದಿಗಳನ್ನು ವರ್ಜಿಸಿ ನಿರಾಕಾರ ನಿರ್ಗುಣ ಸ್ಥಿತಿಯಾದ ಕೈವಲ್ಯವನ್ನು ಪಡೆಯುತ್ತಾನೆ. ತೀವ್ರ ಸಾಧನೆಯಲ್ಲಿರುವ ಸಾಧಕರಿಗೆ ಒಂದು ವೇಳೆ ಈಶ್ವರಾನುಗ್ರಹದಿಂದ ಕೈವಲ್ಯ ಪ್ರಾಪ್ತಿಯಾದರೆ ಪುನಃ ಪೂರ್ವ ಭೂಮಿಕೆಗಳಾದ ಸಂಪ್ರಜ್ಞಾತ ಸಮಾಧಿಯನ್ನು ಅಭ್ಯಾಸ ಮಾಡುವ ಅಗತ್ಯವಿರುವುದಿಲ್ಲ.

ಧ್ಯೇಯವಸ್ತುವಿನ ಅಂದರೆ ಈಶ್ವರನ (ಪರಮಾತ್ಮ) ಸ್ವರೂಪಾಲಂಬನವು ಸ್ಥೂಲವಾಗಿದ್ದಲ್ಲಿ (ರೂಪಾತ್ಮಕ-ಕ್ರಿಯಾತ್ಮಕ-ನಾದಾತ್ಮಕ) ಅದು ಸವಿತರ್ಕ ಸಮಾಧಿಯೆನಿಸುವುದು. ಈ ರೂಪ-ಕ್ರಿಯೆ ಹಾಗೂ ನಾದದ ಅನುಸಂಧಾನವು ಸೂಕ್ಷ್ಮವಾದಷ್ಟು ಸವಿಚಾರವಾಗುವುದು. ಇವುಗಳಲ್ಲದೆ ಅಂತಃಕರಣವು (ಮನಸ್ಸು-ಬುದ್ಧಿ-ಅಹಂಕಾರ ಮತ್ತು ಚಿತ್ತ) ಆಲಂಬನವಾದಾಗ ಆನಂದ ಸಮಾಧಿಯೆನಿಸುವುದು. ಈ ಎಲ್ಲವನ್ನು ಅಂದರೆ ದೇಹ-ಇಂದ್ರಿಯಗಳ ಅಸ್ತಿತ್ವವನ್ನು ಮೀರಿ ಅನುಭವವೇ ಭೂಮಿಕೆಯಾದಾಗ ಅದು ಸಾಸ್ಥಿತಾ ಸಮಾಧಿಯಾಗುವುದು. (ಇವುಗಳ ಪ್ರತ್ಯೇಕ ವಿವರಣೆಗಳನ್ನು ಮುಂದಿನ ಸಂಚಿಕೆಯಲ್ಲಿ ವಿವರಿಸಲಾಗುವುದು)

ಅನಿಸಿಕೆಗಳನ್ನು rajesh.hk@gmail.com ಗೆ ಬರೆಯಿರಿ.

(ಸಶೇಷ)



Recently, Yogi Protoplasm Parama Pujya Swami Prajnaranyaji Maharaj Disciple of Ramana Maharishi and Yogi Rama organised Atma Parishodhana Yoga Sadhana Saptahah in Prashanti Kutiram.



NIMHANS, Bengaluru



Mysore Palace
Mysore



Centre for Yoga Therapy, Education and Research (CYTER) at Mahatma Gandhi Medical College & Research Institute, Pondicherry



International Day of Yoga

Coverage - II



Portuguese Yoga Confederation (PYC), Portugal



Melbourne, Australia
Organised by
Vasudeva Kriya Yoga



Madhumeha Mukta Bharat Yoga Saptaha Report



Valedictory Program of Madhumeha Mukta Bharat Yoga Saptaha. Chancellor Dr. H R Nagendra, Union Minister of Health and Family Welfare, Shri JP Nadda ji, Arogyadhama CMO Dr. R Nagarathna - *can be seen*

Madhumeha Mukta Bharat (MMB) is one of the important mission initiatives of VYASA Bengaluru, Technical support by S-VYASA Yoga University Supported by Arogya Bharati and Indian Yoga Association to spread awareness about diabetes and preventing diabetes among the Indians across the country for the well-being of the nation, using ancient holistic approach by Yoga. It is ambitious movement to prevent India becoming "Diabetes capital of the World".

Suggested by our Prime Minister, Shri Narendra Modi ji and supported by 177 member countries, June 21st has been declared as the "International Day of Yoga" by United Nations Organizations (UNO). On this occasion, Yoga Saptaha was planned where Yoga camps for prevention

and Management of Diabetes were organized throughout country covering around 600 districts.

All India Review Meeting was held at Dinadhyaal Research Institute, New Delhi on 12th and 13th July, 2015 where all state coordinators were invited to detail the activity report of Yoga Saptaha and to discuss for further action plan.

Review meeting started with the introductory talk of Dr. Ashok Varshney, The joint secretary of MMB. Dr. D Kartikeyan graced the inaugural session. All state coordinators detailed achievements in their region. It was a huge success during Yoga Saptaha to execute around 1500 camps successfully benefitting around 60,000 participants. Ministry of Health



DIVISION OF YOGA & LIFE SCIENCES

Prant	Diabetic	Pre Diabetics	Male	Female	Total	Proposed Camps	Actual Camps completed	Camps planned further
Kerala	1665	577	1357	885	2242	150	122	50
South Tamilnadu	1257	-	-	-	1257	27	46	
North Tamilnadu	-	-			4875	100	172	
Karnataka South			2023	1905	3928	200	138	70
Karnataka North					1341	60	41	10
Telangana	-	-	-	--	650	16	16	4
Andhra Pradesh	629	742	938	433	1371	50	32	
Kokan					4500	170	110	
West Maharashtra						40	22	
Devgiri			86	51	137	10	6	
Vidarbh			232	133	364	19	5	10
Gujarat			3221	1148	4369	101	69	
Malawa	780	346	1176	585	1761	53	48	
Madya Bharat	378	149	523	195	718	10	17	
Mahakoushal	1773	176	1576	393	1969	41	30	
Chhattisgarh			532	90	622	40	20	
Chittod								
Jaipur	900	115	755	250	1015	20	20	
Jodhpur			998	353	1351	38	30	
Delhi	539	867	1227	179	1406	31	31	
Haryana	4730	4100	6200	2630	8830	140	162	
Punjab					3243	112	67	
Himachal Pradesh					1358	47	33	
Jammu Kashmir	197	361			558	17	16	5
Uttranchal			225	155	380	22	9	
Meerut			1400	256	1656	35	32	
Braj			2194	379	2573	20	25	
Kanpur								
Awadh			234	44	278	24	6	
Kashi	650	99	583	166	749	30	19	17
Goraksh								
North Bihar					40	35	2	
South Bihar					700	22	14	
Jharkhand					472	30	10	
North Bang					173	15	6	
South Bang	138	254	216	176	392	8	13	
East Orissa					556	84	25	
West Orissa					243	35	9	
North Assam								
Arunachal					124	6	3	
South Assam								
Manipur								
Tripura								



and Family Welfare sponsored the blood tests for around 20,000 participants and has promised to provide the same during follow up of one year.

It was privilege to have guidance from Hon'ble Shri Bhaiyya ji Joshi, General Secretary of The Rashtriya Swayamsevak Sangh. He encouraged all coordinators to follow up the participants attended the camps during Yoga Saptaha till next International Day of Yoga. He encouraged forming local teams at all the camp venues to spread the awareness in that particular area. All coordinators have agreed for the same.

The main action plan after the discussion was to follow up all the participants for the one year. Assessments will be repeated in the last week of September, 2015. Next National Review meeting is planned on 6th and 7th October, 2015 at Prashanti Kuteeram, Bangalore.

In the valedictory session, Hon'ble Cabinet



Address by Union Minister of Health and Family Welfare, Shri JP Nadda ji

Minister of Health and Family Welfare, Shri JP Nadda ji graced the occasion. He appreciated the efforts of all volunteers of VYASA and Arogyabharati. He extended his support for any sort of data collection needed during the follow up. Shri Ajit Mohapatra, General Secretary (Organizational) of MMB addressed during valedictory session mentioning the need of developing more and more yoga teachers. Overall, it was a huge success during the first phase of MMB creating strong platform to move ahead for preventing India to become "Diabetes Capital of the World". ■



Recently, Guruji & Joint Director of (R&D) Dr. Manjunath N K visited OM Ashram at Jadan, Pali Distr., Rajasthan



Breathing Problems, Fear and Suffocation Panic Episodes A Yogic Approach at Alleviation

■ Sri D Ramesh*

I suffer from COPD. I used to get Suffocation Panic Episodes fairly often. Apart from my own very dear physician and well wisher, Dr. B G Baliga, I have had the privilege of being cared for by the eminently qualified allopathic doctor and a great yoga expert and deep vedantin, Dr. R. Nagarathna. (She is so far evolved spiritually that I would be a Neanderthal in comparison!).

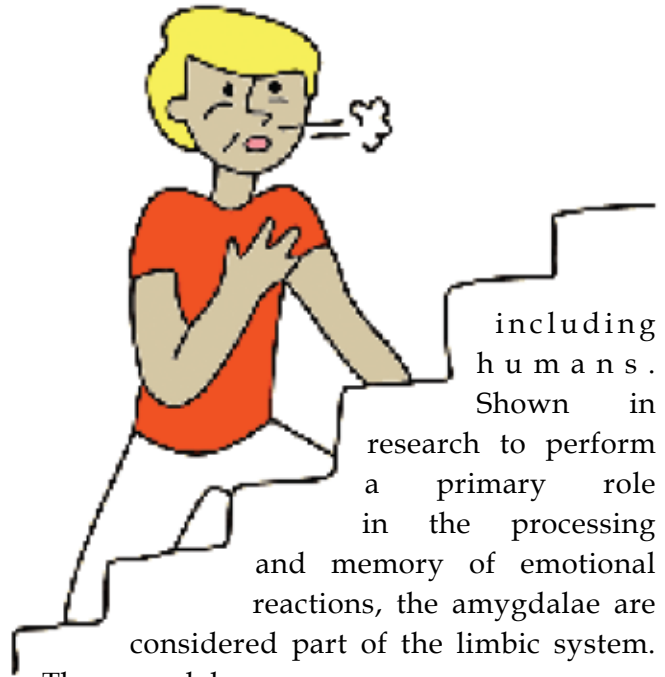
2. After caring for me in one of my suffocation panic episodes, she advised me to try and collect information on Fear and COPD, and prepare some material which could be useful to me and, perhaps, other patients of the disease. The following is an attempt, however inadequate, at that.

A. What is Fear?

3. The Concise Oxford Dictionary defines Fear as “an unpleasant emotion caused by the threat of danger, pain or harm”. We must note here, carefully, that it is NOT the danger itself but the threat of (future) danger that can cause fear.

4. While surfing the internet for previous research done on Fear, the following came up: “Fear is an unpleasant feeling of PERCEIVED risk or danger, whether it be real or imagined. For, fear can also be described as a feeling of extreme dislike towards certain conditions, objects, people, or situations such as, fear of darkness, fear of ghosts, etc. It is one of the basic emotions and is linked heavily to the ‘AMYGDALA NEURONS’.

5. The amygdalae are almond-shaped groups of neurons located deep in the medial temporal lobes of the brain, in complex vertebrates



including humans. Shown in research to perform a primary role in the processing and memory of emotional reactions, the amygdalae are considered part of the limbic system.
The amygdalae:

- i. send impulses to the hypothalamus for activation of sympathetic nervous system to the reticular nucleus for the increased reflexes,
- ii. To the nuclei of the trigeminal nerve and facial nerve for facial expressions of fear, and,
- iii. to the ventral tegmental areas for activation of chemicals like dopamine, norepinephrine and epinephrine.

* At the insistence and under the guidance of Dr.R.Nagarathna, MD, FRCP, FICA. My familiarity, however peripheral, of the vedantic thoughts were gained in VYASA hearing the talks by very deeply knowledgeable persons and, at the feet of our Guru Phanirajji and Dr.HR Rama.



6. Fear inside a person has different degrees and varies from person to person. If not properly handled, fear can lead to social problems. People who experience intense fear have been known to commit irrational and/or dangerous acts.

7. Some philosophers have considered fear to be a useless emotion. Other thinkers note the usefulness of fear as a warning of potentially unpleasant situations or consequences. Bertrand Russel says, "Neither a man nor a crowd nor a nation can be trusted to act humanely or to think sanely under the influence of a great fear". The experiences such as the earthquake in Lattur (Maharashtra) and Kutch(in Gujarat), or the Tsunami affecting Indonesia, Sri Lanka and India, the 9/11 bombings in the USA, are all fairly recent examples of events causing severe fear in the populace.

8. In this connection, it is interesting to note the importance that is given to Fear in Hindu philosophy and mythology. While the belief is in only one God in 'Hinduism', He can have manifestations. Every manifestation of God (Siva, Vishnu, Brahma, Lakshmi, Saraswati, Ganesha. et al) have the Abhaya Mudra (posture :right hand held at right angles to the wrist, palms facing the supplicant, fingers all joined):this assures the supplicant freedom from Fear!

B. What is Copd?

9. COPD, or, Chronic (continual, permanent, incurable) Obstructive (blocked) Pulmonary (pertaining to the lungs) Disease (condition with signs and symptoms) is a disease that encompasses one or more of the following:

10. Emphysema, which can best be characterized as the progressive destruction of the grape-like sacs that fulfill the basic function of the lungs viz., exchanging the oxygen in the air for carbon di oxide in the cardiovascular system. Emphysema is the chief culprit in COPD.

11. Chronic Bronchitis is a first stop toward impending emphysema/COPD. It often results from 'ordinary' chest infections (colds, flu). It

is also a result of heavy smoking. Persons with chronic bronchitis know that every, or almost every, cold they get will 'go straight to the lungs'. With proper care, it need not lead to COPD. In a COPD patient, chronic bronchitis contributes to the repulsive phlegm that is spat up regularly. Chronic Asthma is the third constituent of COPD. Not all COPD patients have asthma but most of the asthmatic have COPD.

12. Symptoms vary somewhat from one person to another. However, most of them have experienced most of these:

- i. shortness of breath after normal-to-light exertion is an important sign and something that needs medical attention.
- ii. lingering or constant cough. If a cough lingers long after a lung infection has cleared up, something is wrong.
- iii. A history of lung problems, chest colds that do not clear up like they do for most others but linger
- iv. One or more of the family members have been diagnosed with emphysema.
- v. Perhaps the family carries the gene responsible for Alpha 1 Antitrypsin
- vi. deficiency which is a brand of emphysema brought on by an enzyme deficiency and which may be contracted even if the patient has never smoked.

13. It must be clearly noted, however, that persons with COPD can most certainly lead positive, fulfilling lives. How they handle the disease, and its effects, is very important. If they sit back and let it take charge, then it will.





They may decline rather rapidly, their spirits suffer and even normal activities become major hurdles. However, if they take charge, they can dramatically affect the progress of the disease, learn that they can still lead quality lives, and be proud. Whatever the stage of the disease, this simple approach can make an important difference. Such very useful information as expounded in Vedanta (some of these are discussed later) and also given on the Website of the Canadian Lung Association is just the beginning. But through them, one can start the journey to improve one's life and spirits in a significant way. There are also other excellent COPD sites on the net.

14. COPD has no single definition. It is a disease of the lungs. It is caused by the blockage of the airways in the lungs. COPD refers to a number of chronic lung disorders. Asthma is not usually considered a form COPD because 'pure' Asthma symptoms can be reversed. COPD is permanent.

15. Here, I must point out that Dr.Nagarathna, who is a very eminently qualified Allopath, totally disagrees that COPD is 'not reversible' or that 'it cannot be cured'. She bases her objection on the additional colossal knowledge she has of yogic theory and practices which are themselves a product of Vedanta.

16.1. The most common form of COPD is a combination of chronic bronchitis and emphysema. Chronic bronchitis occurs when the airways in the lungs have become very narrow

and partly clogged with mucus.

16.2 Chronic bronchitis is the presence of cough and sputum for more than three months for two consecutive years. If, additionally, there is airways obstruction, COPD is indicated. Emphysema occurs when some of the air sacs deep in the lungs have been damaged. It is an enlargement and destruction of the alveoli (air sacs) in the lungs

16.3 When the bronchi become irritated, the normal elasticity of air sacs and the walls of the airways are destroyed. Persons with emphysema need to forcefully blow the air in order to empty the lungs. Forcing the air out in this way puts pressure on the airways from outside, compresses them and causes them to collapse. The walls of the tiny air sacs may even tear. Excessive coughing may cause the airways to collapse as well.

16.4 Because the walls of the air sacs are destroyed, there is less surface area available for the gas exchange (oxygen and carbon dioxide, etc). Damage to the air sacs in the lungs not only results in difficult breathing but the heart also has to work harder to circulate blood through the lungs. This usually results in the blood pressure shooting up. All the changes make less oxygen available to the body. Environmental pollution can also worsen COPD symptoms. Air pollutants can irritate the bronchial tubes, causing coughing, wheezing and shortness of breath. In my own case, the smell of furniture polish or paints can bring about severe shortness of breath; similarly smoke of any kind (including of the ritualistic 'homa') can bring about the same result.

C. Interaction between Fear and Copd

17. Likes and dislikes which develop in the minds of men depend on their past experiences. Such experiences could be first hand or could be experiences learnt from others. Thus, for example, a person brought up in a wholly vegetarian family may dislike eating what he thinks is not vegetarian food. This applies to all



kinds of experiences that can be 'sensed' by the five sense organs or the mind itself. Memories of past experiences through whichever of the five sense organs, for instance, are sensed by the mind. Each experience is then classified as a Like or Dislike (raga or dvesha) type. The mind will want to experience the liked experiences repeatedly while it strives to avoid the disliked ones. This activity of the mind is guiding the whole behaviour or the individual, vis a vis the world outside him, is the most important element is what the person does or does not do. This is what will make a 'good' or 'bad' man for he others. This aspect of the activity of the mid is repeatedly referred to in the ancient Indian philosophy, the Vedanta.

18. The experience of shortness of breath in a COPD patient is, indeed, disliked by him. He hates that experience and has developed a deep fear of its repeating. The inability to breathe, a deep sense of helplessness, and the fear of death, combine to make the experience a dreaded one. This is the 'suffocation alarm' episode which destroy the self confidence and positive attitude to like in the sufferer. When the episode is lived in the mind repeatedly, one can imagine what is its effect should be on his mind.

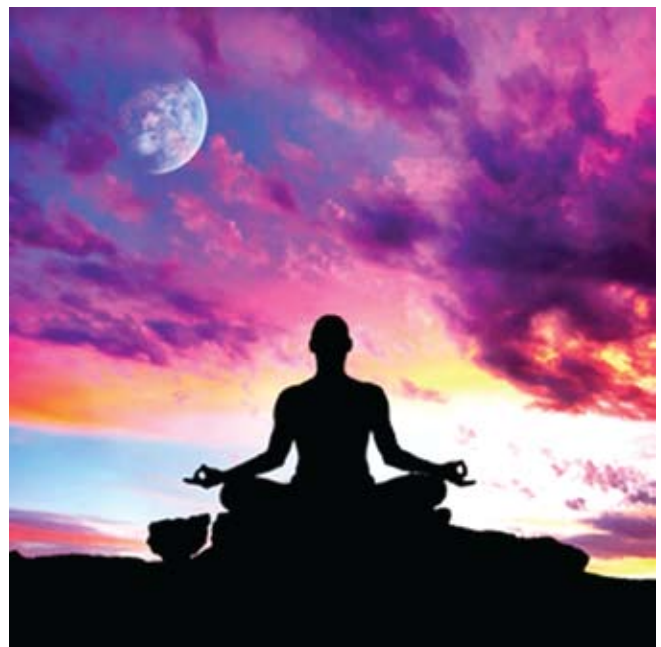
19. It is moot that this fear of the disliked experience repeating itself is creating more misery in the mind of the patient than perhaps the experience itself. Painful experiences are perhaps, etched sharper in the mind than the other experiences and perhaps, sharper than the experiences themselves!

20. Thus, the fear that develops in anticipation of an event is constant and growing WHILE THE EXPERIENCE ITSELF MAY OR MAY NOT BE RFEPEATED. Even if repeated, it may not be as bas as the ANTICIPATED suffering. Admittedly, these observations are a priori, though based on the personal experiences of the writer, as well as those others who shared their (similar) experiences with him. It is thus evident that treating the element of fear in the mind of the patient is as important as 'treating' COPD itself.

21. It is very relevant, in this context, to see what yoga/Vedanta say. Apart from the gross physical body, an individual has the subtler mind and intelligence and still subtler Atman (Soul). But in everyday life, almost all humans wholly identify themselves with their physical bodies. Their mental peace and harmony as also spiritual happiness is dictated by the state and condition of their physical body. Yoga/vedanta repeatedly remind that you are not the body while happiness or bliss is your real nature. The concept seems simple enough but very difficult, if not impossible, to practice. However, even today there are many (in different professions) who are able to practice this precept.

D. Yoga, Fear and Copd

22. Suzie Hurley, in her very interesting article on 'Yoga in the Age of Fear' (seen on the internet) describes the very impressive difference in the attitudes of persons who had practices yoga for a fairly long period and those who had not, to the notorious 9/11 bombings in New York. Teaching yoga one night after that event, she noticed that attendance was much less than the normal The next evening she asked the students as to how many of them had seriously thought about not coming to class that evening because of the tense situation. Almost all of her Yoga 1





students raised their hands. Her following class was Yoga 3, many of whom had been studying yoga for years and had a strong home practice and devotion to the subject. When she asked them, she remembers that only one person raised his hand! How then does yoga help us to learn not to live in fear?

23. She writes, "Yoga has something to say about living in fear. Ultimately the yogic path is about recognizing our own divine nature, directly experiencing in our normal everyday lives that we and the Divine are One. It is the merging of our own individual consciousness with that of the Divine, in whatever form one chooses to see and experience the Divine. Yoga tells us that in order for this to happen, we must do several things: we first must practice diligently and with devotion (abhyasa). "Practice" refers to saadhana or spiritual practices, asana and pranayama which prepare us for the practice of meditation. Second, we must step back from the gain perspective on the ego's agenda., meaning not getting swept up in the entanglement of desire. Practicing non-attachment is called vairaagya. We must hang out with conscious, loving, generally positive people (satsanga). The two major texts of Yogic philosophy, the Bhagavadgita and the Sutras of Patanjali each have wonderful teachings on fear. The Gita is very clear that unattachment does not mean living without passion. It states clearly that we must do our duty, including fighting for just causes when necessary and right. The path of the yogi is not passive. What we are also called to do, however, the Gita tells us, is to release the fruits of those actions, not an easy task by any means. (Actually, accept whatever results accrue as the grace of God, whether the results are more or less than what was expected). It teaches us to step into our fears but with non-attachment to the results. "He from whom the world does not shrink, and who does not shrink from the world, who is freed from joy, envy, fear and distress is dear to me".

24. The sutras of Patanjali tell us that there are five main obstructions (kleasas) or struggles on the spiritual path. The fifth is fear of loss

or death (abhivinesha). This includes the fear of the familiar coming to an end, fear of losing what one has, fear of the effects of a disease, the fear of annihilation, of ceasing to be. Of the 108 sutras, only three address the posture (asanas) of yoga. All the remaining sutras deal with the nature of the mind. The first of these three says the posture should be steady and comfortable. The second says that it is accompanied by the relaxations of tension and the coinciding with the infinite. And the third states that when the first two have been achieved, the pairs of opposites (happiness-sorrow, heat-cold, honour-dishonour, profit-loss, etc) cease to have an impact. In other words, we go beyond our fear of death, we lose the vulnerability to fear, to outward circumstances. Instead, we find stability and freedom from the fruits of our practice.

25. We have a clear choice in responding to fear. We can acknowledge our fears, both external and those within us, accept what is there as difficult as it may be, and consciously choose to skillfully step into those fears as very best as we can. This means embracing our fears, in order to lessen their paralyzing grip on us. This means choosing Love over Fear. Every decision basically comes down to this: do I choose Love or fear?

26. Incidentally, several websites and support groups are available on the Internet to exchange ideas regarding COPD. The Canadian Lung Association website gives very good and simple methods of carrying out daily chores in an easier way.: how to breathe and get over suffocation episodes while sitting, or while walking on the road, how to take your bah without becoming very short of breath, how to get into and out of your car, how to handle the chores in the kitchen, etc. These may be referred to and followed by those who find it useful . I did and I do. I share some of the practices (from the websites and from yoga) which I am following very regularly. The Doctors tell me that for a man of 74+, and the condition of the lung being what it is, I am doing very well. Others in my condition, I am told by them, are very badly off.



E. Your Mind should be Your Physician

27. We have all read that the Americans developed the monster computer Cray, the largest and fastest in the world, for use by the NASA as also for better weather forecasts. When India was refused sale of this computer, Indian scientists developed what was claimed as an even faster and larger computer called Param.

28. Even given their immense potential, can these computers forecast coming events with any degree of certainty? For instance, can anyone forecast the time of death of someone living? Can even these powerful computers do such forecasting?

29. Given this bitter truth, is it not pragmatic to clearly realise that there is no use at all in suffering in anticipation? Imagining the situation when one may get the Suffocation episode, one begins to suffer even before the episode itself begins if it begins at all! In a study of 670 men ranging in age from 45 to 86, Dr. Rosalind Wright of the Harvard School of Public Health in Boston and published in the journal THORAX, it was found that even after taking into account other factors such as smoking that can also have an impact on lung power, hostility, anger and fear had a negative effect. But does knowing all this help in steadying the mind and make it have no fears of even the immediate future? Is mind not very unsteady?

30. To someone exposed to Vedantic thoughts even peripherally, the concept that mind plays the most important role in physical well being, is taken for granted, while for a westerner this seems to be a relatively new concept. Perhaps, Sigmund Freud was the first in the West to bring in the concept of the role of the mind over the physical well being.

31. Several thousand years ago, when Lord Rama had returned from visiting various places in the then India, he was depressed for reason which he could not really pinpoint. At that time, his Guru, the sage Vasishtha visits him and answers the various questions put by Rama. In the process, the sage introduces the concept

of 'Aadhija Vyaadhi' or the diseases born out of the stresses in the mind. He explains how worries or stresses in the mind become diseases of the body. This is the text famous as 'Yoga Vaasishtha'. In fact, even in the later Bhagavad Gita, there is this great Arjuna who submits to Lord Krishna (Chapter 6, 34) that the mind is very unsteady and controlling it is like trying to control the air around us. The Lord agrees that mind is indeed unsteady but exhorts Arjuna (Chapter 6.35) to keep practicing until he gets the required detachment. Earlier (Chapter 3.37) Krishna has told Arjuna that desires and anger are the enemies of man. Krishna says (2.56) that the person who has given up desires, fear and anger is, verily a saint. (Note the second position given to Fear). The Gita repeatedly exhorts one to act without attachment to the fruits of the action, meaning that while doing the required action to the best of one's ability is binding, accepting with equanimity the fruits of such action, whether they be more or less than expected, is the state of being in peace. This, indeed, gives a great balance of mind. Thus the fruit of one's action, which are not at all under the control of the doer, should not affect the balance of the mind either way. This is as simple as saying that we cannot control what happens tomorrow.

32. There is a statement in the scriptures: **mana eva manushyaanaam kaaranam bandha mokshayoh**. It is the mind, and mind only, which gives either freedom or bondage to the individual. Thus it is essential to have, or cultivate, the will power to see that one does not begin to suffer a feared event even before the event occurs. One must consciously cultivate such will power to accept what comes and when it comes, rather than fear its coming and begin suffering even before anything has happened.

33. Indeed yoga guides the individual in this path of self improvement. This it does not only by physical practices of asanas and pranayama, dhyana and dharana, but by analyzing the mind, analyzing what constitutes happiness and so on, based on the vedantic thoughts.

34. For those who are not familiar with yogic practices, it may be mentioned that yogic practices



are NOT any kind of physical exercises. The intention, for instance, is not to do the exercises very fast and sweat it out and, in the process, make the muscles tense and hard. Rather, it is to relax the muscles, make them supple but yet strong and enduring. Vedic practices consist of physical postures (called *aasanaas*), breathing practices (called *praanaayaama*), meditation practices and also a life style of simplicity (simple vegetarian food, adequate rest, stress-free mind, action done without attachment to the fruits thereof, truthfulness, etc.). Even the physical postures involve the mind and its stable state. Similarly, *praanaayaama*, though loosely translated as breathing practices, is actually the control of the life force (*prana*) to calm the mind, since breath and mind have a one-to-one relationship. The meditational practices are many and varied, depending on the capacity of the practitioner.

35. Finally, the life style required is the most important part of yogic therapy. Almost every one of the therapy participants that come to the yoga center near Bangalore (called *VYASA*) finds that he or she gets greatly relieved of the problems caused by the illnesses (be they hypertension, asthma, diabetes, back pain, joints pain, etc). Yoga recognizes only two types of illnesses: *aadhija* and *anaadhija* (the latter are not caused by the mind but are things like infections, fractures of the bones, etc). Yogic therapy addresses basically to the first type of illnesses.

36. Regrettably, it is not possible to give here further details of the specific daily yogic practices that are recommended by experts. Firstly, the practices are tailored to suit each individual. For instance, the package of practices for a person (like me) with COPD and hypertension will be different from that for a person with COPD and diabetes or back pain etc. (Some excellent sats are available on the internet which can give more information on such yogic lore and the recommended site is of the Swami Vivekananda Yoga Research Foundation (*VYASA*), Bangalore at www.vyasa.org. (This organization is also a Deemed University and considered the largest and most dedicated yoga research centre in the

world. It is based about 30 kms from Bangalore. It has brought out books, audio tapes, audio CD's and DVD's on various illnesses, giving both the theory and practices. They accept mail orders also).

Annexure

I. Daily Practices

I am following the practices listed below. Perhaps this may or may not suit the reader. He should consult his physician or an yoga expert before starting on these.

1. Early morning walk for 30 minutes.
2. 75-90 minutes of yogic practices consisting of:
 - Physical postures
 - Deep breathing practices
 - Meditation, including total bodily rest
3. "Kapalabhati" (= forceful exhalation by flapping the abdominal muscles, followed by passive inhalation), about 1200-1500 times in a day.
4. Around 4.30 pm: Deep breathing practices for 10 minutes, *Kapalabhati* for about 500-800 times, walking for about 15 minutes.

II. Special Techniques for Reducing Shortness of Breath

1. While climbing stairs, inhale and climb one step while breathing out. Repeat for each step. (This applies also for climbing gradients).
2. Breathe in and enter your car while exhaling. (Similarly, get out of your car while breathing out).
3. If you have become short of breath, inhale short and fast, and exhale fast through your mouth, while making your lips as if you were about to whistle. Repeat till your breathing normalizes.
4. Do not bathe in very hot water. Just tepid water is good.

Talk only when and what is essential: preserve the 'prana' or the 'life force'. (I am not always successful, unfortunately). ■



Evidence Based Effects of Bhujangasana with Other Yogic Practices

Bhujangasana is also called as cobra posture. It is one of the most commonly practicing yoga asana since ancient times for various health benefits.

Procedure:

- Lie flat in prone position with the legs straight, feet together.
- Place the palms of the hands flat on the floor, by the side of the chest.
- Rest the forehead on the floor and close the eyes.
- Slowly inhale and raise the head, neck, chest and abdomen till umbilicus with semi flexed elbow.
- Hold the final position and concentrate over eyebrow center and lower back.
- Slowly exhale and bring down the abdomen, chest, neck and head to the starting position and maintain normal breathing.
- This is one round. Repeat this procedure for 10 times.

Physiological Changes During 2 Minutes Practice of Bhujangasana:

Oxygen consumption (VO_2): 0.471 ± 0.08 (l/min), Carbon dioxide output (VCO_2): 0.412 ± 0.08 (l/min), Pulmonary ventilation: 13.8 ± 2.70 (l/min), Respiratory rate: 19.0 ± 5.47 (breaths/min), Tidal Volume: 0.73 ± 0.19 (l/breath), Ventilatory Equivalent for Oxygen (E_{VO_2}): 26.6 ± 4.47 , Ventilatory Equivalent for Carbon Dioxide (E_{VCO_2}): 30.2 ± 4.27 ,

Maximum Respiratory Quotient (RQ): 0.87 ± 0.09 , Metabolic equivalent (MET): 1.66 ± 0.37 , Energy cost: 2.30 ± 0.36 kcal, Exercise intensity in percentage of actual maximal oxygen uptake capacity ($\%VO_2 \text{ max}$): 20.7 ± 4.51 .^[1]

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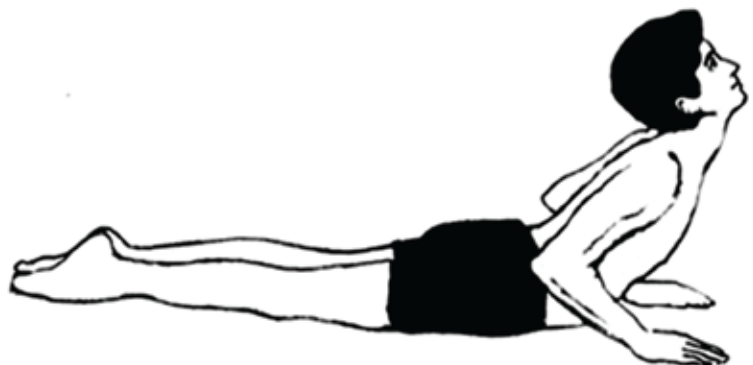
Benefits:

Yogic practices (including bhujangasana) are reported as low intensity exercises within lactate threshold. Improvement in physical performance could be possibly through better breathing, improvement in cardiovascular reserve and other factors such as psycho-physiological and better relaxation.^[1]

Evidence based effects of bhujangasana with other asanas on:

Insulin sensitivity: In a study, where bhujangasana with naukasana shown to reduce the serum insulin level after the asanas compared to before asanas while, serum insulin level shown to increase 0.5 h after the post-asana oral 75-g glucose challenge. It suggests that performance of asanas led to increased sensitivity of the B cells of pancreas to the glucose signal. The increased sensitivity seems to be a sustained change resulting from a progressive long-term effect of asanas.^[2]

Diabetes: A significant decrease in waist-hip ratio, changes in insulin levels, decrease in fasting and postprandial blood glucose levels





suggesting a positive effect of bhujangasana with other asanas on glucose utilisation and fat redistribution in type 2 diabetes.^[3]

In another study it had shown to have beneficial effect on glycaemic control and lipid profile in mild to moderate type 2 diabetes^[4] and relief in diabetic symptomatology with reduction in dose of Ayurvedic drug (Gudūcī Ghana) tablets,^[5] enhancement in the antioxidant defence mechanism in diabetics by reducing oxidative stress.^[6] Hence, it can be used as an adjunct with diet and drugs in the management and prevention of complications of Type 2 diabetes.^[3]

Chronic lower back pain: In chronic lower back pain, a negative correlation exists between stress and quality of life. Yoga which includes bhujangasana had shown to have increased quality of life and spinal flexibility better than physical therapy exercises.^[7]

Chronic obstructive pulmonary disease (COPD): Bhujangasana stretch anterior muscles of respiration and improve flexibility in thoracic spine. Yoga training including bhujangasana had shown to improve dyspnea-related distress, 6-minute walk distance feet and self-reported functional performance compared to usual-care control. There were small positive changes in dyspnea intensity after the 6 minutes walk test, muscle strength and health-related quality of life in patient with COPD. Moreover, these practices shown to be safe and feasible for patients with COPD.^[8]

Mental health: Yoga including bhujangasana has reported to decrease in salivary amylase activity, possibly through reduction in sympathetic response and reduction in State and Trait anxiety score. It signifies that yoga has both immediate as well as long-term effect on anxiety reduction.^[9] In another study on one week of yoga including bhujangasana shown to reduce feelings of sadness and possibly prevent an increase in anxiety in stress full conditions such as flood survivors a month after the calamity.^[10] Thus yoga helps to improve the mental health in both the groups.^[9]

Contra Indications:

- Fracture of upper limb, spine and hip
- Severe acute low back pain
- Spondylolisthesis (forward displacement of vertebra)

Conclusion:

Practice of yogic practices including Bhujangasana will leads to promotion of health and prevention and management of various diseases which is evidence based.

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Effect of integrated approach of yoga in normal pregnancy - a randomized active control trial

Randomized prospective controlled studies have demonstrated that antenatal yoga is beneficial in many maternal outcomes including complications of pregnancy, gestational age at delivery, type of delivery, analgesia requirement, placental blood flow, and also in fetal outcomes with higher values on fetal intrauterine growth parameters (head circumference, femur length etc), Apgar score at birth and birth weight, in both normal and high risk pregnancy. The present work was planned to investigate the effect of integrated yoga on labor outcome cognitive functions and quality of life in pregnant women as this area has not been investigated before.

Method: A prospective randomized active control design was adopted for the current



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Abstract of PhD Thesis



research. 96 women (age between 20 to 35 years, primi or multi gravida with at least one live child) with normal pregnancy were recruited from Maiya multispecialty hospital, Bengaluru. They were randomized to yoga (N=51) and Control groups (N=45). The intervention group practiced integrated yoga module and control group practiced standard antenatal exercises, one hour daily from 20th week to 36th week of gestation.

Outcome measures included both maternal and fetal parameters. Primary outcome measure were (a) the duration of all three stages of labor, and (b) cognitive function tests including Fluency test, Stroop test and Working Memory tests.

Secondary outcome measures included: complications of pregnancy, gestational age at delivery, type of delivery, analgesia requirement, stress measures through subjective Self-administered questionnaires (Perceived stress scale, Stat trait anxiety scale, Hospital anxiety & depression scale, Pregnancy related anxiety Questionnaire, Pregnancy experience questionnaire, and objective measurement of Heart rate variability. The fetal parameters included APGAR score at birth and birth weight.

Mann-Whitney U test and Wilcoxon's tests were used for all continuous variables viz., psychological and cognitive function tests that were not normally distributed. Repeated



measure analysis of variance was used for comparison between groups of heart rate variability. Independent sample t test and Chi-squared test were used for labor outcome duration.

Results:

Primary outcome measures

Duration of labor

The first stage of labor was 4.71 ± 0.59 and 6.19 ± 0.79 hr in yoga and control groups, respectively ($p < 0.001$, independent samples t test); the second stage was 23.41 ± 7.68 min in yoga and 55.19 ± 10.87 min in control group ($p < 0.001$); the third stage took 9.07 ± 2.35 min in yoga and 12.96 ± 2.86 min in control groups ($p < 0.001$).

Cognitive functions

Yoga group showed significantly better improvement than control group in Phonemic fluency ($p < 0.001$, Mann Whitney), Category fluency ($p < 0.001$), Free Design fluency ($p < 0.001$) and Fixed Design fluency ($p < 0.01$). There was better improvement in Stroop effect ($p < 0.001$) and Stroop error ($p < 0.05$) in yoga than control group. The scores of all the measures of verbal working memory were higher ($p < 0.001$) within the yoga group. There was significant difference between groups ($p < 0.001$) in the 'Hits' component of Trial II of Verbal working memory. Significant improvement was observed in all components of visual working memory test within the yoga group ($p < 0.001$, Wilcoxon's) and non significant changes within the control group with significant difference between groups ($p < 0.001$). There were significant differences ($p < 0.001$) between groups in 'Hit' and 'error' components of both Trial I and Trial II of Visual working memory. Although the 'Pregnancy related anxiety' reduced ($p < 0.001$) better in the Yoga group, there was no demonstrable correlation between scores of cognitive functions and anxiety levels.

Secondary outcome measures

Outcome of Pregnancy

Fewer number of women in yoga group required epidural analgesia ($p < 0.001$). The cesarean sections ($7/51$ in yoga and $18/45$ in control; $p < 0.004$) and complications of pregnancy (intrauterine growth restriction [IUGR], pregnancy-induced hypertension [PIH], and preterm labor) were fewer ($p < 0.010$) in yoga than in control group. Birth weight of babies ($p < 0.001$) was higher and Apgar scores ($p < 0.001$) were better in yoga as compared to the control group.

Psychological measures

There were significant changes within groups (Wilcoxon's) in both groups. Pregnancy related experience (PEQ) reduced in yoga by 26.86%, State (STAI I) anxiety (decreased 15.65% in yoga, increased 13.76% in control), Trait (STAI II) anxiety (decreased 8.97% in yoga, increased 5.02% in control) and Depression (HADS) (decreased 30.67% in yoga, increased 3.57% in control). Perceived stress decreased by 31.57% in yoga group and increased by 6.60% in the control group ($P < 0.001$). There were significant differences between groups in all the psychological variables ($p < 0.001$). There was significant difference between groups with higher improvements in yoga than the control group in the Physical ($P < 0.01$, Mann Whitney test), Psychological ($P < 0.01$, Independent t Test), Social Relationships ($P < 0.01$), and General Health ($P < 0.01$) domains of WHOQOL-100. There was significant difference between groups in "Expressed Inclusion" ($P = 0.02$, Independent Samples T-Test) and "Wanted Control" ($P = 0.009$, Mann Whitney test) domains. However, within group analysis showed significant improvements in all domains in yoga group (Expressed Inclusion: $P = 0.038$, Wanted Inclusion: $P = 0.001$, Expressed Control: $P = 0.013$, Wanted Control: $P = 0.01$, Expressed Affection: $P = 0.007$, Wanted Affection: $P = 0.001$) while



no significant improvement in any domain in control group in interpersonal relationship (Firo-B) Test.

Heart rate variability spectrum (HRV)

HRV was recorded continuously before (5 minutes), during (10 minutes), and after (5 minutes), a session of guided relaxation (DRT) in yoga group and after a session of supine rest (SR) in control group in 20th and 36th weeks of pregnancy. The decrease in LF band power (a measure of sympathetic tone) and LF/HF ratio, and increase in HF band power (indicating parasympathetic tone) during and after the practice sessions were significantly better in the yoga group than the control group ($P < 0.001$ repeated measures ANOVA) at both 20th week and 36th weeks of gestation.

Conclusion: This RCT compared the integrated yoga module designed specifically for normal pregnancy with standard antenatal exercises in normal pregnancy. Yoga was better than antenatal exercises in reducing the duration of all stages of labor and improving the cognitive executive functions. Yoga also decreased the complications of pregnancy, need for epidural

analgesia and cesarean sections, anxiety, depression, pregnancy related uncomfortable experiences and improved the Quality of life and interpersonal relations. It reduced perceived stress and improved adaptive autonomic response to a relaxation session. It improved birth weight and Apgar scores of the infant.

Key words: pregnancy, yoga, labor outcome, autonomic changes, Anxiety, depression, Quality of life, cognitive changes & stress.

Papers published from the Thesis:

1. Maharana, S., Nagarathna, R., Padmalatha, V., & Nagendra, H. R. (2013). Effect of integrated yoga on anxiety, depression & well being in normal pregnancy. *Complementary Therapies on Clinical Practice*, 19(4): 230-236.
2. Maharana, S., Nagarathna, R., Padmalatha, V., Nagendra, H. R., & Hankey, A. (2013). The Effect of Integrated Yoga on Labor Outcome: A Randomized Controlled Study *International Journal of Childbirth*, 3(3):165-177.
3. Maharana, S., Nagendra, H. R., Nagarathna, R., & Padmalatha, V. (2009). Effect of integrated yoga on stress and heart rate variability in pregnant women. *International Journal of Gynecology & Obstetrics*, 104(3): 218-222. ■



Arogyadhama CMO Dr. R Nagarathna in Kobe Conference, Japan



ELECTRICAL REGULATION AND CELL DYNAMICS

Introduction

A fascinating field of electrical regulation in the cells of animals and humans is coming to the fore that could throw much light on both the activity and control of cells, their regeneration, proneness to cancer etc. After all, electrical phenomena, especially *electron transport*, are fundamental to most if not all cellular dynamics. It should be remembered that all biochemical phenomena are reducible to electron transport in the cells and within the cellular matrix and it is thought that electron availability constitute life processes. Movement of electrons could change the characteristics of cells, their biochemical milieu and the very chemical character of cells. We shall introduce some concepts in this area and present recent breakthroughs in ideas related to electrical activities in and around cells.

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Regenerative Repair

In traditional electrophysiology, we are told of two electrical potentials of the neurons: resting and action potentials. The third one usually goes unmentioned and that is injury potential. An electric potential is observed to occur as soon as a tissue is injured. For example, when the skin is cut, then an injury potential appears across the cut and this seems to be responsible for closing the wound and creating a scar tissue that covers the exposed area and thus prevents infection. If the injury potential is nullified by an externally impressed potential, then the repair does not take place! 'Lower animals' such as house-hold lizards and salamanders are able to repair and regenerate whole limbs such as a foot. This complex ability has been studied extensively by Dr Robert Becker and he was able to create the same electrical environment even in higher animals and improve their ability for regeneration [1]. He proposed a DC electric field gradient that is responsible for regeneration in these cases.

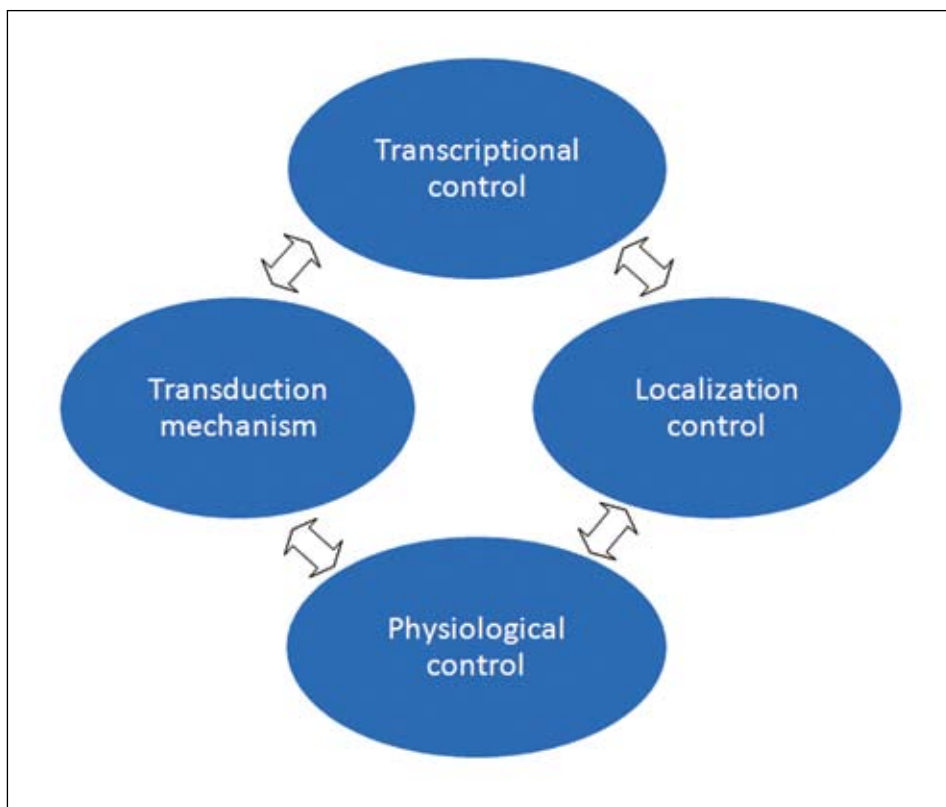


FIG 1: Cell Behavior and Morphogenesis



Embryonic Patterning

It is now postulated that electrical signaling is an important aspect for enabling patterns that form during embryogenesis [2]. These are normally DC fields whose nature (positive at a particular site) and magnitude (how strong the field is) constitute controlling parameters if a cell is going to be in the brain or in the leg. Thus, it is the embryonic electric field and its gradient (decreasing field in a specific direction)

that gives unique characteristics to the cellular matrix. Without such electrical guiding field, it is likely that differentiation of the cells into specialized cells is not possible. Regulatory mechanisms at molecular level are important for pattern formation and cell differentiation and behavior. Transmembrane voltage gradients are DC potentials which make these possible and have come under intense study in the recent past. This area is presently termed *regenerative medicine* and *synthetic biology* and has the capacity to alter bioelectric environment in case there is a need for repair, regeneration and / or morphogenesis.

To quote a few insightful statements: "Functional data have implicated gradients of resting potential in processes such as limb regeneration, eye induction, craniofacial patterning, and head-tail polarity, as well as in metastatic transformation and tumor genesis. The genome is tightly linked to bioelectric signaling, via ion channel proteins that shape the gradients, downstream genes whose transcription is regulated by voltage and

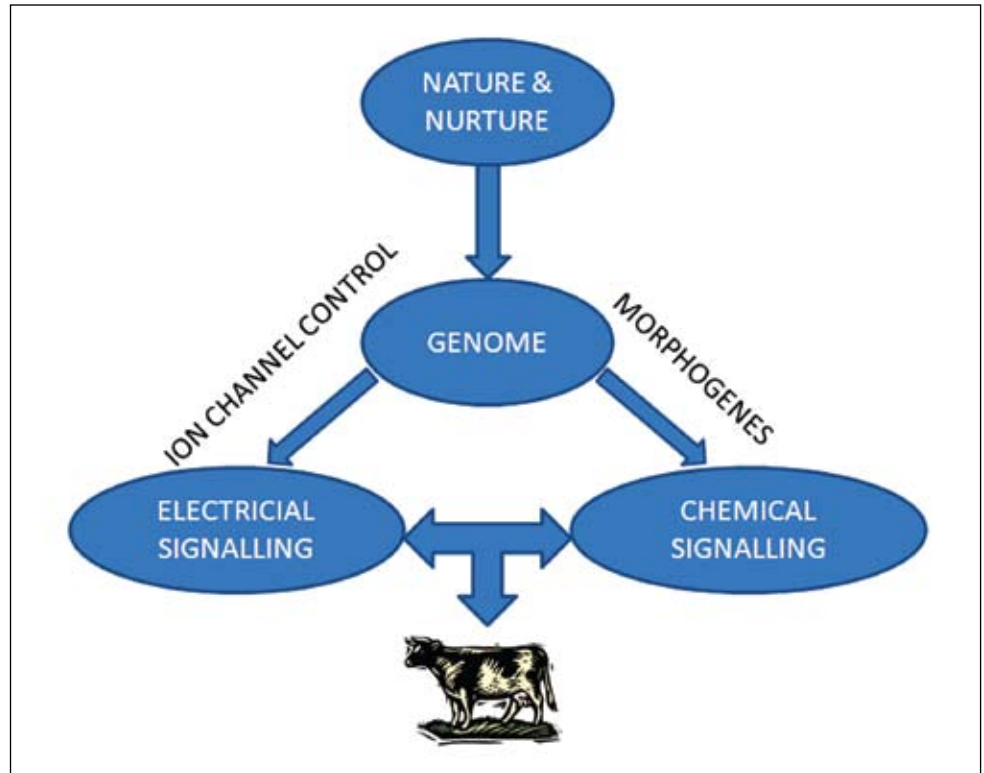


FIG 2: Embryogenesis

transduction machinery that converts changes in bioelectric state to second-messenger cascades". Measurement of such fields is now possible with micro- and nano-electrodes. Certain dyes are also used in the process. Remember these DC electric fields do not take part in signal transmission in the neural system; reading and impressing required voltages in the cellular matrix could harbor new ways for treatment of disorders. It is further said, "Cracking the bioelectric code will have transformative implications for developmental biology, regenerative medicine, and synthetic bioengineering".

Suppression of Cancerous Disorganization

Cancer is disorganization in and around cells, a disrupted electrical communication and control. It is possible that electrical potentials are changed from their normal values and if the values are restored to normal, it is likely the cancer could be managed and possibly



eliminated. Dr. Szent-Gyorgyi had guessed long time ago that the electrical environment of cells is important in maintaining homeostasis in an organism. Cancer is seen as a vitiation of normal electrical expressions of cells during communication, control and for appropriate proliferation. Thus, measuring the electrical potentials and changing their strength and polarity could lead to an effective management of cancer. Further, it should be noted that if the body is exposed to external electrical fields – such as those emitted from cell phone towers and cell phones themselves – these will disrupt the normal internal electrical environment, leading to cancer and other problems. Thus, any modern electrical gadget should be used with caution since changes at the subtle level in cellular environment is difficult to predict and control.

Role of Yoga

Has yoga any role in all this? Can practice of angas of yoga provide an electrical environment that is conducive to health and in overcoming 'unhealthy' electrical patterns? The answer could be yes if we extend the studies carried out thus far. In a study with 'OM' chanting, it was shown that the vibrations set up by this articulated sound (compared to vocalized 'sss') has specific MRI signature indicating blood flow changes in the brain [3]. This is an indication that specific vibrations could produce certain very specific activity in the central nervous system and perhaps in other parts of the body as well. Since most tissues in the body are piezoelectric, vocal sounds will produce equivalent electrical patterns within the body and vice versa. The vibrations set up through chanting of OM seem to mimic Vagus Nerve Stimulation (VNS). VNS has antidepressant effect and is useful in treating depression, a world-wide scourge at this time. The authors state: "Thus, yoga may indirectly result in effects similar to exogenous VNS".

Only careful analysis could tell how much of the vocalizations and what type could bring an

epigenetic response in the tissues. Perhaps limb repair / regeneration are relatively easy methods for determining the vocalization patterns and their responses in the body.

Conclusion

There are normally three types of potentials inside the body: resting potential, action potential and injury potential. While the first two are well known and measured, the third is a DC potential which builds around an injury (say, a skin tear) and is responsible for repair. More subtle than this are the endogenous transepithelial voltages that seem to govern fundamental processes of growth, differentiation and regeneration. Providing an embryonic voltage with correct polarity is vitally important for growth control and species specificity. We can imagine how such subtle voltages could be replaced in future therapeutics for disease management and abnormal growth that takes place in cancer. Application of Yoga in correcting electrochemical abnormality is an exciting area where we could contribute generously. This is an exciting area and only time could tell the limitless possibilities the electrical fields that provide us for mitigating suffering and perhaps even counteracting biological effects and defects due to environmental degradation.

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An innovative approach in health sciences Yoga for obesity

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Background: Obesity is a global health burden and its prevalence is increasing substantially due to changing lifestyle. Most of the primary health care providers are convinced of their critical role in obesity management but do not feel sufficiently competent and look for acceptable and effective interventions to tackle the problem of increasing prevalence of obesity. A yoga-based lifestyle intervention appears to be a promising option in obesity.



Objective: The present study is designed to assess the effects of Integrated Approach of Yoga Therapy (IAYT) in patients with obesity.

Methods: Twenty- four obese patients (8 males and 16 females) between 18 to 60 years were assessed on the first and last day of a 7 days' residential intensive IAYT program. The body mass index (BMI), waist circumference (WC), hip circumferences (HC) and mid-arm circumference (MC) were recorded before and after the IAYT program. Paired Samples t Test (SPSS-16) was used to compare the means before (pre) and after (post) the intervention.

Results: The statistical analysis showed that there was a significant ($P < 0.01$, all comparisons) decrease (\downarrow) in mean body weight from 86.54 ± 15.23 to 84.54 ± 14.95 (2.29% \downarrow), mean BMI from 32.04 ± 5.02 to 31.30 ± 4.88 (2.33% \downarrow), WC by 3.46% \downarrow , HC by 4.65% \downarrow and MC by 4.74% \downarrow .

Conclusion: The results suggest that IAYT program was beneficial for patients with obesity and may offer better option to obesity related problems. Randomized control trials are needed before a strong recommendation can be made.

Keywords: Integrated Approach of Yoga Therapy, obesity, body mass index, circumference. ■

Recently,
Union Minister of Science
and Technology Dr. Harsh Vardhan
visited Prashnti Kutiram.
Chancellor Dr. H R Nagendra Ji,
Deans Prof. K B Akhilesh
& Prof. T G Sitharam and
Arogyadhama CMO Dr. R Nagarathna
gave a warm welcome to him.





Igniting Young Minds for Cultivating Creativity

Swami Vivekananda the youth Icon of India, said “*Arise, Awake and Stop not till the goal is reached*”; the youth of India have great Creative Energy, with positive potential to take them to spiritual heights...this is the perfect time when all of us are alert, aware and provoked by the environment, to focus on the Creative Consciousness. The only qualification Swami Vivekananda looked for in youngsters was to cultivate and nurture the ability to Feel and Flow.

Children around the world attend school, but how many of them actually learn? It's been highlighted that there is a need to go beyond a narrow focus on literacy and numeracy, which proposes for the broader definition of learning that encompasses seven domains as 1. Physical well being, 2. Social and Emotional, 3. Culture and Arts, 4. Literacy and Communications 5. Numeracy, Mathematics, 6. Science and Technology and the most important 7. Cognition and Learning Approaches.

According to the estimates in the EFA Global Monitoring Report, at least 250 million school children and young adults around the worlds are not able to read, write or communicate well enough to meet minimum learning standards.

First, let us consider what kind of learning is important for the 21st century. In modern era where children are more exposed to Information Technology, disciplining one's Self-Awareness



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i.e. Intellect as well as Conscious Awareness is essential to be more Mindful.

Early childhood, teenage and young adulthood is a time of remarkable transformation and extreme vulnerability. Demographically, our country is at its youngest best and has the power to meet any challenges with the Collective Consciousness. Hence the initiatives that support our younger generations will be of utmost importance to the foundation of being Incredible India. Teenage, while this is a time of their life which is often thought of as disconnected, transitional and filled with anxiety, yoga allows for self-study, self-care and self-revival, as well as development of vital intrapersonal and interpersonal skills. So also, adolescence is an especially poignant time to practice yoga, to enhance their emotional Intelligence leading to Self Confidence, Self Esteem, Self Respect; all this exposure makes them create their Self Concept and their Personal Identity.

It is important that the youth of today get the 'right direction' to move ahead in life. They should be encouraged to think, imagine and make the most of their creativity. Only then we can enhance the creative potential in the millions of youth in India. There is a need of a creative spark to ignite these young minds.

Time and again, Abdul Kalam our former President mentions only education is not sufficient to make youngsters hold on to their dreams. When managed with spirituality education can work wonders and thus the need for self-realization. To quote him “*we have to learn to ignite our inner energy, which is lying dormant, and make it the guide of our lives.*’ The radiance



of such minds will bring peace, prosperity and bliss to this nation". He enthuses young people to discover the power within them.

Yoga is an analysis of Perception and Cognition, according to the Bhagvad Gita and Yogasutras, as well as Buddhist Mahayana. Yoga is the rising and expansion of Consciousness as per Patanjali Yoga Sutra. Capra Fritz famous Physicist, calls this as understanding from the inner (self) to outer (world) - "All actions take place in time by the interweaving of the forces of nature" (Fritj of Capra, 1975). And how does it happen, through Flow Mode, i.e. by fine tuning of the Attentional Neural Networks. Mihay Csikszentmihályi gives model of the flow concept which elicits the flow theory, which matches to Attentiveness technology by Marcel Mesulam i.e. Matrix & Vector Attention, and the roots of this found in the Bhagavad Gita, commentary by Dr. Madhav Nagarkar (Swami Madhavananda's) in the verses -

आपूर्यमाणमचलप्रतिष्ठंसमुद्रमापः प्रविशन्ति यद्वत्। तद्वत्कामा यं प्रविशन्ति सर्वे स शान्तिमाप्नोति न कामकामी ॥ 2-70., and subsequently the new theory of Complexity Biology and the Information Loop model by Dr. Alex Hankey.

What we have to do, to be in this state - Swami Vivekanda says- "Take up one idea. Make that one, idea your life; dream of it; think of it; live on that idea. Let the brain, the body, muscles, nerves, every part of your body be full of that idea and just leave every other idea alone. This is the way to success, and this is the way great spiritual giants are produced." He says this is a process of Incubation for Creative Intelligence, in his commentary of Raja yoga on the Patanjali Yoga Sutra;

Verses 1.48.- ऋतम्भरा तत्र प्रज्ञा ॥ which means "by which one develops faculty of supreme wisdom and reality based perceptive insight"

In our PDC model, we follow the Yogic Vedic principles as a basis for holistic personality development , which connects and integrates the above seven domains of learning along with the Sanskrit language acquisition skills, by



learning to pronounce and regular chanting of Bhagvad Gita verses. This helps them to develop their Social, Emotional, Physical and Cognitive domains. This Model intentionally integrates the above skills into PDC schedule, Lesson Plans, Activities, and Learning Tools and in the objectives of discovery-based activities. It also promotes mind maps, playing, learning new games, to harness brains potential, participating in hands-on-activities to keep the young adults and children engaged in their Panchakoshas or 5 Layers of Consciousness, as per *Taittiriya Upanishads*. All these techniques are done for a reason to encourage the development of the two primary stages of Creativity in an individual, first Preparation and the second Incubation. The third and fourth stages of creativity as per Helmholtz and Wallas i.e. Illumination and the Verification are the stages of self - expression by an individual in their respective domains.

PDC days are filled with love, care , encouragement and out of box thinking activities, which lets them to connect their heart, minds and brains, giving them fuller freedom. Utilizing the Yoga Technology, like physical asanas, breathing exercises, meditation, they become very much in touch with their minds and bodies. They remain in sync within for the entire week. While learning to recite Sanskrit verses which enhances their eye gaze, and auditory network inside the brain resulting in improved concentration and attentiveness. They all participate in karma yoga, by learning to do tiny acts of cleaning, brooming, sweeping, and wiping of spills. Such social skills are emphasized daily as is verbalizing their needs, likes and dislikes. Great care is taken to identify their feelings and express them appropriately,



so that the energies of their Emotions are channelized properly. Interactions within the three age groups like Kids, Teens, Young Adults, they exchange the hues of vibrant energies from each other, creating great coherence within and outside the environment (i.e. group coherence), which gives them the access to the higher states of awareness and presence. These competencies help them to take challenging roles and create a new positive outlook in their lives, which are the day today creative aspects of our lives.

Creativity is an important set of cognitive processes that aid problem solving and facilitate the generation of new ideas. It is defined in part as divergent and convergent reasoning. The brains right hemisphere is artistic as well as intuitive and the left logical and scientific.

During my school days, when I read about Einstein, Newton, without understanding so much about the creative intelligence behind these creative geniuses. I was thrilled about their creative minds. Wondered what made Einstein the way he was. What was different about him than all of us, what was that in his brain to make him a scientific genius? I had no clue during those days. I only thought he studied books! Then a bit later, that is during my higher studies and in between my travels, I read about various geniuses and their successes.

Michelangelo was a stonecutter's son and Shakespeare, the son of a middleclass businessman. Reading Shakespeare, listening to Mozart and looking at the art of Michelangelo, I could imagine and feel what it meant by '*Genuine Genius*'. I questioned myself 'Where does the creativity come from? Where is it originally born? In mind, in brain, or in genes? How our brains think, feel and create novel ideas and objects? What causes people to break free and make astonishingly creative contributions? This route of my journey led me to know, that creativity is not the same as intelligence, nor the same as skill, neither mugging up nor only studying books.

The highest level of Creativity is out there, live, happening in the Nature. There are cases where

extraordinary creativity is observed for example - Gravity was always present, Newton, one of our geniuses could observe, by cognizing it and could communicate with scientific proofs and it was then, we had to agree to him. Archimedes (science) we all know how he invented the Archimedes principle. Einstein (science), he saw an unusual beam of light i.e. $E=mc^2$ on which he sat and could reach the highest point in science. Kekule (science), founded closed structured Benzene which gave birth to a new branch of Chemistry, i.e. organic chemistry. He dreamt a snake with its tail in its mouth, suggesting closed structure of elements, till then only open structure were known to the world. Srinivasa Ramanujam (mathematics), with the gift of intuition solved unsolved problems in mathematics. Ekalavya (archery), rejected by Guru Dronacharya for teaching archery, he made the mud image of his guru, and practiced attained archery with unequal skills. Buddha (spiritual), he founded the root cause of human suffering and advocated principle of non-violence. Patanjali (yoga), by deep meditation he could write yoga/Sanskrit grammar/Ayurveda books. He is the father of Indian Psychology declaring the yoga as the science of understanding, measuring, predicting, and controlling the waves of the mind. Steve Jobs when returned from India he said, "The main thing I've learned is creative intuition in India."

Apparently, I discovered that the essence of creativity quotient is to shape the materials of our life in new and unexpected ways. For that, one has to know the nature of mind. Then, be still and sink into the deeper layers within, to be in the Unified Field of Consciousness; from where the creativity sprouts. I





explored how the human brain achieves creative insights and breakthroughs in areas such as art, literature, music, and science – the role of genes, environment, and extraordinary creativity vs. ordinary creativity.

Many of us manifest creativity in our daily lives in other ways. A teacher, who plans novel and interesting ways to excite her/his students about the beauty of math, or of the laws of physics, or of the poetry of T.S.Eliot and John Donne, is making significant creative contributions. And if she/ he does it well, their appreciation of the joy of learning will be a gift to them throughout their lives. A businessman who conceives of new ways to interest people in the product he is selling is contributing creativity to his company, and ultimately he may be enriching the local or the world economy. A person who sings in a choir or who plays in an informal rock band or jazz group is doing something creative. So is the mother who makes her children's clothing. Many people who enjoy cooking are creative, envisioning new ways to combine ingredients to produce a tantalizing mixture of flavours or a succulent sensation and texture in the mouth and on the palate.

Participating in a book club or reading group, meeting regularly to discuss reactions to a book's ideas and content, is a creative activity. Taking students outdoors for sports and art competitions, figuring out how to teach a young son or daughter, new ways to learn to manipulate shapes or form abstractions, such as the concept of colour, is a creative activity. Ordinary creative activity is all around us. We all participate in it in some or the other way.

The evening walk, the still moments of the rising and setting of the Sun, the moon & the screen of stars in the sky, the walk by the seashore or woods, playing of a flute, guitar, when we play or listen to Zakir Hussain Tabla, a classical dance, listening to classical music, all these sensory inputs creates a resonance inside our sensory receptors and stills or creates a focus inside our mind and lets the Brain's network to be in coherence, resulting in the harmony and synchronicity. This is the perfect screen of

higher consciousness and creativity. It is a pure electrical activity of neurons inside our brains.

Creating calm, serene, open and honest atmosphere for the practice of self-discovery through their own creativity is the key in helping, creating the foundation for a lifetime practice and enlightenment towards the journey of one's Self, which can be said as the highest form of Creativity. This is according to me is to be Embodied in one's Self or going back to the Self. It is the key to the ultimate activation of our Executive Control Neural Network System which is our own Buddhi or Intellect, the skills in the frontal lobe of our brain, which integrates the overall competencies of Information Processing of entire Brain. This integration happens in the focused attention state or *Mihayi's 'Flow State.'* Mind can attend only 126 bits of information per second i.e. information processing capacity and allocation of attention to the task at hand. The refinement of attention by the technique of Focused Attention enables larger spans of concentration. To be in this state one can adapt the techniques mentioned in Bhagavad Gita i.e. by leaving out the external objects outside and without contemplating on the external objects; steadying the vision of the eyes in between the two eyebrows, and making even the outgoing and incoming breaths, which are moving through the nostrils, try to achieve one pointedness of mind, Gita verses;

स्पर्शान्कृत्वा बहिर्बाह्यांश्चक्षुश्चैवान्तरे भ्रुवोः ।
प्राणापानौ समौ कृत्वा नासाभ्यन्तरचारिणौ ॥ 5-27

By regular practice of meditation one should with steady increase attain more and more tranquil state by patiently making the intellect to fasten the mind on the 'Self' without letting it contemplate even a bit on anything else. Attain that state where no thought arises in mind, Gita verses,

शनैः शनैरुपरमेद् बुद्ध्या धृतिगृहीतया ।
आत्मसंस्थं मनः कृत्वा न किञ्चिदपि चिन्तयेत् ॥ 6-25

And, as we master this brain technique, the mind that sinks in the silence and stillness, will express itself. That's the start of the creative process. So, cheers, and all the best!!! ■



Reorganizing Quality Framework in Education

0. Introduction

0.1. The education sector in India is driven by regulations i.e. requirements enforced by law by various regulatory bodies such as UGC, AICTE, DEC, MCI etc. This is done in public interest to ensure that general public in general is not cheated by sub standard institutions.

0.2. In the developed world, especially USA, an activity of accreditation in education developed as a voluntary, largely private sector driven activity since the government was not involved in setting academic curricula or academic standards. It was necessarily voluntary in nature with those willing to go through the process of accreditation coming forward for assessment which was a peer assessment process to defined accreditation standards and criteria.

0.3. The need for recognizing qualifications acquired in one country in another inevitably grew as globalization and movement of people across borders grew and signing of the Washington Accord in 1989 was a logical culmination of such a need.

1. Indian context

1.1. India needs to often customize solutions developed in the west to its context. Education is one such sector and in India, there is a need for both enforcing minimum requirements for

educational institutions at all levels by law i.e. regulation and promoting excellence using the voluntary mechanism of accreditation as above.

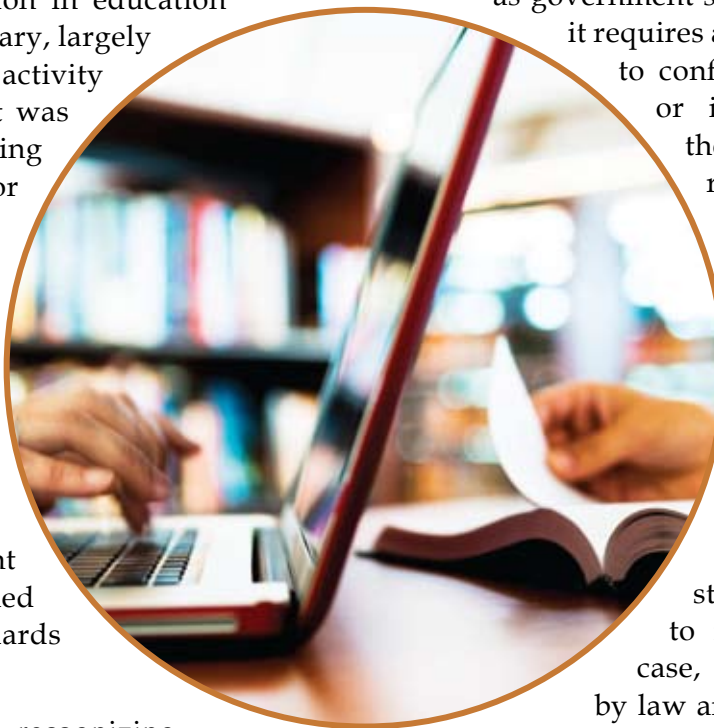
1.2. These two activities typically do not sit well together and should be clearly separated as is happening worldwide in regulated sectors in goods and services.

1.3. Regulation, by its very definition, is recognized as government's responsibility because it requires a legislative instrument to confer on the government or its regulatory agency the power to prescribe requirements, check compliance and take action for non compliance. On the other hand, worldwide, the voluntary activity is increasingly being left to the non governmental or private sector or stakeholders to respond to market needs. In any case, enforcing excellence by law and compulsion is not a good idea.

1.4. In developing countries, and especially in India, the government still needs to lend its hand to establish or manage voluntary activity since the stakeholders, even the manufacturing industry, has not reached a level where it can sustain voluntary accreditation or certification as so well accomplished in USA.

2. Issues in regulation

2.1. The Government regulates a number of





products and services in public interest – be it food or drugs or education or insurance or telecom. As has already been stated, regulation requires a legislative instrument to confer on the government the power to enforce requirements (standards) compulsorily, verify compliance and take action in case of non compliance.

2.2. In line with worldwide trend, India is also separating government from day to day regulation by setting up independent regulators like TRAI, IRDA, FSSAI etc. **This is being followed in education sector but still needs to be stated as a policy in all fields since education is regulated by different Ministries.**

2.3. Most regulations rely on inspection of the entity to be regulated for checking compliance. This is a usual model but the experience over the years in most sectors in India – be it food or education or fire safety – has shown that it has been ineffective – e.g. in education, all faculty and facilities are shown to be in place on the day of the inspection and then once the inspection is over and/or approval is given by the regulator, these disappear. **There is no effective way of verifying that the entity complies with the requirements on a continuing basis.**

2.4. The problem is in the very concept of inspection. In inspection, its commonly understood that the responsibility is of verifying that the entity complies with the requirements on the **day of the inspection** and there is no responsibility for subsequent developments or level of compliance.

2.5. It may therefore be desirable to try an **alternative model** – of what is called **certification** in goods sector – in which the entity is certified after an initial inspection or audit for a specific period of time, usually 3 years, and then is under surveillance as part of a structured certification process, with generally annual on site audits, but this frequency could be more, and with a provision for short notice or surprise audits in case needed e.g. if there is a prima facie reasonable complaint or some reliable adverse feedback.

2.6. Examples of the certification model are freely available in the area of products – e.g. compulsory ISI mark on a variety of products like bottled water, cement, LPG cylinders and valves, electrical appliances etc. The same model is also being used in ISO 9001 etc certifications which apply to services also.

2.7. Under this model, considering the worldwide trend of separating regulation and conformity assessment, the regulator acts like a supervisor of the system in which there would be a number of certification bodies available in the market who would undertake certification based on a defined common certification process laid down by the regulator and the certified entities would receive approval from the regulator. The regulator would also define the requirements for the certification bodies to ensure these are competent and impartial.

2.8. There is a worldwide system of assuring competence of such third party certification bodies in the area of products and processes through what is called **accreditation** under which each country (except a few) has national accreditation body, who accredits such CBs as per international standards. In India, the **National Accreditation Board for Certification Bodies (NABCB)**, a constituent Board of the **Quality Council of India (QCI)**, an autonomous body with the **Ministry of Commerce and Industry**, is the designated **national accreditation body** and accredits certification bodies as per applicable international standards – ISO 17021 for management systems standards like ISO 9001, ISO 17024 for personnel certification bodies and ISO 17065 for product/process certification. **The education sector would generally be covered by ISO 17065 accreditation.**

2.9. Under the alternative model, the regulator would lay down requirements for:

- a) Educational institutions which are to be mandatorily followed by them
- b) The process of certification to be followed by approved certification bodies for uniformity
- c) The certification bodies – typically these



are in addition to ISO 17065 and are to bring in sector specificity since ISO 17065 is a generic standard e.g. competence of auditors to be used etc. or strengthening some of the requirements like impartiality or public information taking into account Indian context. These would also cover obligations of the CBs towards the regulator e.g. reporting in case of serious non compliance observed for regulator to take action.

2.10. The regulator would reserve the right to audit or inspect any educational entity or even the certification body if necessary.

2.11. Even if the current system of inspection based regulation is maintained, it is possible to delegate inspections to professional bodies accredited to the applicable international standard, ISO 17020, by NABCB by making a suitable provision for using third party inspection agencies in the regulations, who would submit reports to the regulator to decide on approval, rejection, improvement or penalty.

3. Accreditation

3.1. It has to be clearly understood that regulations would prescribe the minimum requirements which must be complied with. The excellence would be promoted by way of voluntary accreditation system of educational institutions which would inter alia require these institutions to meet the regulatory requirements but have specific requirements which would demonstrate excellence. Accreditation can have grading/rating system to provide a platform for improvement.

3.2. It would need to be incentivized by way of treating it as demonstration of compliance to regulations and reducing regulatory oversight or linking financial aid to the rating etc.

3.3. Finally the reward would be in terms of attracting the best students and being able to charge market driven fee. **Therefore, it would be desirable to set up a voluntary accreditation**

system separated from the regulator.

3.4. The government has already set up accreditation bodies like NBA or NAAC or NABET in QCI. One issue these bodies would face is the huge numbers they are likely to deal with, if not initially, then surely as demand for voluntary accreditation grows.

3.5. In such a situation, they would need the help from external bodies to at least undertake evaluation on their behalf. There would be a few options available like:

- a. The accreditation bodies receive applications for accreditation, assign evaluation to one of their empanelled evaluation bodies, receive reports and take decision on accreditation. They would also use the same empanelled bodies to exercise oversight on their behalf. Such evaluation bodies can be provided through the mechanism of accreditation of conformity assessment bodies by NABCB.
- b. The accreditation bodies empanel evaluation bodies leaving the educational institutions free to approach any one of them, get themselves evaluated and present a certificate of conformity to the accreditation body for it to grant accreditation. This would be similar to the certification model as proposed for regulation except that decision on accreditation would be taken by the accreditation body after review of reports and recommendations of the evaluating body.

3.6. The above model of voluntary accreditation should be operated on a self-sustaining basis and even if managed by accreditation bodies set up by the government, should be given freedom to respond to market needs without having to seek government's approval. That such a model can be successful is amply shown by the success of QCI set up in 1997 and although an autonomous body, given complete freedom to manage its affairs with government being on its governing council along with other stakeholders. ■



New Registrar for S-VYASA



Dr. Subramanya Pailoor has been appointed as Registrar of S-VYASA University. His main area of interest is research in the field of Psycho-physiology. Earlier Dr. Subramanya, has served as Deputy Registrar for short stint, and as Assistant Director of Research, since 2012. He has several research publications and awards to his credit. The entire fraternity of



S-VYASA welcomes and wishes Dr. Subramanya the very best. ■



New Associations

Swami Vivekananda Yoga Anusandhana Samsthana (S-VYASA) and Taksha University, Virginia, USA, have signed a Memorandum of Understanding (MoU), in the areas pertaining to research and academic activities, thus facilitating exchange of students between both the institutions. The MoU was signed on July 4, 2015. ■

16th World Sanskrit Conference at Bangkok

S-VYASA VC Prof. Ramachandra G Bhat presided over Vidvat Sabha



Recently, Vice Chancellor Prof. Ramachandra G Bhat presided 16th World Sanskrit Conference held at Bangkok, Thailand.

The conference was organised in Honour of Her Royal Highness Princess Maha Chakri Sirindhorn on Her Auspicious Diamond Jubilee Birth Anniversary.

External Affairs Minister Smt. Sushma Swaraj was the Guest of Honour. The panel of Vidvat Sabha was represented by the Shastra Scholars of oriental study centres like Kashi, Darbhanga, Sringeri, Kanchi, Ujjain and many more.

A five days conference was scheduled between June 28 - July 2 and jointly organized by International Association of Sanskrit Studies (IASS) and Sanskrit Study Centre at Silpakorn University, Bangkok. ■





Saaraa Akash Hamara



■ Dr. Prahlada
Advisor, S-VYASA



Development and production of surface to air (SAM) tactical missile system is a very complex activity. Probability of success in development of SAMs is observed to be very low worldwide and Development of automated Air Defence Weapon System continues to be a challenge. There is a great amount of system engineering to be incorporated in this system of systems for efficient co-ordination and synchronization between the various weapon system elements. This particular challenge has been given to

DRDO by the Services to develop Akash Missile System (AMS). Number of technologies were developed and integrated to demonstrate AMS as a weapon system. After necessary field evaluation tests, flight tests in the presence of Users, the system is cleared for production. Production orders worth Rs. 25,000 Cr were placed by Indian armed forces for Akash and offshoots of Akash Missile System. Indian industry is continuously producing the systems and delivering to users, i.e., IAF & IA (Indian Air Force and Indian Army). They have been formally inducted by the Two Services and are deployed at different locations.

Responding to the opportunity provided by IAF and Army, all the stake holders (DRDO, BDL, BEL, MSQAA, TP-SED, ECIL, L&T, OFs



Gwalior - Akash Missile handover (to Hon. Raksha Mantri) ceremony: Project Akash and DRDO Team with Hon. Defence Minister Sri Manohar Parrikar. S-VYASA Advisor Dr. Prahlada can be seen (standing with brick red shirt). He was Distinguished Scientist & CCR&D (Retd.) and First Project Director of Akash.



and Indian Industries) have demonstrated integrated functioning in producing, inspecting, testing, delivery and induction of sophisticated surface to air missile system for the first time in the country.

Features and Capabilities of Weapon System:

The system is a mobile multi-directional, multi-target point / area defence system which can simultaneously engage several air targets in a fully autonomous mode of operation. The hardware and software integration of various weapon system elements permits automated management of air defence functions such as programmable surveillance, target detection, target acquisition, tracking, identification, threat evaluation, prioritization, assignment and engagement. All the Radars, Command control centers, launchers are integrated to achieve these functionalities. The system is also provided with advanced Electronic Counter Counter Measures (ECCM) features at various levels. The weapon system is highly cost effective relative to equivalent systems in the market.

The system is modular and mobile with all its components including launchers either wheeled truck or trailer mounted. Good lateral acceleration capability of missile till intercept provides high manoeuvrability and capability against high performance air targets, such as tactical strike aircraft, bombers, high altitude reconnaissance airplanes and armed helicopters. All air defence functions such as classification, threat evaluation, prioritization and missile launch are automated, by virtue of usage of state of the art computation platforms and software. The system is configurable to adapt to any future requirement.

Manufacturing

The missile system is produced by nodal production agency Bharat Electronics Limited (BEL), Bangalore for IAF and Bharat Dynamics Limited (BDL), Hyderabad for Indian Army.

Akash Missile System, shining example of 'Make in India'

The concept of Make in India is that technically complex systems should be realized and produced in India, not only for local usage but also for export. The complete chain of research, system design, development, simulation, prototyping, testing, system engineering, manufacturing, field evaluation, TOT, engineering, serial production, quality assurance, product support and disposal need to be addressed and carried out in the country. This is what has been done in respect of Akash Weapon System.

Radars and radar related equipment for both (IAF and IA) orders are produced by BEL. Missiles and missile related equipment are produced by BDL. Production of the system is also carried out by about 250 MSMEs with the help of DRDO and industry partners

Key Note

- The system has some of the internationally competitive features like multiple target handling, automated air defence C4I, supersonic engagement of target air crafts, built in ECCM features, network interfaces etc.
- On the course of development of this weapon system, DRDO has developed four important technologies i.e. Integral Ramjet Rocket Technology, Multifunction Phased Array Radar technology, Command Guidance technology, Automated C4I system and few other technologies for various onboard and ground systems.
- All these technologies were to be integrated to function as a single weapon system which is useful as per the operational requirement of Indian Army Air Defence. ■



Jagannatha Ratha Yatra celebrations in Prashanti Kutiram



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Yoga: The Basis for Integrated Healthcare System

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In technical collaboration with



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Swami Vivekananda Yoga Anusandhana Samsthana

(Declared as Deemed-to-be University under Section 3 of the UGC Act, 1956)
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21st INCOFYRA

CONFERENCE PROGRAMS AT A GLANCE

DATE	PROGRAM
Dec 30, '15 - Jan 6, '16	Pre - Conference workshop
Jan 4 & 5, 2016	Himalaya Yoga Olympiad Finals
Jan 6 - 9, 2016	Main Conference

CALL FOR PAPERS

Scientific research papers and review papers on the theme and related topics in yoga and integrative medicine are invited for oral and poster presentations.

Last date for submission of Abstracts	Nov 15, 2015
The abstracts will be peer reviewed and acceptance or otherwise will be intimated by	Nov 30, 2015

- Submit your abstract on conference webpage. Please visit conference webpage for details. For any queries please write to incofyra21@svyasa.edu.in

CONFERENCE REGISTRATION

Register before Nov 1st, 2015 to gain maximum concession

Individual Programs	Dates	SAARC Centers		International	
		Before Nov 1 in ₹	After Nov 1 in ₹	Before Nov 1 in \$	After Nov 1 in \$
Pre-Conference	Dec 30, '15 - Jan 6, '16	7,000	9,000	350	450
Main Conference	Jan 6 - 9, 2016	3,500	4,500	250	350
Both Programs	Dec 30, '15 - Jan 9, '16	9,000	13,000	600	700
Day Rate for Conference		1,100	1,500	90	115

OBJECTIVES:

1. To disseminate the research findings in the field of integrative medicine and give directions to future research
2. To translate the research findings of integrative medicine into clinical practice
3. To establish working groups comprising universities, health care providers and policy makers to initiate collaborative research programs
4. To deliver cost effective mass health care means to address common ailments at the primary health care level
5. To discuss on reforms in policies related to integrated health care system



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- Payment by Cash or DD payable to 'Vivekananda Yoga Anusandhana Samsthana' (VYASA)

CONTACT DETAILS & REGISTRATION

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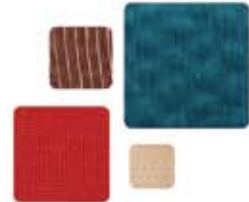


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