

# SOUVENIR



ESWARA'S

2 DAY NATIONAL SEMINAR

**ANCIENT INDIAN SCIENCES AND THEIR  
RELEVANCE TO MODERN SOCIETY  
WITH SPECIAL REFERENCE TO  
GREEN CONCEPTS**

आकाशः  
*Solutions*  
तेजः  
*Within the Self*  
वीर्यनयितन्यम्  
*Within the Country*  
पृथिवी

**Go Ancient**

**Go Green**



**प्रकृतिः रक्षति रक्षिता**

***Grateful thanks***  
**to the**  
**Ministry of Earth Sciences,**  
**Government of India,**  
**for co-sponsoring the**  
**2 Day National Seminar**  
**on**  
***“Ancient Indian Sciences and their***  
***Relevance to***  
***Modern Society, with Special Reference to***  
***Green Concepts”***  
**October 20-21, 2011**  
**Dr.S.Balakrishna Hall**  
**NGRI, Hyderabad**  
  
**Organized by**  
**Earthsystem Sciences Awareness And**  
**Research Association**  
**(Regd. 8667/2000)**  
**(ESWARA)**

# **SOUVENIR**

**2 Day National Seminar on**

***“Ancient Indian Sciences and their  
Relevance to Modern Society, with Special  
Reference to Green Concepts”***

**October 20-21, 2011, Dr. S. Balakrishna Hall  
NGRI, Hyderabad**

**Organized by  
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**Co-sponsored by**

**Ministry of Earth Sciences, Govt. of India  
Ministry of Environments, Forests and S&T, Govt. of  
A.P**

**Andhra Pradesh Pollution Control Board  
National Geophysical Research Institute  
University of Hyderabad**

## **EARTHSYSTEM SCIENCES AWARENESS AND RESEARCH ASSOCIATION**

### ***A Profile***

The modern technology, which apparently has been able to sustain a tremendous growth of human population (solely by industrialization and urbanization), started cracking up with dangerous consequences to the humanity in the form of an alarming depletion of natural resources, growing environmental degradation, changing climate besides causing several lifestyle diseases.. The phenomenal decrease of bio-mass and the alarming increase of pollution have become a serious concern to the scientists and planners the world over.

While the developed countries are able to largely counter the environmental degradation because of their affluence as well as commitment, the developing countries are not able to take effective remedial steps to counter this dormant disaster either due to poverty or ignorance or indifference.

It is common knowledge that each 'developing' country has to develop its own technology based on their socio-economic and cultural needs and resources and not necessarily ape the developed countries. If every person in the Third world countries also follows a lifestyle (consuming as much natural resources) as those in developed countries, the consequences are going to be terrible for the whole of mankind, including those in developed countries - because after all it is all one Earth.

Obviously, this material superstition and fanaticism cannot go on and on forever. Perhaps it is the duty of every right thinking scientist to make a serious attempt to know if there are alternatives for the mankind to lead a happier and healthier life and live more harmoniously with Nature around him?

In this context, the Indian scientist appears to have been placed in an advantageous position, as he is backed - however remotely - by the brilliant Vedic culture, which is being salvaged by eminent Vedic scholars and excellent Vedic institutions. But speaking different languages, there is hardly any communication between them and the elite modern scientist

The Earthsystem Sciences Awareness and Research Association is established to open a channel of communication between the Vedic scholar and the modern scientist with the hope that a collaborative research may benefit every Earth citizen

May It Happen- (*Tathastu*)

# **EARTHSYSTEM SCIENCES AWARENESS AND RESEARCH ASSOCIATION**

## ***Objectives***

**Bring Awareness:**

***of the importance of Earthsystem Sciences to mankind***

***of the need to preserve the environment***

***of the beauty of living closer to The Mother Nature***

**Open a channel of communication between Vedic scholars and modern researchers in Earthsystem Sciences**

**Search for the Vedic roots of Earthsystem Sciences and help conducting research for the benefit of mankind, in the context of modern style of living**

**Synthesize Vedic and Modern sciences to publish research results of relevance as Newsletters, first in English and later in other Indian Languages**

**Strive to prove the relevance of ancient Indian wisdom in the quest for a more harmonious living between man and Nature**

**Strive to take all positive steps for achieving the above objectives**

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## प्रकृतिः रक्षति रक्षिता

विद्यावृद्धाः वयसावृद्धाः वैज्ञानिकतंत्रेषु च सिद्धाः  
बालानामस्माकम् वचनम् शृणुत ततः कुरुतान्तर्मननं

दीनां धरणीं सारविहीनां सलिलम् सकलम् कलुषैः कलिलं  
पवनं विविध विषाणां वहनं कुरुथ कुतो वा गगनं दहनं  
प्रकृतिं रक्षत रक्षत जगतीं पश्यत सर्वविनष्टिं महतीम्

मास्त्वस्माकम् फैव् स्टार् विद्या मास्त्वस्माकम् फैव् स्टार् वैद्यं  
दत्तास्माकं मधुरम् सलिलम् दत्तास्माकं विशुद्धमनिलम्  
प्रकृतिं रक्षत रक्षत जगतीं पश्यत सर्वविनष्टिं महतीम्







गोत् रेट् इति जिडिपीति च सेज् इति सेन्सेक्स् इति किम् वृथा प्रलापैः  
जीवित ऐव यदा संदेहः किम् वो रक्षति वाक्संदोहः  
प्रकृतिं रक्षत रक्षत जगतीं पश्यत सर्वविनष्टिं महतीम्

किं वानंतैरभिवृद्धि पथैः किं वाणिज्यैः स्नेहविहीनैः  
मातृपितृ प्रेमास्तु पोषकं विश्वप्रेमैवास्तु तोषकं  
प्रकृतिं रक्षत रक्षत जगतीं पश्यत सर्वविनष्टिं महतीम्







विद्यावृद्धाः वयसावृद्धाः वैज्ञानिकतंत्रेषु च सिद्धाः  
बालानामस्माकम् वचनम् शृणुत ततः कुरुतान्तर्मननं

Lyrics by  
Padma Shri Mahamahopadhyaya Pullel Sriramachandrudu

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5	Dr.Y.L.Nene		11	Dr.R.V.S.S.Avadhanulu	
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1	<a href="mailto:shrivedabharathi@gmail.com">Dr.R.V.S.S.Avadhanulu shrivedabharathi@gmail.com</a>		17	<a href="mailto:sahukc_kc@yahoo.com">Prof. K.C.Sahu sahukc_kc@yahoo.com</a>	
2	<a href="mailto:ddg@ap.nic.in">Dr.C.S.R Prabhu ddg@ap.nic.in</a>		18	<a href="mailto:drshama65@hotmail.com">Dr. Mrs.Shamantakamani Narendran drshama65@hotmail.com</a>	
3	<a href="mailto:prativadiv@yahoo.co.in">Dr.P.B.A.Venkatacharya prativadiv@yahoo.co.in</a>		19	<a href="mailto:breddi_2000@yahoo.com">Shri. A.G.B.Reddi breddi_2000@yahoo.com</a>	
4	<a href="mailto:newton_buddha@yahoo.com">Dr. K. Newton newton_buddha@yahoo.com</a>		20	<a href="mailto:vijayakumard@yahoo.com">Dr.D.Vijaya Kumar vijayakumard@yahoo.com</a>	
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7	<a href="mailto:srinivasmadabhushi@gmail.com">Dr.Srinivas Madabhushi srinivasmadabhushi@gmail.c om</a>		23	<a href="tel:040-23341697">B/Shri.C.B.V.Subrahmanya Sastry 040-2334 1697</a>	
8	<a href="mailto:yeshwantn2@gmail.com">Dr.Y.L.Nene yeshwantn2@gmail.com</a>		24	<a href="mailto:gurajadamurty@hotmail.com">Dr.Gurajada S. Murty gurajadamurty@hotmail.com</a>	
9	<a href="mailto:kondapuramiict@yahoo.com">Dr.K.V.Raghavan kondapuramiict@yahoo.com</a>		25	<a href="mailto:sri21kk@yahoo.com">Dr.Mrs.Kamala Krishna Swamy sri21kk@yahoo.com,sri21kk @hotmail.com</a>	

10	<a href="#">Dr.C.V.B Subramnayam</a> cvbs2003@yahoo.com		26	<a href="#">Dr. Vemuri Ramesam</a> ramesamvijaya@yahoo.com	
11	<a href="#">Prof. Nukala.China Satyanarayana</a> dr__nukala_chinna@yahoo.com		27	<a href="#">Swamy (Dr) Tattva Vidananda Saraswati</a> tatva36@hotmail.com	
12	<a href="#">Dr. K.V.Rajagopalan</a> correspondence@aryavaidya sala.com		28	<a href="#">Dr. Mannem Murthy</a> murthy_aura@yahoo.co.in	
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16	<a href="#">Shri.Gajavada Pattabhiraam</a> RGajavada@aol.com,jraamg @yahoo.com				

## **ESWARA's**

### **2 Day National Seminar on**

***“Ancient Indian Sciences and their Relevance to Modern Society,  
with Special Reference to Green Concepts”***

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**EARTHSYSTEM SCIENCES AWARENESS AND RESEARCH ASSOCIATION**  
**(Regd. 8667/2000)**  
**(ESWARA)**  
**2 Day National Seminar**  
**October 20-21, 2011**  
**Dr.S.Balakrishna Hall,NGRI, Hyderabad**

**PROGRAMME**

**Thursday October 20, 2011**

9.30 am. to 11.00 am. : Inauguration  
11.15 am. to 12.15 pm. : Earth and Environmental Sciences (I)  
12.15 pm to 1.15 pm : Health and Medical Sciences (II)  
1.15 pm. to 2.00pm. : Lunch Break  
2.00 pm. to 4.00 pm. : Health and Medical Sciences(Contd.)  
4.00 pm. to 4.15 pm. : Tea Break  
4.15 pm. to 5.45 pm. : Life Sciences (III)  
6.00 pm. to 7.00 pm. : Cultural Program  
7.00 pm. to 8.00 pm. : Dinner

**Friday October 21, 2011**

9.00 am. to 10.00 am. : Agriculture, Forestry and Veterinary Sciences (IV)  
10.00 am to 10.45 am : Eswara's 50<sup>th</sup> Lecture by Prof. V.Kannan  
10.45 am to 11.00 am. : Tea Break  
11.00am. to 1.00 pm :Mathematical and Engineering Sciences (V)  
1.00 pm. to 1.45 pm. : Lunch Break  
1.45 pm. to 3.15 pm. : Vedic Science Literature (VI)  
3.15 pm. to 3.45 pm. : Tea Break  
3.45 pm to 5.30 pm : Valedictory

**TECHNICAL SESSIONS**

**Thursday, 20-10-2011**

**Session 1. Earth and Environmental Sciences**

**11.15 am to 12.5 pm**

I.1	Keynote Address	<i>Prof. VLS. Bhimasankaram</i>
I.2	Mind Pollution – The Root Cause of All Pollutions (1)	<i>T.S.Ramakrishna</i>
I.3	Environmental problems of Hong Kong – and lessons for china and India (23)	<i>Shanti Moganti</i>
I.3	Living with the nature (28)	<i>G. Vamsipriya</i>

**Session II. Health and Medical sciences****12.15 pm to 1.15 pm**

II.1	Certain myths and truths regarding Ayurveda (24)	<i>Dr.M.Srinivasulu</i>
II.2	Assessment and Treatment of Infertility through Ayurveda - A Boon to Modern Society (5)	<i>Goverdhanam Vani and J.S.R.A. Prasad</i>
II.3	Relevance of <i>swasthvrtha</i> in present scenario (6)	<i>Soumya B and JSRA Prasad</i>
II.4	Rasayana therapy - a boon to modern society (8)	<i>Panuganti Siva</i>

.....**Lunch Break** ..... **1.15 pm to 2.00 pm**

**Session II. Health and Medical sciences (Contd.)****2.00 pm to 4.00 pm**

II.5	Prevention of psychiatric disorders – an Ayurvedic perspective (10)	<i>Surendra Komatineni and J.S.R.A. Prasad</i>
II.6	Preventive Medicine in the Modern Context:: The Scope of Ushapana Rasayana (13)	<i>Sreedevi Kasavajhala</i>
II.7	Uttara vasti – as an effective procedure for the management of vandhya (16)	<i>P.Rajini,</i>
II.8	Role of diet in management and prevention of eye disorders (19)	<i>Pundarikaksharao</i>
II.9	Virddhadhara (22)	<i>Soumya B and JSRA Prasad</i>
II.10	Health care through naturopathy (27)	<i>.T.Krishnamurthy</i>
II.11	Wheat grass – a concentrated sun power, the nature's best tonic and antidote to cancer (37)	<i>Kondeti .Nageswara Rao</i>

.....**Tea Break** ..... **4.00 pm to 4.15 pm**

**Session III. Life Sciences****4.15 pm to 5.45 pm**

III.1	Analysis of bioactive constituents in <i>Achyranthes Aspera</i> (14)	<i>Ayesha Sultana and S. Y. Anwar</i>
III.2	What Ails Vedic Astrology? (2)	<i>.M.V.Raman Murthy</i>
III.3	The Esoteric Astrology (7)	<i>.T.S.Ramakrishna</i>
III.4	Vriksho rakshati rakshaitah: Ancient Indian Concept of Plant Biodiversity (9)	<i>J.S.R.A. Prasad and Kottapalli Seshagirirao</i>
III.5	Nakshatras, related plants and Bioenergies (12)	<i>Ajay Bikkina and B.Laxmi</i>
III.6	Application of Indian astrology and planet- related plant extracts for the cure of dreadful diseases (18)	<i>Shaik Ameer Jani</i>
III.7	A glimpse of patanjali yoga sutras (26)	<i>T.S.Ramakrishna</i>

.....**Break for Cultural Programme followed by Dinner** .....



**Date :21-10-2011**

**Session IV. Agriculture, Forestry and Veterinary Sciences**  
**am**

**9.00 am to 10.00**

<b>IV.1</b>	Indigenous Knowledge in Conservation Agriculture (15)	<i>Y.L.Nene</i>
<b>IV.2</b>	Pancha gavya- a gift of God to mankind (17)	<i>Dr.Kulamarva.Jayakrishna</i>
<b>IV.3</b>	Reliable weather forecasting in ancient India for improving agro-advisories (31)	<i>Vamaraju V Ravi</i>
<b>IV.4</b>	Homa therapy - a unique technique for soil and crop protection (38)	<i>P.W.Basarkar</i>

**Eswara's 50<sup>th</sup> Lecture**

**10.00 am to 10.45 am**

The Astounding Mathematics of Ancient India	<b>Prof. V.Kannan</b>
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**.....Tea Break .....10.45 am to 11.00**  
**am**

**Session V. Mathematical and Engineering Sciences**

**1100 to 1300**

V.1	Is it possible to develop a mathematical model of a Self-Conscious unit? (11)	<i>G.S.Murthy</i>
V.2	Geopathic stress brings bad luck and sufferings (21)	<i>Mannem Murthy</i>
V.3	Time Measurement Systems in ancient India with special reference to Sundials (3)	<i>P. S. Hariprasad</i>
V.4	Determination of dates: difficulties and drawbacks (25)	<i>Prof V. Kannan</i>
V.5	Purification methodologies of Metals of Ancient India. (32)	<i>I.Suryanarayana</i>
V.6	A comparison of Cube root Evaluation between Ancient and Modern methods(34)	<i>Prof.C.Shantamma</i>
V.7	The science of consciousness (29)	<i>N.Sai Prasad</i>
V.9	Classification of iron ore as per vagbhata's rasaratna samucaya and its modern relevance 36)	<i>S.Madabhushi</i>
<b>II.12</b>	Tapping the Potential of Ayurveda in Kidney Dysfunction (4)	<i>P.N.Vinaya</i>

**..... 1.00 pm. to 1.45 pm ..... Lunch Break**

**Section VI Vedic Science Literature**

**1.45 pm to 3.15 pm**

Vi.1	Recent Efforts in the Search for Vedic Science Literature	<i>Brahma Shri .Kuppa.V.Krishna Murthy</i>
Vi.2	Pray hearken to the wisdom of the Veda! (20)	<i>A.G.B. Reddi</i>

Vi.3	Some interesting aspects of science In yajnavalkya smrit	<i>P.Shashirekha</i>
Vi.4	Vaastu shastra - science or mystique? (30)	<i>B.S.R.Murthy</i>
Vi.5	The Nature of Yajus (35)	<i>Prof. Lakshmeeswar Jha</i>

.....**Tea Break** .....**3.15 pm to 3.45**

**3.45 pm to 0530 pm**

**VALEDECTORY FUNCTION**

**A B S T R A C T S**

**and**

***Extended***

**A B S T R A C T S**

**Of**

**S O U V E N I R**

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*(Details about the Authors appears in Annexure)*

## **1. MIND POLLUTION – THE ROOT CAUSE OF ALL POLLUTIONS!**

T.S.Ramakrishna

### **The Past**

Once upon a time there was a country called India, a different India from what we are living in now. That India was an envy of all other countries with assets equaling that of the entire Europe. It was so wealthy that precious stones were reportedly sold like vegetables in the market. That India also had an amazing wealth of knowledge in every branch of arts, science and economics. There were great sages who renounced every thing except knowledge and used it for society's benefit. They had developed a flawless code of conduct for the ruler and the ruled for a sustainable development of the land and health and happiness of the people. The people respected and enjoyed every bit of the Nature, to which they have attributed divinity. They enjoyed the warmth of the Sun, the cool medicinal radiation from the Moon, the food giving land and forests, the clean rivers and lakes, the company of all fellow living organisms because they were aware of the inter dependence of all living beings – the value of which we have come to know only now and call it Ecology. They are the people who largely lived with contentment. They enjoyed living together as a large combined family. In spite of great diversity of the people and their back grounds, they lived in “harmony” among themselves and in harmony with the Nature. They prayed “*sarve janah sukhino bhavantu, sanno asthu dwipade san chatushpade*” – May all people live happily, may all the two legged as well as four legged creatures be happy. Educationally and culturally that India was such an advanced country that people from all over the world came to learn and came to be enlightened. The philosophy of life was based on simple and natural living, with contentment. And that India continued until a few centuries ago when foreign invaders, mostly with the help of renegades within the country, had taken over the country, the contents and the culture. This was followed by the industrial revolution ... and India ceased to be what it was.

### **The Present**

To day we see a different India. An India that came out of the post Independence rubble and following a catchy slogan “Industrialize or perish” – which appeared like scriptural diktat at that time- progressed enormously in terms industrialization, creating a vast pool of scientists who have proved to the world that they are comparable to the best in the world, leading to a fast growing economy. Thus the concept of materialism has gone deep in to the psyche of every one. We went on doing what the West has been doing and what the West wanted us to do for their benefit - moral or amoral. With developing countries all over the world trying to imitate the developed countries and the poor trying to imitate the rich, there is an ever increasing demand for material wealth and manufactured goods, leading to a systematic destruction of the Nature and creation of dangerous toxins on the other. Globalization has only further aggravated the situation with people of various strata ganging up with corresponding strata in other countries to loot the Nature and the people and pollute the environment. Unwanted and dangerous goods are manufactured and thrust on the people. Needless technologies are dumped on them. People started chasing affluence and extravagance. Therefore there is large scale discontent in the society, which is completely stratified, with each stratum trying to grab as much benefits as possible at the cost of other. Each stratum is oblivious to the pain and suffering of the others. But the taste of materialism is such that neither the governments nor the people are able to change nor they are allowed to change by the vested interests. Highly polluting methods of governance, education, medical treatment and life style have become the order of the day. GDP, Growth rate and Sensex have become the markers of our progress. Money making and merry-making have become the most important preoccupations in life. People are caught helplessly in the web of air, water, land, sound, light, radiation and electromagnetic pollutions and are succumbing to numerous life style diseases. All this is upsetting the ecological balance and creating serious environmental degradation of the planet earth. The consequence is that more than one billion people in the world may face a shortage of fresh water, floods, draughts, hurricanes, submergence of low lying countries, acidification of oceans, epidemics, damage to agriculture and livestock, mass migration etc., threatening the very life on the planet. Within a short span of 50 years a new slogan “industrialize and perish” seems to be haunting us. It is not that the technology, which has apparently given us so many benefits and comforts is the villain but the misuse and abuse of it.

**.... And the Future**



In spite of enormous preparatory work for years and the certainty of a gory future, governments could not reach an agreement at Copenhagen Conference because of their conflicting interests and undue pressures from vested interests back home. Thus ended on dismal note the conference on which all the sensible people in the world were pinning hopes. Under this scenario what are India's options for a better climate? Should it continue with its so called development programs and assert its right to pollute itself dangerously? Or sensibly, should it look back to the millennia old great ancient Indian wisdom and culture, which was once hailed by the entire world, to come out of this crisis? Sadly, the politician-businessman-scientist nexus all over the world knavishly propagates the idea that pollution control might be possible by spending astronomical sums of money and use of high technology. If that is the course of action we choose, then we are in for a nightmarish future.

On the other hand, if we choose to pause and look back into our ancient wisdom we have a ray of hope. The ancient Indian life style, customs and rituals were based on advanced scientific, holistic and above all eco-friendly practices. The agriculture was eco friendly; education was eco friendly, medical treatment was eco friendly. It appears that we have to invoke this ancient wisdom to the extent possible for a reprieve from the present crisis. We need to give a pause to further industrial development, particularly manufacture of inessential and dangerous goods. Instead of converting the rural areas into urban centers in the name of development, we need to live a life of rural simplicity. We need to promote traditional agriculture, forestry and livestock. We need to boycott and detest extravagance and affluence in shopping and entertainment. We have to develop efficient mass transport, introduce less complex educational systems, introduce Yoga and Naturopathy clinics in all Primary Health Centers, to reduce dependence on complex, expensive and polluting medical technology and last but not the least cut down on high profile, high tech scientific projects of questionable utility, to save the planet earth. Once upon a time there used to be a sect of people called *Purohits* who are supposed to be well wishers of the and advisors to the society. In place of them we now have 'scientists' who are the 'know alls' to advise the society but who are busy pursuing their own careers and goals. Among the scientists also it is a more a responsibility of the Earthsystem scientists to awaken the people and help protect the environment. But it is naïve to think that ancient Indian sciences can right away solve all our problems with out solving the problem mind pollution. Yes! If mind pollution is controlled and we follow the

ancient Indian sciences to the extent possible, certainly we can save our environment and definitely we will be world leaders in pollution control. Otherwise consumerism will consume the consumer and the worst of the world will swallow the best of the world, before our visions of development are fulfilled.

The objective of the seminar is mainly to promote and spread the aforesaid concepts. The abstracts and essays that follow, whatever be the subject, are ample proof to show how simple eco friendly Indian solutions can solve complex modern problems.

## **2. WHAT AILS VEDIC ASTROLOGY?**

M.V.Ramanamurthy

### ***Abstract***

Vedic astrology, also referred to as Jyotish Shastra, is an ancient study of position and movements of celestial objects and their overall influence on earth and its living beings. This once highly respected science, which was mainly used for societal good, has now steeped in controversy and disrepute. An assessment is that as people have become highly materialistic the astrologers are cleverly manipulating the situation, cashing on their eagerness to avoid losses or hardships and also their natural inquisitiveness to know about their future. Under such a complex scenario, acceptance of Vedic Astrology as science is an important question to ponder over by all who are genuinely concerned. Notwithstanding this, the learned were successful in satisfying the Scientific Community of India to recognize it to be a science. As a consequence, it is now a University level academic program, awarding degrees up to Ph.D.

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Ever since the inception of Vedic Astrology centuries or even millennia ago, none could add even an iota of content to it. There is thus a conspicuous absence of any further research or modification to this subject to suit the changing times. Probably this is also not the intention of the sages of Vedic era but could have been considered as a good beginning by them. But now we can make use of the modern frontiers of knowledge domain, in the emergence of neo and nano-technological regime, to refine the age old system. Further, when the subject of Astrology was conceived during Vedic times, several issues of the present day society were not known. If we desire to establish Astrology as science or denounce it outright we must study the original scriptures and its

intended application. As such a fresh look and a revisit are necessary for the betterment of this esoteric abstract subject matter. In essence, knowledge coalescence is essential involving study of a number of case histories and constantly modifying and updating the subject in tune with change of times.

In spite of the great sanctity attributed to Vedic Astrology in the past, learned people were conscious that “Except God none knows about the future for certainty”. However, great sages endowed with godliness like Parasara, Goutama, Jaimini have written *Bruhat-Parasara Hora*, *Gowthami Samhita*, *Jaimini Sutra* respectively, which form the basis for predictive astrology for societal benefit. Students and research scholars of Astrology should delve deep into these treatises to find the futuristic trends on macro and micro scales. Ancient Indian Astronomers and mathematicians like Aryabhatta, Varahamira, Bhaskara etc., were the pioneers in astronomical calculations. These works are highly dependable even now and form the basis from which local “Almanacs” (*panchagams*) are prepared. The same concept is visible in the Ephemeris prepared by the modern experts in astrology like: Lahiri, B.V.Raman etc., used basically in the astrological calculations of today. Vedic Astrology also encompasses, traditionally, *Vastu sastra*, *Muhartha Darpana*, *Prahsana Samhitha* etc.

During the long course of time some abrasions [transformation or metamorphosis] occurred and obliterated beyond the recognition the originality, and now the whole issue was used for commercial gains by misleading the believers. It had gone to such an extent that if you do not have horoscope the *Nakshatra* would do, even if you do not know your *Nakshatra* the *nama nakshtra* would suffice (a subject's *nakshtra* can be unequivocally deduced from the name!) Now let us stop criticizing the ancient workers and it is high time to know what their original intent is. What ever they had indicated may be applicable for those times and they need(s) to be modified to suit the “*Desa, Kala* and *Mana*” situations. This is perhaps being done by some un-greedy and pious astrologers, but a broader approach has to be worked out, by identifying modifications of the ancient Vedic astrology. This exercise will help making this subject suitable to contemporary times. The academics on the subject should give a serious thought to it now and encourage R&D studies.

Vedic literature incorporates works of *Bruhat Samhita* of *Varahamihira*, *Narda Samhita*, and *Parasara's* works etc., which have tried to show astrologically that causes of the earthquake are due to unnatural phenomenon occurring in the planets and special movement of heavenly bodies. Today also some are trying to predict earthquake astrologically, astronomically and Geo-Astro-Physically. Their efficacy, however, needs to be established.

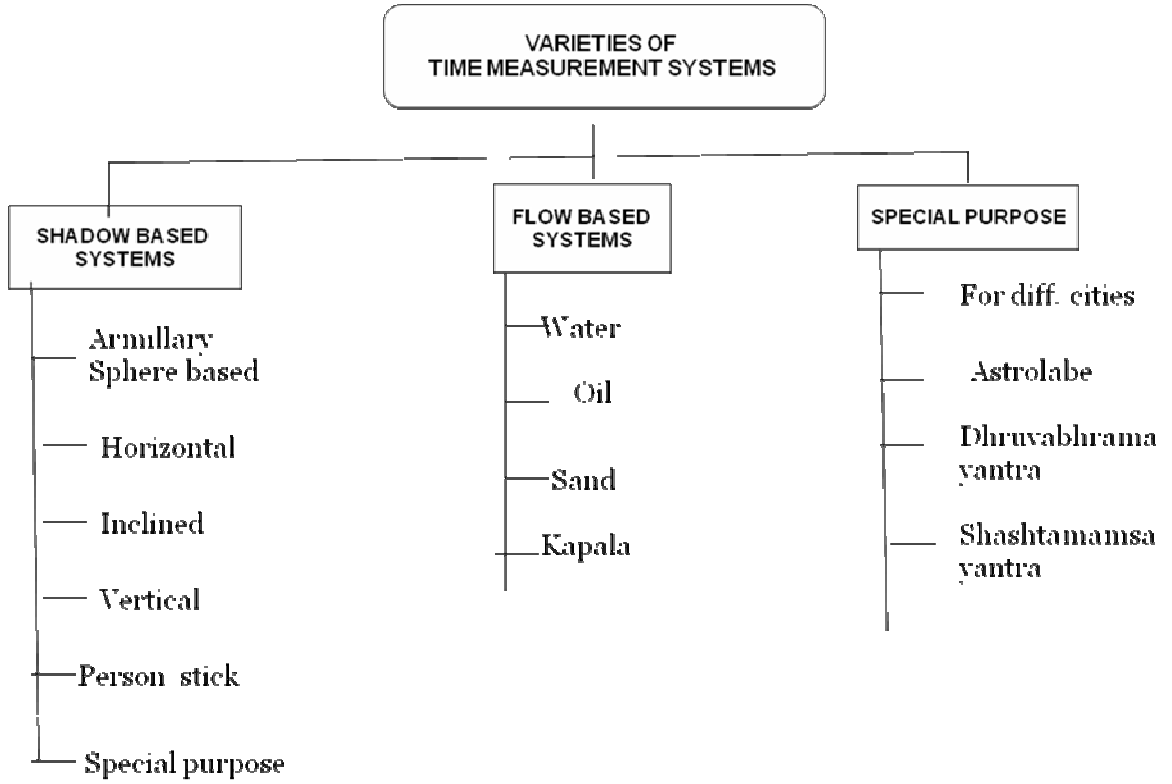
As Astrology is now introduced in some Universities, it is hoped that the academicians, researchers, professionals and students will put their best efforts in R&D in bridging the gap that was created between ancient and modern *pundits* to clear the existing confusion, leading to a wider acceptability by modern scientists.

### **3. TIME MEASUREMENT SYSTEMS IN ANCIENT INDIA WITH SPECIAL REFERENCE TO SUNDIALS**

Pidaparty P. S. Hariprasad

#### ***Abstract***

Bharata desam is karma bhumi where Vedic and Dharmic rituals occupy a significant position from times immemorial. The 'time' at which these rituals are performed is extremely critical to derive optimum benefit for the humanity. Clocks and watches came into existence and prominence only a little over 200 years ago. Then how our ancestors determined the time before clocks and watches came into existence? How accurate were they? How ancient was this knowledge? Where can we source this knowledge? Among the verities of ancient time measuring systems, shadow based systems, flow based systems and some yantras shown below, the sundials are more common.



Foundations of ancient time measurements were laid in the oldest known Sanskrit text on Astronomy, Surya sidhantha which is based on Vedanga Jyotisha. The Surya Siddhanta mentions about these instruments in 13<sup>th</sup> chapter – JYOTISHOPANISHAD ADHYAYAM in which the 19<sup>TH</sup> SLOKA says

*“Kala samsodhanardhaya thatha yantrani sadhayeth”.*

That is, to determine the time with accuracy, these instruments must be designed and built.

Further, Slokas 20<sup>th</sup>, 21<sup>st</sup>, 22<sup>nd</sup>, 23<sup>rd</sup> & 24<sup>th</sup> slokas say:

*“Sanku, yashti, dhanuh, chakraih, chaya yantraih anekathah  
Guru upadesath vijneyam kalajnanam athandrithaih  
Thoya yantra kapaladyaih mayura nara vanaraih  
Sa sutra renu garbhaischa samyak kalam prasadhayeth  
Para dharambu sutrani sulva taila jalanicha*

*Bijani pamsavasteshu prayogah thepi durlabhah*

Chart above is based on these slokas. Chart is self explanatory. Shadow based systems work only during the day and Sun shines. They do not serve the purpose in the night or cloudy or rainy day. There is 'Dhruvabhrama Yantra' which indicates time in the night. Flow based systems can be designed to function in the night or rainy or cloudy day or in all weather conditions.

This paper discusses the principle and construction of sundials, the location of some existing ones and their functionality. Larger the size of sundial, more accurate the time measurement will be provided calibrations are accurate. Large Sanrat yantra in Jantar Mantar in Delhi and Jaipur are calibrated for two seconds each. All such time measurement systems show local apparent solar time which will have to be converted to Indian Standard Time by using what is known as "Equation of Time" and Longitude correction.

Deatails of sundials existing at Annavaram, Kakinada, Dwaraka Tirumala, in Mecca Masjid, Hyderabad (Andhra Pradesh) and Jantar Mantar, New Delhi by Maharaja Sawai Jai Singh-ii as well as a few other places in India are discussed in this paper.

#### **4. TAPPING THE POTENTIAL OF AYURVEDA IN CHRONIC KIDNEY DISEASE**

Dr. P.N.Vinaya

##### ***Abstract***

Ayurveda has known kidney diseases and handled them with the seriousness they deserved, right from the time of its inception. **Vrikka-** the kidneys have been described as important vital organs. The **Vasti** or bladder is one of Trimarmas or three vital spots of the body the others being **Siras** or head and **Hriday** or heart. The diseases pertaining to the *Mootravaha srothas* have a strong link to the present day complications of kidneys. The symptoms of chronic kidney diseases like albumenurea, uremia, scanty urine production atrophy of the kidney, fluid retention in the body correlate to different diseases mentioned in Ayurvedic texts. Of the 20 types of *Prameha*, *Lalameha*, *Sandrameha*, *Ksharanaeha* and *Rakthameha* and of the 13 varieties of *Muthraaghatha*,

*Mutrakshaya, Mutrasada Mutrajathara and Ushna vata* display clinical picture of Chronic Kidney Disease (CKD).

This paper is an attempt to study the challenges posed by CKD and establish the possibility of Ayurveda as a viable option in its management, given the encouraging responses seen in clinical practice. Hypertension, diabetes and cardiovascular diseases have a direct bearing on kidneys. It is ironical that long term conventional medication for these chronic diseases puts an undue pressure on the kidneys and affects their functions. They are nevertheless prescribed due to lack of awareness of the potential of Ayurveda in treating CKD.

The reasons for diseases in general, *Mithyaahara Vihara and Pragnaparadha* are seen to be very relevant for CKD. Other than these, specific reasons for *Muthrakritcha* mention the abuse of strong medication as a cause which is so true for CKD.

व्यायामतीक्ष्णौषधरुक्षमद्यप्रसङ्गनित्यदृतपृष्ठयानात् ।  
अनूपमत्स्याध्यशनादजीर्णात् स्युर्मूत्रकृच्छ्राणि नृणामिहाष्टौ ॥

(Ch.Chi.26-32)

*Overindulgence in physical exercise, consuming strong medicines and alcoholic drinks fast riding on animals (or other vehicles) for long time, eating flesh of animals of marshy places, eating foods too frequently and indigestion; these and other causes make for increase of one or all the doshas in Muthrakritcha.*

CKD is a secondary disease arising out of poor management of the primary diseases in conditions like urinary tract infection (UTI), diabetes and hypertension. Prevention is the best form of management for CKD in potential risk groups. Counseling against the dangers of misuse of pain relievers, and indiscriminate use of antibiotics along with adopting healthy life style choices will go a long way in preventing it. For prevention of CKD safe and gentle Ayurvedic medicines need to be explored and adopted as an option.

CKD is clearly a disease which is preventable if the patient is aware and the physician is conscientious about the long term implication of medication.

प्रयोगः शमयेद् व्याधिं योऽन्यमन्यमुदीरयेत् ।

नासौ विशुद्धः शुद्धस्तु समयेद्यो न कोपयेत् ॥

( Ch.Ni. 8-23)

*Treatment which cures one disease but creates other diseases is not true treatment. Shudha or pure treatment is that which reduces the disease and also takes care not to produce other disease or problems.*

The present conventional management for CKD is either through (1) Dialysis or (2) Renal transplantation. Renal transplantation is extremely expensive and beyond the reach of the masses. After transplantation immunosuppressants have to be used on a regular basis which decrease immunity and increase susceptibility to infections. Dialysis whether haemodialysis or peritoneal is also a costly procedure. Sometimes the cost of treatment exceeds a family's monthly income.

Ayurveda has very viable medicines in its arsenal which have been seen to deliver partial to moderate success in whichever stage the disease may be. Drugs like *Punaravana*, *Gokshuru*, *Trinapanchamula*, *Shilajit*, *Chandana*, *Brihati*, *Guggulu*, *Gomutra* combination drugs like *Chandraprabha vati*, *Gokshuradi guggulu*, *Punarnavadi kwatha*, *Gomutra haritaki*, *Punarnavasam*, *Chandanasavam*, *Varunadi kwatham* , etc. have assured atleast partial success even in End Stage Renal Disease (ESRD). This is proved by the improvement in serum creatinine and blood urea levels in haemetological examinations. These medicines reduce the need for dialysis and create a sense of well being and reassurance for the patient. The medicines used are all natural which build the immunity of the body while attempting to restore the functions of the kidneys.

**Key Words:** Chronic Kidney Disease, Diabetes, End Stage Renal Disease, Hypertension, *Muthraaghatha*, *Mutrakshaya*, *Muthrakritcha*, Urinary Tract Infection, *Vasti*, *Vrikka*.

## 5. ASSESSMENT AND TREATMENT OF INFERTILITY THROUGH AYURVEDA –



## A BOON TO MODERN SOCIETY

Dr. Goverdhanam Vani\* and Dr.J.S.R.A. Prasad

### Abstract

Infertility can be defined as in capability of the woman to conceive, after one year of regular sexual union without contraceptives. It is a problem which not only affects the physical life of woman but also disturbs the social and emotional life of the couple.

In Ayurveda explained the importance of fertility as:

अच्छायश्चैक शाखश्च निष्फलश्च यथादृमः ।  
अनिष्ट गन्धश्चैकश्च निरपत्यस्तथानरः ॥  
चित्रदीपस्सरश्शुष्कं अधातुर्धातु सन्निभः ।  
निष्प्रजस्तृण पूरीति मन्तव्यः पुरुषाकृतिः ॥

A man with out children is like a tree with a single branch without shadow, without fruits , without good fragrant, and which is not useful to anybody, Pictorial lamp on a paper which doesn't give any light, a lake without water, artificial jewelery with gold colour plated, artificial *purushakruti* which made with grass. In the modern society of It industry the infertility cases are more because of Accumulated toxins, Poor nutrition, Sluggish digestion,Hormonal imbalance, Nervous system imbalances, Physical and mental stress, Lowered natural resistance and immunity, Disruption of natural biological rhythms, Systemic defects Etc. When we use the allopathic treatments for infertility cases, it is more expensive and shows many side effects. ***The ancient Ayurveda described many green methods which have good results and do not show any side effects.*** In this paper I wish to present “***Assessment and Treatment of Infertility through Ayurveda***” ***which are time tested, cheap, echo friendly and service oriented. The ancient Ayurveda described the vrushya chikitsa, Pumsavana Karma, Shodhana karma for infertility.***

### ***Vrushya Chtikitsa:***

***Vrushya Chikitsa*** is a branch of Ashtanga Ayurveda that explains the art of producing healthy progeny for the creation of a better society. It deals with various diseases like infertility and conditions relating to weak *shukra dhatu* or the vital reproductive fluids of the body. Apart from prescribing a lot of effective formulations to provide nutrition to

enhance the quality of these vital body fluids, it has been specifically emphasized to lead a highly disciplined life. As per the *Vrishya Chikitsa*, celibacy is essential for good health. It helps increase the will power, intellect and memory, in addition to a healthy body. *Vajikarana* is mainly concerned with therapies concerning specific remedies for male infertility and impotence as well as female infertility.

#### ***Pumsavana Karma:***

The procedure to be adopted for achieving progeny of desired sex is known as ***Pumsavana Karma***. It is a special procedure adopted between 8-11 weeks of pregnancy. The treatment consists of instilling a special portion in the right nostril for begetting a son and into the left nostril to have a daughter.

#### ***Shodhana Karma:***

*Shodhana* treatments are purificatory methods that cleanse the *dhatu*s of accumulated wastes called ama. ***Abhyanga*** (Oleation), ***Swedam*** (Sudation), ***Vamanam*** (Emesis), ***Virecanam*** (Purgation), ***Asthapana Vasthi*** (Cleansing Enemas), ***Anuvasana Vasthi*** (Nutritive Enemas) in consecutive order. The other Speciality Treatments like: ***Yoni Prakshalanam/Douch*** (Herbal oils and Decoction are applied through the Vaginal route), ***Uttara Vasthi*** (Mode of application of Specialized Oils, Ghritams into the Uterus).

#### ***Keywords:***

Infertility, *Vandhyatwa*, *Garbha*, *Ashtanga Ayurveda*, *Vrushya chikitsa*, *Vagikarana*, *Shodhana karma*, *Abhyanga*, *Swedam*, *Vamanam*, *Virecanam*, *Asthapana Vasthi*, *Anuvasana Vasthi*, *Douch*, *Uttara Vasthi*, *Pumsavana karma*, *Desa*, *Kala*.

## **6. RELEVANCE OF SWASTHVRTHA IN THE MODERN CONTEXT**

Smt. Soumya B and Dr. JSRA Prasad

### ***Abstract***

Health is our most important investment, our biggest asset, and therefore life or death is ultimately related to health. It is ironical to see the fact that a number of people take their health and, in effect their life, for granted. The justification for this 'taken for granted'

attitude is linked to their desire to enjoy life to its fullest. But in the process, they forget the fact that without health, they are not going to achieve this desire. They are destroying their health and their own life by their own lifestyles. It is well known that lifestyle of an individual plays a significant role in the 'swasthya' of that individual. *swasthya* literally means a healthy state of well-being free from diseases indicative of a comprehensive health.

To achieve such a comprehensive health one has to:

- (i) Analyze and understand the inadequacy of present day lifestyle practices and
- (ii) Prescribe a better set of practices that minimizes the occurrences of numerous contemporary lifestyle related illnesses.

It is pertinent to invoke the relevance of ideas developed by Caraka and his concept of *swasthya*.

शरीरेन्द्रियसत्त्वात्मसंयोगो धारि जीवितम् ।  
(Caraka Samhita Sutra Sthana 1.41)

He says that mind, body and soul are like the three legs of a tripod. If any one of them is not in equilibrium, it will affect the whole health.

सत्त्वमात्मा शरीरञ्च त्रयमेतत्त्रिदण्डवत् ।  
लोकस्तिष्ठति संयोगात्तत्र सर्वे प्रतिष्ठितम् ॥  
Ibid 45

There are three secondary pillars: diet, sleep and control of senses. When they are in order and are used rationally, the body remains healthy, strong and good-looking along with a pleasant and peaceful mind. In the present scenario, people forget about these important things and are illussioned by self-generated goals like monetary gains and material artifacts which please only the senses. In this process they overwork and change their lifestyle hastily. This change in lifestyle is invariably associated with unhealthy food habits, avoidance of proper sleep and all other *caryas* which were prescribed by our ancient acaryas for maintaining good health. In Caraka, we can see a comprehensive approach to the notion of 'health'. A healthy person (*swastha*), according to him, is the one whose body and mind is devoid of any abnormality, be that abnormality of any nature; physical, emotional, spiritual etc.

सुष्ठु निर्विकारत्वेनावतिष्ठति इति स्वस्थः । (Ibid 13)

We feel the presence of our body when we sense some ailments or some kind of uneasiness in any part of our body or mind. When one does not feel the presence of one's own body, he can be called *swastha*. According to Susruta, *swastha* is one whose *doshas*, *agnis*, *dhathus*, and *malas* are in equilibrium along with mental, sensory and spiritual pleasantness and happiness.

समदोषसमाग्निश्च समधातुमलक्रियः ।

प्रसन्नात्मेन्द्रियमनाः स्वस्थ इत्यभिधीयते ॥

Susruta samhita Sutra Sthana 15.41

The disturbances or stress of mind leads to physical health problems and vice versa. When one does not get enough sleep, he loses his appetite, he becomes more stressed and this may lead to physical problems like headache, giddiness etc. Similarly when a person is having certain physical problems, it leads to an unhappy mind. The state of all these differs in individuals on the basis of the circumstances, behaviors, food habits and geographical conditions they live in and thus, Caraka gives importance to the patient rather than the disease. He says that health is the basis for attaining the four *purusharthas* of life and diseases are those which ruin the well-being.

धर्मार्थकाममोक्षाणाम् आरोग्यं मूलमुत्तमम् ।

रोगास्तस्यापहर्तारः श्रेयसो जीवितस्य तु ॥

Caraka Samhita Sutra Sthana 1.14

Health is the prime necessity by means of which a person can attain the four *purusharthas*. Unless one is healthy, one cannot even think of achieving the *purusharthas*. “*sareeramadyam khalu dharma sadhanam*”, as advised by the sage Siva to the penancing parvathy in the 5<sup>th</sup> canto of *kumarasambhava*.

There are three secondary pillars: diet, sleep and control of senses. When they are in order and are used rationally, the body remains healthy, strong and good-looking along with a pleasant and peaceful mind. In the present scenario, people forget about these important things and are fancied by self-generated goals like monetary gains and material artifacts which please only the senses. In this process, they overwork and

change their lifestyle hastily. This change in lifestyle is invariably associated with unhealthy food habits, avoidance of proper sleep and all other *caryas* which were prescribed by our ancient *acaryas* for maintaining good health. In *Caraka*, we can see a comprehensive approach to the notion of 'health'. This paper tries to demonstrate the relevance of *svasthavrtta* in present scenario and provide pointers to enjoy a healthy life style.

KEY WORDS : *Swasthvrtha*, *Swasthya*, Health, illness, *Caraka*, *Susruta*.

## 7. THE ESOTERIC ASTROLOGY

T.S.Ramakrishna

### ***Abstract***

A large number of traditional intellectuals in India are naturally unhappy that a highly respected science of yore, the "Jyotish Sastra" has gone in to such controversy and disrepute. On the one hand there is an outright denouncement by the rationalists that astrology is not a science at all while on the other there are degrees awarded in Astrology by some universities. But the fact that a majority of people stealthily approach astrologers in times of trouble and follow their advice cannot be contested. At the same time one does not want to publicly accept and believe in God, Astrology, mantras etc. because they are considered outdated concepts of ancients and so are neither acceptable or fashionable.

Basically there is phenomenal change in the attitude, environment and life style of people from the ancient Indian times to the present day. The philosophy of life was quite different in the past, with people largely accepting the presence of God, the law of Karma, Rebirth etc. This was responsible for people in general to live a life of contentment. Astrological predictions in the past were used mainly for the purpose of fixing auspicious times for rituals, for mentally preparing for any adverse future events and take some alleviating measures etc. On the contrary the modern people, caught in

the vortex of materialism, are ambitious, greedy, restless and generally inquisitive, impatient and intolerant to know the future. So in spite of their modernity they make a beeline to the astrologers who take advantage of the situation and make money.

Faith and knowledge are two complementary aspects of man's understanding of the world. Out of enormous ego, the modern man thinks that he is the creator of knowledge and whatever he can understand through his knowledge only is truth and any thing beyond that is superstition and hence cannot be science. If failures in some astrological predictions are responsible for negating the status of science for Astrology, then many branches of modern science may face a problem. For example, failure in locating a natural resource by drilling, predicting an earthquake, predicting a result of an event by the use of statistics, saving a patient from critical illness etc. after collecting enormous data at great expense, does not impact the corresponding sciences. Is this attitude of people because these sciences are imported, a source of money, status etc? We have to realize that whether it is modern science or ancient science, it is often not the fault of the sciences but that of the scientists or the practitioners who are to be blamed.

Beside the many benefits, the problem with modern science is that the concepts change every now and then. What was supposed to be true ten years ago may not be so now and what is true today may not be so ten years hence. On the other hand Vedic sciences are final and unchangeable. No one can add to or subtract from the original texts. One can only make use of them or write interpretations on it. The very unchangeability of Vedic sciences gives a sense of awe and reliability to them.

Let us now discuss whether the planets and their movements have an influence on life on earth. Starting with the Sun, we can feel its impact right away. Solar temperatures on the earth can scorch a man or freeze him. Even slight temperature variations not only cause discomfort to us, they even affect our brain function. Next is the Moon whose subtle but still very recognizable radiation impacts on human mind. It is well known that the origin of the word 'lunatic' lies in the adverse effect of lunar radiation on human mind. Perhaps on these two issues the modern scientist may not differ much with ancient science. Now if the modern scientist does not accept the possibility of planets like Mars, Venus, Saturn etc impacting human mind it is because he can not measure their effect with the technology presently available to him. Why planets alone? According

to the ancient Indian science, even the stars, which are light years away, also can have subtle but significant effects on people on earth.

In conclusion, modern scientists should have the humility to realize the limitations of their own science before criticizing or condemning the amazing wealth of Ancient Indian sciences, which are time tested. Their greatness cannot be undermined because of a few greedy practitioners who are neither free from hatred nor contended nor knowledgeable – which are some of the qualities stipulated for a practicing astrologer.

## **8. RASAYANA THERAPY - A BOON TO MODERN SOCIETY**

Siva Panuganti and J.S.R.A. Prasad

### ***Abstract***

In current society, the life span of human being is very less compared with that of ancient days and human body also being affected by the strange diseases. Even being young, so many people are suffering from different types of diseases. Some of the reasons includes, not taking food in time, changing life style, eating in excess, consuming food inattentively, eating junk foods, smoking, drinking etc. People working in IT field are more prone to such problems due to the work pressure. *Rasayana* therapy is the branch of Ayurvedic science, which deals with various aspects of preventive health care. *Rasayana* is a branch of Ashtanga Ayurveda that aims at achieving a long and healthy life. It includes longevity of life, improved memory, good health, youthfulness, increase in skin complexion, generosity, strength of body and senses. *Rasayana* improves the metabolic activities and results in best possible bio-transformation. *Jara Cikitsa* or *Rasayana* Tantra is the rejuvenating therapy, which promotes rejuvenation in a healthy person and cures the disease of an unhealthy person.

The philosophy of Ayurveda is to protect health rather than just curing diseases. *Rasayana* is an active step towards achieving this philosophy. It prescribes treatment for repairing wear and tear of the body, due to aging or diseases. It rejuvenates the tissues of the body giving the person, undergoing the treatment, a young look. Not only physical but *Rasayana* also provides spiritual aid to the body as well, thereby bringing the body

out of its state of natural or man made loss. It also claims at holding back the process of aging. *Rasayana-chikitsa* basically boosts the ojas (vital force of life) and the immune system. *Rasayana chikitsa* helps a person to maintain good health or to establish impaired or lost physical or mental health. The *Jara chikitsa* regime comprises of a very strict diet. *Amalaki, Haritaki, Triphala, Bhrungaraja, Ashwagandha, Punarnava, Chitraka, Satavari, Brahmi* are few out of the long list of herbs those are called *rasayanakaras*. The *Rasayana* medicines are believed to have aphrodisiac qualities as well. In short, *Rasayana Chikitsa* is rejuvenation of the soul. It provides a long, disease free and vigorous life to the persons, who undergoes this therapy seriously, as it helps to bring life back to normal. In this paper, it is intended to discuss about *Rasayana* Therapy and its importance to the present society.

## **9. VRIKSHO RAKSHATI RAKHAITAH - ANCIENT INDIAN CONCEPT OF PLANT BIODIVERSITY**

Dr. J.S.R.A. Prasad and Prof. Kottapalli Seshagirirao

### **Abstract**

Plant wealth and plant bio-diversity are part and parcel of the socio-cultural system that reflected in Sanskrit literature. Plants have been attributed to highest place in Indian ecology. Śūrapāla in his vrukshāyurveda says thus :

दशकूपसमो वापी दशकूपसमो दृमः ।

दशहृदसमः पुत्रः दशपुत्रसमो दृमः ॥

“Ten wells are equal to one pond. Ten ponds are equal to one lake. Ten lakes are equal to one son and ten sons are equal to one tree”. Such is the devotion showed towards plants which can be assessed not merely on religious beliefs but also on medical grounds. Unfortunately, due to urbanization, mining and deforestation, many species are disappearing from the Mother Earth. In ancient India, for felling down or cutting down the trees, there used to be hefty penalties depending on the severity of the crime (Manusmriti 11.64-65,143,145). Certain plants, by planting at prescribed directions around the dwellings, produce positive effects. Religiously, it is believed that planting of



'Nakhatravrukshas' bring wealth and prosperity. Modern science accepted that plants respond to the external stimuli. Sir Jagadish Chandra Bose had contributed immensely to this science and invented an instrument called 'Crescograph'. But unfortunately, his reluctance to patent the discoveries did not get him due global respect. Later, Peter Tomkins and Christopher Bird (<sup>The</sup> Secret Life of Plants, Penguin Books) narrated the experiments conducted on plants that they can read our 'thoughts'. Plants are also gifted with five motor organs like humans that have been described in the Santiparvam of Mahabharata. Planting of saplings or seeds meant for germination also requires an auspicious time, day, season etc. which had been detailed by Surapala. Vrukshāyurveda also elaborates on the three sorts of land that could be suitable to plant various categories of trees. Developed countries have involved in controlling the Invasive 'alien plants' to protect the native biodiversity but unfortunately we are not concerned about our indigenous plants. In recent years, we are planting the 'exotic plants', which will have adverse effect on indigenous biodiversity (plants, animals and microbes). If we do not respect and maintain the indigenous plants, it will be very difficult to balance the plant diversity in India, which has been already a concern for many. In this paper, we would like to discuss the aspects of plant diversity in Sanskrit literature by showing its relevance in current times besides suggesting how to develop conceptual gardens according to shastras.

## **10. PREVENTION OF PSYCHIATRIC DISORDERS – AN AYURVEDIC PERSPECTIVE**

Surendra Komatineni and J.S.R.A.Prasad

### **Abstract**

Present society is struggling with numerous life-style disorders. One cannot achieve the objectives of life without a good health. A proverb in English reads-'Health is Wealth'. According to *Ayurveda*, one is called '*svastha*' when his/her senses, mind and soul are in perfect equilibrium. "प्रसन्नात्मेन्द्रियमनाः स्वस्थ इत्यभिधीयते ।" (सु.सं.१५.४१) In order to be healthy, one should take measures to prevent disease. '*Duhkha*' is the root cause of diseases- "तद्दुःखसंयोगा व्याधयः उच्यन्ते ।" Sushruta Samhita. 1.7

Sage *Sushruta* has classified the disease into four types -

1. आगन्तुकाः (diseases due to injuries)
2. शारीरकाः (diseases due to vitiation in three humors)

3. मानसिका: (diseases due to three primary factors of psyche)

4. स्वाभाविका: (diseases due to old age etc.)

One needs to be free from mind and its attachment to objects, if the the goal of *Ayurveda* is to be achieved – that is 'the ultimate salvation'. Nowadays, psychic disorders and psychological stress are a common phenomenon irrespective of the age, universally. Three primary factors of mental illness are described in *Ayurveda*. Namely they are – 1. प्रज्ञापराधः (intellectual error) 2. असात्म्येन्द्रियसंयोगः (conjunction with unsuitable sense organs) and 3. कालविपरिणामः (time factor).

Improper understanding of objects by intellect will result in adverse actions such as, negative thinking, misbehaviour with noble people, lack of knowledge on how to control mind, lack of good conduct are some of the reasons for intellectual errors.

Making improper use of sense organs causes illness. That means indulging cognitive organs, viz., eyes, nose, ear, tongue and skin, in contrary methods causes disease. For instance, listening music in high decibels triggers ear related diseases, which is called 'ऐन्द्रियक' (Sushruta Samhita. 1.7) that falls in the असात्म्येन्द्रियसंयोग category.

Improper in take of food such as untimely consumption of food items while ignoring seasonal changes etc., are due to कालविपरिणाम. Improper in take of food also causes lot of life style disorders such as stress and as an effect, people also suffer with psychological disturbances, work tensions and so forth. They are quite avertible if one follows preventive measures as advised in *Ayurveda*. Enjoyment of harmful objects are not admitted in *Ayurveda*-

“ज्ञातानां स्वयमर्थानामहितानां निषेवणम् ।”

Caraka samhita 4.1.105

while knowing that some objects are unwholesome, their intentional consumption leads to disease. Now a days, people indulged in enjoying the objects that are harmful to the body-mind health. Consuming alcohol is more common these days. While knowing that it is dangerous to health, the addicted do not restrain themselves causing irrecoverable loss of health. Alcohol dementia and koraskoff syndrome are some of the diseases due to excessive consuming of alcohol over a period of years. Alcohol has direct affect on neural system, which causes failing to remember recent events, lack of

decision making capacity in times of crisis, decline of creative thinking and so on. Some times there are changes of symptoms of these, transformed as madness. All this due to the 'त्रैगुण्यविपर्यय' i.e.(difference of three गुण's). If the राजसिक or तामसिक traits are controlled and adhering to सत्त्वगुण is increased, one can be free from the clutches of the intellectual errors and live a full and joyful life.

*Ayurveda* asserts that mind, body and soul are pillars of one's life. Diseases develop either in body or in mind. Apart from preventive measures of physic health, 'स्वस्थवृत्त' also consists food regimen, maintenance of celibacy, rules regarding study, urges, speech, hygiene, relation with females and so on, by following which leads to prevention of soma-to-psychic and psychosomatic disorders.

By strictly following the 'सद्वृत्त'(codes of conducts), a part of 'स्वस्थवृत्त', one can be free from all such diseases and can live a long and joyful life while performing mundane duties. In this paper, we would like to expose and interpret the category of intellectual errors by providing concrete solutions from 'सद्वृत्त' as narrated in 'स्वस्थवृत्त', for a healthy life in the sophisticated world.

*Keywords: svasthavrtta, sadvrtta, mental illness, life-style disorders*

## **11. IS IT POSSIBLE TO DEVELOP A MATHEMATICAL MODEL OF A SELF-CONSCIOUS UNIT?**

Dr. G.S.Murthy

### ***Abstract***

Modern physics grew rapidly in the recent years on the basis of Abstraction, Generalization and Idealization (*The Ideas of Physics*, Earnst H. Hutten. Contemporary Science Paperbacks, # 6). An important reason for such rapid development is our ability to choose a mathematical representation of our experience of the physical world. The earliest example is the geometrical representation of the astronomical observations followed by a mathematical model. This historical aspect serves as an example (with the

benefit of hind-sight) of successful effort in abstraction, generalization and idealization of our experience.

However, a fundamental difference exists between a model of the external world observed by means of an instrument, and an attempt to model a self-conscious unit. The former has the advantage of calibrated instruments for observation, whereas the latter does not have, by definition, such instruments. This limitation arises because of a fundamental difference between an objective world and a subjective world.

There exists some hope of overcoming the fundamental difference by resorting to the Ergodic Hypothesis introduced in physical sciences at a time when statistical physical theory was developed on the basis of dynamics applicable to an individual particle (*The Ergodic Hypothesis*. Adrian Patrascioiu. Los Alamos Science Special.Issue. 1987.pp.263-278)

“It ( Ergodic Hypothesis) is the statement that the time average value of an observable—which of course is determined by the dynamics—is equivalent to an ensemble average, that is, an average at one time over a large number of systems all of which have identical thermodynamic properties but are not identical on the molecular level. .... . The general consensus is that the hypothesis, still mathematically unproven, is probably true yet irrelevant for physics.”

This hypothesis can be interpreted in an alternative way. It corresponds to the assumption that in a ‘stationary system’ of large number of individuals, the ‘average’ model of an individual is the ‘average at one time’ of a large number of individuals.

This in itself is not sufficient for modeling a self-conscious unit. We define a self-conscious unit by three necessary qualities. In the language of communication theory, a self-conscious unit must be a transponder which should be sensitive, selective and stable for a large number of independent variables in any selected range. It should also be capable of distinguishing between its interior and exterior. It is a transcendental unit.

This article attempts to argue that such a nonlinear system can be represented by transcendental numbers familiar to mathematicians and physicists as well. It needs, however, a close scrutiny and willingness to 'read' afresh a meaning into mathematics.

In doing so, a beginning is made to look at a few of the known results in the subject known as Analysis where one looks for the validity of sequence of numbers

$a_n$  and  $b_n$  defined by

$$a_n = (1 + 1/n)^n \text{ and } b_n = (1 - 1/n)^n \text{ as } n \rightarrow \infty.$$

We find these mathematical numbers appearing often in the book A Course of Modern Analysis, written by E.T Whittaker and G.N. Watson. These are very useful in the discussion of convergence of infinite series.

For a pure mathematician, these are numbers only, which means one need not ask what these numbers 'mean' physically. For a physicist every number must have some meaning. That is how applied physics grew and changed drastically the nature of civilized world.

Now, the shift in the paradigm is that mathematics can be applied also for metaphysical ideas and not only for ideas concerning the physical world. Just as mathematics begins with a few fundamental definitions of about numbers and notions of addition and multiplication of numbers, we begin by introducing a few fundamental axioms to read a 'metaphysical meaning' into numbers.

1. A 'Self Conscious Unit' is defined by the number 1. Mathematics starts with 1 and there is no mathematics without 1. The existence of Self is a postulate in Vedanta. Its truth is absolute. That is Satyam in Vedanta
2. There is a meaning to  $1^n$  in mathematics. It is an infinite dimensioned unit. This number is interpreted as infinite dimensions of Self corresponding to Ananta in metaphysics

3. The numbers  $a_n = (1 + 1/n)^n$  and  $b_n = (1 - 1/n)^n$  are respectively interpreted as 'exterior and interior' of Self and thus they represent a Self Conscious Unit.

4.

If these three postulates are accepted, we can take advantage of what is already known in mathematics and see if it makes sense to us metaphysically.

It is known that the number  $a_n$  and  $b_n$  tend to a finite limit as  $n \rightarrow \infty$ . They are known respectively  $\exp(1)$  and  $\exp(-1)$ , where 'exp' means 'exponential' function. This result gives the first corollary that a meaning to an external volume and an internal volume of an infinite dimensioned unit cube. The Self Conscious Unit has 'finite' volume though it has infinite dimensions, each dimension representing a distinct quality.

The exponential function exists even for imaginary numbers. They correspond to periodic phenomena. Thus a Self Conscious Unit is sensitive to periodic phenomena. Since the interior and exterior volumes are inverses of each other, it follows that if the exterior is sensitive to one direction to time the interior is sensitive to the opposite direction time.

The exponential function of an imaginary variable is a combination of two periodic functions, one of which is real and the other is imaginary. These are the famous trigonometric functions. These are the mathematical representation of a unit circle. So we arrive at well known terrain starting from abstract notion of an infinitely dimensioned unit cube and its exterior and an interior.

It is surprising to find that an eminent vedic scholar, Jagadguru Kalyanananda Bharati, wrote a Sanskrit book, Purna Mimamsadarsanam, explaining metaphysical truths in terms of Aphorisms and said that Geometry is most suitable for expressing metaphysical notions. He also gave an aphorism: Vruttam Eswarah which means A Circle (represents) Godhead. It is a rare sentence in which a geometrical notion is equated to metaphysical notion.

Those of us who are educated in physical sciences are exposed a specialized discipline of mathematics which is no less powerful than a spiritual discipline. A combination of mathematical and spiritual disciplines may bridge the gap, if any, between mathematics and metaphysics. Our present faith in applied science was very successful but it must be supplemented by appropriate spiritual discipline to widen our vision to higher truths underlying the visible world. Hence an attempt is made to understand the notion of a Self Conscious Unit.

## **12. NAKSHATRAS, RELATED PLANTS AND BIOENERGIES**

Ajay Bikkina and B.Lakshmi

### ***Abstract***

A new concept of bioenergies based on *Nakshtras* and their related plants has been developed after extensive research in the field of Vedic bio-energies. The science of Nakshatras in Jyothirvidya has been developed by the ancient seers. In the Vedic system of astrology the 27 *nakshatras* are the key to understanding celestial influences on the planet. Vedic or Hindu astrology offers a most power analytical technique, which is based on the Nakhatra of a person at the time of birth.

The Nakshtras of the Zodiacal belt have a lot of importance as reflecting and projecting heavenly influence and are the mansions of the Gods or the cosmic powers and of the rishis. Nakshatras dispense the fruits of our karma which is their prime value. The Nakshatras were further portrayed as the portals between the physical realm and the heavens and therefore are the means through which divine grace can be bestowed on the individuals. That is the reason why till date rituals and meditations follow the timings of the Nakshatras.

The term Nakshatra refers to a means (tra) of the worship (naks), giving its originally described meaning of connecting our human mind to the cosmic mind. Further translations came at a later stage such as 'naks', which means 'sky' and 'kshetra' which

means region, when translated stands for 'skymap'. All meanings clearly bring out the significance of the 27 Nakshatras and enhance their importance in daily life.

'Vriksh' and 'Rruksh' are phonetically similar words. While 'Vriksh' means plants, 'Rruksh' means star/constellation/nakshatra. Vedic astrology gave the intricate relationship between the nakshatras and their related plants. By applying modern scientific techniques to ancient wisdom, we have formulated liquid energies, using the energy of the nakshatra related plants.

Each Nakshatra has been associated with several parameters such as stones, direction, deity, plant, animal etc. Among them only plants have consistent life force, similar to nakshatra energy, undeterred by external influence. By utilizing the energies of these divine plants we have been able to formulate bio-energies capable of transforming a persons life and for making him a better person. Nakshatra bioenergies provide the exact life force pattern belonging to the person, complementing and enhancing the person's *pranashakti*.

Nakshatra energies are collected from the divine plants mentioned in the scriptures and relate to the Nakshatra and the presiding deity. Nakshatra energy administered to a person of that particular nakshatra boosts his life force and consistent use for 40 days (mandala) fixes his life pattern in a positive and progressive manner. Further more it makes a person more receptive to positive things in life , as we have often noticed patients responding better to medication after administering nakshatra energy.

A 'Beejamaantra' has been provided for each nakshatra in Vedas. The beejamaantra sounds represent basic life pattern of people born under the nakshatra. The beejamantras recited in conjunction with the intake of nakshatra energy (in liquid form) increases the life force of the people born under that nakshatra substantially. For sankalpa siddhi (achieving goals), the energies can be administered after the person repeats his beejamaantra and says his sankalpa or wish.

### **13. PREVENTIVE MEDICINE IN MODERN CONTEXT: THE SCOPE OF**

#### **USHAHPAANA RASAYANA**

Sreedevi Kasavajhala and Dr. J.S.R.A. Prasad



### **Abstract**

“आचारातज्जायते धर्मो धर्मादर्थश्च वर्धते |

तस्मात् प्रवर्तते कामस्तेन स्वर्गफलं भवेत् ||”

The goal of human life is to achieve the four *purusharthas* known as *Dharma-Artha-Kama-Moksha*. The Entire universe, as well as individuals, is supposed to stand for *Dharma* and act according to it. To achieve *Dharma*, good health is an essential factor, which was also asserted by Kalidasa 'शरीरमाद्यं खलु धर्म साधनम्'. The primary objective of Ayurveda, the most ancient health care system of India is 'स्वस्थस्य स्वास्थ्यरक्षणम् |', which means to protect the health of a healthy person. Treatises of *Ayurveda*, right from the Vedic period, have listed a number of possible medicines which are absolutely natural for rejuvenation purposes. *Rasayana* the seventh branch of *Ashtanga Ayurveda* has tremendous potential with regard to preventive medicine. It includes all Herbs, Minerals and herbo-mineral drugs which increase immunity and longevity. *Rasayana* rejuvenates in order to sustain the health. 'लाभोपायोहि शास्तानां रसादीनां अयनं रसायनम् |' a good practice of tissue transformation to achieve longevity is *Rasayana*.

*Anandakanda*, a lesser known treatise, on *Rasa Shastra* has described invaluable *rasoushadhis* and *rasayanas*. In a chapter on *swasthavrtta* of *Anandakanda*, author *Manthanabhairava* explained the wonderful '*Ushahpana Rasayana*' (a *rasayana* that is consumed early in the morning) which cures the existing ones and prevents all diseases. This paper attempts to bring to light a simple, easy to prepare, yet effective means of preventing diseases in the form of *Ushahpana Rasayana*. In this preparation, water is kept under sun rays as well as under moon rays to absorb the medicinal qualities of both in order to mix the prescribed ingredients to enrich the *rasayana* with more medicinal values, which is apparently not known to the modern society. *Charaka* also referred to a similar kind of preparation called '*Hamsodakam*' (*Charakasamhita*- Sutra-6.46-48) in three verses.

This preparation, a kind of therapy, has salient features that include discussion on chief ingredients – 1. *Ela* (*Elettaria cardamomum*), 2. *Usheera* (*Vetiveria zizanioides*), 3. *Karpura* (*Cinnamomum camphora*), 4. *Chandana* (*Santalum album*), 5. *Patala* (*Stereospermum suaveolens*), 6. *Ketaki* (*Pandanus tectorius*)/(*Pandanus odoratissimus*), 7. *Jati* (*Jasminum grandiflorum*)/(*Jasminum officinale*), 8. *Mallika* (*Jasminum sambac*)

and 9. *Utpala*, of which there are two types i).*Kumuda* (Swetotpalam) (*Nymphaea nouchail*) and ii) *Nilotpala* (*Nymphaea stellata*).

The solar and lunar radiations have a tremendous effect on life on earth in general and plants herbs, *Rasayans* and other medicinal preparations in particular.

“The phases of the moon are associated with specific healing energies. The new moon is for health, vitality and regeneration. The full moon is for fertility and empowerment. The waning phase (khseena Chandra) is the time when unwanted symptoms and diseases may be banished”( Charakasamhita- Sutra-6.46-48).

“Sun rays have seven colours which make the air pure and destroy the microbes present in the atmosphere and the water. This goes on naturally. Our ancient Rishis said Sun rays help one regain lost health while chronic and old diseases could be cured permanently” <http://www.siddhashram.org/a20010971.shtml>

The properties of ingredients, method of preparation, medicinal values of the individual ingredients, proper time and way of consuming the *Rasayana*, dosage, symptoms of digestion and indigestion on consuming the *Rasayana*, remedies for indigestion and the total benefits of the *Rasayana* shall be discussed in full paper.

Key words : *Rasayana*, *Ushahpana Rasayana*

#### **14. ANALYSIS OF BIOACTIVE CONSTITUENTS IN ACHYRANTHES ASPERA**

Ayesha Sultana & S.Y.Anwar

Department of Genetics, Osmania University, Hyderabad

India is one of the 12 mega biodiversity center having 45,000 plant species, its diversity is unmatched due to the 16 different agro climatic zones, 10 vegetative zone, and 15 biotic provinces. The country has 15,000 -18,000 flowering plants. About 1500 plants with medicinal use are mentioned in ancient texts and around 800 plants have been used in indigenous systems of medicine. Today 80% of the world population depends on plant's derived medicine for the first line of primary health care because of no side effects. Mostly Plant derived drugs are used to cure mental illness, skin diseases, diabetes jaundice, hypertension and cancer [Cox and Balick, 1994].

Over the last decade there has been a growing interest in drugs of plant origin. During

this period, utilization of medicinal plants has almost doubled in Western Europe and substances derived from higher plants constitute approximately 25% of prescribed medicines. Among the known plant species only a small percentage has been investigated phytochemically and pharmacologically. A wide range of products can be obtained from plants i.e., perfumes insecticides, flavoring agents, coloring agents, besides medicines. Among these pharmaceuticals form an important class of plant products useful for disease control. Some of the most important drugs used today are from plants viz., steroids from diosgenin, codeine, atropine, reserpine, hyoscyamine, digoxin, scopolamine, digitoxin, pilocarpine, quinidine, quinine, artemisinin, senna glycosides, taxol, camptothecin, forskolin, silymarin, hypericin.

Men have used herbal medicines from time immemorial. Ancient Egyptian, Indian, Chinese, and others practiced a variety of plant form and products for curing all kinds of ailments. In China, thousands of species known to have medicinal value have been used in herbal and traditional treatments for centuries. Ginseng is perhaps the most famous medicinal plant of China.

The present study is precisely aimed at exploring the medicinal potential of a commonly growing weed i.e. *Achyranthes aspera* so that a cheap, time tested and ecofriendly way of treatment for various human ailments may be developed.

*Achyranthes aspera* (amaranthaceae) is an erect, annual herb, distributed in the hilly districts of India. The plant is used in indigenous system of medicine as emmenagogue, antiarthritic, antifertility, laxative, ecbolic, abortifacient, anti-helminthic, antiviral, antiparasmodic, antihypertensive, anticoagulant, diuretic and antitumor. Besides it is useful to treat cough, renal dropsy, skin rash, nasal infection, chronic malaria, fever, asthma, piles snake bite. The root is stringent diuretic and antispasmodic. It is used in the treatment of dropsy, rheumatism, stomach problems, cholera, skin diseases, and rabies. The plant is astringent, digestive, diuretic, laxative, purgative, and stomachic. The juice of the plant is used in the treatment of boils, diarrhea, dysentery, haemorrhoids, rheumatic pains, itches. The leaf is emetic, and a decoction is used in the treatment of diarrhoea and dysentery.

## **MATERIALS AND METHODS:**

*Achyranthes aspera* plants were collected from an area around Hyderabad, Andhra Pradesh, India. The plants were identified taxonomically and authenticated at the herbarium, department of botany, Osmania University, Hyderabad India.

*Achyranthes aspera* fresh leaves, stem, root, and seed were washed thoroughly 2-3 times with running tap water and then with sterile water followed by shade drying, powdered and used for extraction. 10g of the powder was mixed with 40ml of methanol and then ethanol, and then aqueous in a 250ml of conical flask and kept at 25°C for 12 hours. The suspension was filtered through Whatman filter paper.

## **QUALITATIVE ANALYSIS:**

### **1) Molisch test for carbohydrate:**

To 2ml of extract/sample add 2-3 drops of molisch reagent mix thoroughly, carefully pore 5ml of concentrated H<sub>2</sub>SO<sub>4</sub> added along the side of the test tube. The formation of red or dull violet colour at the interphase of the two layers was a positive test.

### **2) Test for alkaloids:**

To the 2ml methanolic filtrate ,1.5ml of 1% HCl was added .After heating the solution in water bath ,6drops of mayers reagent, wagners reagent ,dragendroff reagent, were added. Formation of buff colour orange precipitate indicated the presence of alkaloids.

### **3) Test for saponins:**

Aqueous extract of 2g powder was made and subjected to frothing test. Frothing persistence indicated the presence of saponins . Latter the froth was mixed with few drops of olive oil .Formation of emulsion confirmed presence of saponins.

### **4) shinoda test for flavonoids:**

2g of plant material was extracted in 10ml alcohol or water. To 2ml filtrate few drops of concentrated Hcl followed by 0.5g of zinc or magnesium turnings was added .After 3mints magenta red or pink color indicated the presence of flavonoids .

Lead Ethanoate test for flavonoids:

2g of plant material was dissolved in water and filtered. To 5ml of the filtrate ,3ml of lead ethanoate solution was then added .Appearance of a buff-colored precipitate indicates the presence of flavonoids.

### **5) Test for terpenes:**

To 2ml of aqueous extract, 5ml chloroform, 2ml acetic anhydride and concentrated H<sub>2</sub>SO<sub>4</sub> are added carefully to form layer. Reddish brown coloration of interface indicates terpenes.

### **6) Phenolics:**

TO 2ml of alcoholic or aqueous extract ,1ml of 1% ferric chloride solution was added. Blue or green color indicated the presence of phenols.

### **7) Cardica glycosides:**

To 2ml alcoholic filtrate, 1ml glacial acetic acid and 1-2drops of fecl<sub>3</sub> was added followed by 1ml of concentrated H<sub>2</sub>So<sub>4</sub>. Appearance of brown ring at the interface indicated the presence of cardiac glycosides. A violet ring may also appear below the brown ring.

### **8) Test for tannins:**

To 2ml of aqueous extract 2ml of 5% fecl<sub>3</sub> was added. formation of yellow brown precipitate indicates that tannins are present.

## **RESULTS AND DISCUSSION:**

The results of the above experimental assay on the methanolic and then ethanolic and other solvents extracts of leaf other parts achyranthes aspera obtained by infusion are shown in table 1. The methanolic, ethanolic, and aqueous extracts showed the presence of carbohydrates, tannins, saponins, terpenes, flavonoids, alkaloids and phenols.

SUBSTANCE FOR WHICH ANALYSED	PRESENT / ABSENT			
	LEAF	STEM	SEED	ROOT
<b>Alkaloids</b>	Present	Present	Present	Absent
<b>Flavonoid</b>	Present	Present	Present	Absent
<b>Tanins</b>	Present	Present	Present	Present
<b>Phenols</b>	Present	Present	Present	Present
<b>Saponins</b>	Present	Present	Present	Present
<b>Carbohydrates</b>	Present	Present	Present	Present
<b>Terpenes</b>	Absent	Present	Present	Present
<b>Cardiacglycosid</b>	Absent	Absent	Present	Present

Presence of these many bioconstituents make *Achyranthes aspera* an important medicinal plant. Isolation and characterization of individual bioconstituents may help a long way in developing the targeted drugs for the treatment of an array of human diseases.

## 15. INDIGENOUS KNOWLEDGE IN CONSERVATION AGRICULTURE

Y. L. Nene

### ***Abstract***

In the last two decades, most agricultural scientists were possessed by the buzzword, "Sustainable Agriculture". The current buzzword is "Conservation Agriculture".

Conservation agriculture is a concept for resource-saving agricultural crop production that strives to achieve acceptable profits together with high and sustained production levels while concurrently conserving the environment. This definition is not too different from the definition of Sustainable Agriculture except there is more stress on prudent resource management.

Agriculture in India, since ancient times, has always stressed conservation of resources and followed the teachings that what is taken from nature is returned to it with gratitude. In this paper, an attempt has been made to highlight verses from ancient and medieval texts that stress conservation agriculture. Verses from the texts of Rigveda, Parashara, Kautilya, Kashyapa, Surapala, and Parsurama have been quoted in support of conservation agriculture. Our small farmers even today follow traditional practices and do their best in recycling resources. The problem of wastage of resources is mostly with the commercial farming, which can be reduced through conscientious action.

Just to give an idea a two verses from different sources are quoted below:

“O Pusha! Do not destroy the trees that support birds but destroy those who hate me”. ( Rigveda 6:48:17).

“Even more than the ponds, lakes, wells, etc. protection of canals should be treated by them (farmers and the king) as their *dharma*” said the sages who know the truth (Kashyapa Smruti : about canals for irrigation).

**16. UTTARA VASTI – AS AN EFFECTIVE PROCEDURE  
FOR THE MANAGEMENT OF VANDHYA  
(Specific to female infertility with tubal block)**

Dr.P.Rajini,

### ***Abstract***

Infertility is one of the social status related health problems of couple in the modern society. In the present scenario, though the treatment of infertility is revolutionized with the advancement of modern techniques, it is costly and hence beyond the reach of poor. Infertility is correlated with vandhya in Ayurveda. According to Ayurveda four healthy factors ie rutu, kshetra, ambu, beeja are responsible for conception. Among these factors kshetra means complete reproductive organs i.e. vagina, cervix, uterus, fallopian tubes, ovaries. Uttara Vasti is advocated in Ayurveda to maintain kshetra, its normal structure and function to get progeny. In this study, the aim was to evaluate the efficacy of Uttara Vasti in female infertility associated with fallopian tubal block due to various pathological conditions. The patients were selected with history of no conception after having one or more years of married life and diagnosis is confirmed by Hystero Salpingography (HSG) with tubal block. The HSG report was taken as major criterion for this study as an objective parameter before and after treatment for assessing the efficacy of the procedure. Uttara Vasti procedure was administered with some medicated oil for a period of seven days after completion of menstrual bleeding for three successive menstrual cycles. After treatment again the patient is subjected to HSG that gave encouraging results. While the tubal patency is noted remarkably; some patients have conceived during treatment also. The success of the treatment can be attributed to srotoshodhana due to its sookshma, sneha, ushna, lekhana and vatahara properties of medicated oil. The present study shows Uttara Vasti as a safe and easy technique to treat vandhya associated with kshetra vikara.

Key words: Uttara Vasti, Vandhya, Tubal block

### **17. PANCHGAVYA – A GIFT OF GOD TO MANKIND**

Dr.Kulamarva.Jayakrishna,

## ***Ayurveda Physician, Hyderabad***

### ***Abstract***

Ancient India always believed and promoted worship of Nature with out whose support humanity will perish. Nature is looked as God because it is the supporter of entire life in the form of food, medicines and other requirements. Our seers had observed that natural foods, natural medicines and a natural living are not only holistic and sustainable but they also promote Dharma the essentiality quality that protects not only the individual but also the world.

*Dharmarthakamamokshanam Arogyam Moolamuthamam*

*Ayurveda* is the “Science of life” and is a gift of God to mankind. Our Rishis have said that among the nectars, *Ayurveda* is the best(*Ayurvedo amruthanam*) It is a comprehensive system of healthcare in which many elements work together prescribing a healthy way of living, and focusing on prevention of illness as well as healing the sick. Any system will have to depend on some support structures and in case of *Ayurveda*, these are the availability of good quality herbs, minerals and *Panchagavyas*- the five products from the cow. There are numerous applications of *Panchagavyas* in *Ayurveda*, which are discussed in this paper. *Panchagavya* comprises milk, curd, ghee, urine and dung.

**Milk:** Cow milk has been described as nutritive and good for the vital organs such as the eyes, brain and the heart. It possesses sweet taste and is cooling in nature. Cow milk promotes immunity and acts as *rasayana* and *ojovardhaka*. Among the *doshas*, it has the capacity to alleviate aggravated *Vata* and *Pitta dosha*. Cow milk is one of the most important ingredients in several *Ayurvedic* preparations such as *Mahanarayana Taila*, *Ksheerabala Taila*, *Panchagavya Ghritha*, *Amrtaprasha ghritha* etc.

**Curd:** Curd has been described as nutritive, tissue promoter, weight promoter and is said to be useful in the emaciated. But the negative side is that it is contra-indicated in people who are overweight and suffering from diabetes. Excess consumption of curd has been indicated as one of the causative factors of diabetes in *Ayurveda*. Consumption of Curd should be avoided in the night and also it should not be consumed regularly. In *Ayurveda*, Curd is used in the preparation of *Panchagavya* and



*Mahapanchagavya ghritha* and these two formulations have proven extremely beneficial in the treatment of psychiatric disorders and Epilepsy. They are also excellent promoters of memory and intellect.

**Buttermilk:** It has been equated with *amrutha* or nectar by our ancestors. It is especially useful for people suffering from malabsorption (Irritable bowel syndrome) and Piles. The formulation *Takrarishta* contains buttermilk as its main ingredient and is especially useful in the treatment of IBS and Piles. Latest research says that buttermilk is a rich source of probiotics (non pathogenic microbes which are beneficial to human beings) and this explains the secret behind our tradition of finishing a meal with a cup or two of buttermilk. The food we consume will consist of substances which disturb the essential bacterial flora present in the gut and this tradition of consuming buttermilk restores the balance. People who are suffering from irritable bowel syndrome should live on a diet consisting exclusively of buttermilk and pomegranate for a period of 21 days and they will find excellent improvement in the absorptive capacity of their intestines.

**Ghee:** According to the principles of *Ayurveda*, *Goghritha* is *Vata* and *Pittashamaka*, namely alleviates or pacifies *vata* and *pitta doshas*. It is an excellent Eye vision promoter (*chakshushya*), Brain tonic (*medhya*) and acts as a detoxifier (*Vishaghna*) of the toxins present in human body. *Ghritha* is said to enhance *dhee* (the capacity of the intellect to preserve knowledge, its faculty of rational thinking and its ability to take decision), *dhrthi* (ability to adhere to the righteous path) and *smrithi* (memory). *Ayurveda* advocates the daily consumption of Ghee and it is listed under the *nithya rasayana dravyas*. More than 150 Ghee based preparations are regularly used in *Ayurveda* treatment and some of the most commonly used are 1. *Mahathikthaka ghritha* in the treatment of skin diseases, 2. *Panchagavya* and *Mahapanchagavya ghritha* in the treatment of psychiatric problems and Epilepsy and 3. *Brahmi* and *Maha Kalyanaka ghritha* in the treatment of developmental disorders of the brain such as Autism.

**Gomutra and Gomaya:** *Ayurveda* advocates the use of *Gomutra* in *Vata* and *Kapha dosha* aggravated conditions such as *prameha* (Diabetes), *Medo roga* (Obesity), *Twak roga* (Skin diseases) and *Udara* (Ascites). It has proven very useful in the treatment of Vitiligo (white spots on the skin), Ascites (collection of fluid in the peritoneal cavity),

Obesity (because of its *lekhana guna*) and recently some successful case documentations have been done in the treatment of oral cancer conditions. Further studies are going on regarding the applications of *Gomutra* in the treatment of life threatening conditions such as Kidney failure and Cancer. *Gomutra* is widely used for the detoxification of toxic herbs (e.g. *Vatsanabha*) and purification of minerals (e.g. *Mandoora shodhana*) in Ayurveda. One widely researched example is that of Aconitum (*Vastanabhi*). Crude aconite is an extremely lethal substance. In case of accidental consumption, death ensues from myocardial depression or respiratory paralysis. Animal studies done on crude and processed Aconite showed that Aconite processed successively with *Gomutra* and *Godugdha* (Completely processed aconite) was rendered completely and absolutely non-toxic even at a dose as high as 20.8 mg/mouse. This study successfully demonstrated the Vishghna property of Panchagavya components and completely justifies instituting further deeper research into their applications.

*Gomaya* (Cow dung) is *Vata Kapha shamaka* and is largely used in Agriculture and also as fuel (source of gobar gas). In Ayurveda, its use is advocated in the form of fuel to purify metals to be used as medicines. Apart from these applications, some research findings indicate that it has radio protective effect. Cow's urine and dung are great products of use in organic farming. The harmful effects of fertilizers and pesticides are well known.

Obviously the aforesaid properties of Panchagavya relate to *Desi or* indigenous breed of Cow and not the hybrid ones which are the major source of milk to us today. There is a need to institute comparative studies on the quality and health giving properties of the Panchagavyas obtained from indigenous and hybrid cows to throw more light on the subject. Until such time that the products from hybrid cows are also equally good it is better to depend on local cow products only. Further, the process making ghee also will be important. Cow Ghee is prepared using the traditional process of churning curd, removing the butter and heating the butter possesses all the qualities traditionally ascribed to it. Needless to say that mechanized or adulterated preparations of Cow Ghee from the market sources also become suspect in their efficacy for medical use. We should remember that In the olden times there was no practice of buying ghee from the market and thus no worry about adulteration.

## 18. APPLICATION OF INDIAN ASTROLOGY AND PLANET- RELATED PLANT EXTRACTS FOR THE CURE OF DREADFUL DISEASES.

Shaik Ameer Jani,

Department of Genetics and Biotechnology, Osmania University.

### ***Abstract***

Astrology is one of the six sciences (Shatshastras) of ancient India. It is portrayed as an eye (Jyotirchakshuhu) for those who have gone astray in darkness of non intelligence (Agniyana). The present research focuses on the very fundamentals of ancient Indian Astrology to find prevention and cure for all possible lethal diseases on the face of the earth. Ancient Indian Astrology has acknowledged nine plants for nine planets of the solar system as shown in the ytable below:

S.No	Name of Planet	Botanical name of the related plant	Local name
1	Sun	Calotropis gigantea	( tella jilledu)
2	Moon	Butea monosperma	( moduga)
3	Mars	Acacia catechu	( nalla chandra)
4	Mercury	Achyranthes aspera	( uttareni)
5	Jupiter	Ficus religiosa	( aswatha or raavi)
6	Venus	Ficus racemosa	(medi)
7	Saturn	Prosopis cineraria	( jimmi)
8	Rahu	Cynodon dactylon	(garika)
9	Ketu	Desmostachya bipinnata	(darbha)

The herbal formulation will be prepared as follows applying the fundamentals of Ancient Indian Astrology:

Sun, Moon, Mars, Jupiter being the celestial friends their respective plant powders will be mixed resulting in the formation of a TETRA HERBAL FORMULATION.

Mercury and Venus being the celestial friends their respective plant powders will be mixed yielding a BIHERBAL FORMULATION.

In the same way the enemy planets such as Sun and Saturn, their plant powders will be combined resulting in the formation of a BIHERBAL FORMULATION including opposite plants. Thus all possible enemy plant powder combinations and friendly plant powder combinations will be prepared. The prepared formulations will be tested for their antimicrobial activity against most lethal pathogens on the face of the earth. The combination of all nine plant powders is termed as NANOHERBAL FORMULATION. This formulation will be tested through three phases of research as follows:

The central dogma of this research is carried in the following three phases:

1. In-vitro antimicrobial analysis of herbal formulations. (on Experimental lab model organisms) - first phase of research
2. In-vivo antimicrobial analysis of herbal formulations. (on experimental lab model animals) - second phase of research
3. In-vivo antimicrobial analysis of herbal formulations. (on humans) -third phase of research

The successful herbal formulation is expected to revolutionize the field of Green medicine and will help cure most lethal viruses, bacteria and fungi, thus contributing to the millennium development programme.

## **19. ROLE OF DIET IN MANAGEMENT AND PREVENTION OF EYE DISORDERS**

Dr.Pundareekaksha Rao

Among the five sensory organs, eyes are the most beautiful expressive organs we have that also have the capability of vision. A healthy balanced diet rich in all the essential nutrients and vitamins is necessary not only for general health and well-being, but for eye health too. Good nutrition helps our body to grow, repair wear and tear, protect against infection and to function properly.

There are a number of ways in which to care for our eyes. Whether treating an eye condition, or simply preventing one, nature provides us with the necessary tools to promote healthy vision and prolong eye health. Fresh garlic cloves helps prevent blood clots from forming in the small blood vessels of the retina. Antioxidants are considered beneficial in averting age-related macular degeneration, cataracts, and other eye ailments. Fruits and vegetables are rich sources of antioxidants. Milk, vegetables such as carrots, oranges and pumpkins and fruits like mangoes, papayas and oranges, Green leafy vegetables such as spinach, coriander and colocasia and non-vegetarian foods- fish, liver and eggs are essential for retina to function properly and averting night blindness, age-related macular degeneration and cataract. Amala, citrus fruits, orange juice, green peppers etc are useful in diminishing the menace of age-related macular degeneration (ARMD) and cataract formation. Omega 3 Fatty Acids in fish, dark leafy vegetables, eggs- fats are essential for nerve conduction in the retina and to reduce cholesterol. Magnesium in almonds, green leafy vegetables – is a mineral that relaxes smooth muscles and helps prevent muscle spasms. Smooth muscles are what regulate the outflow of aqueous humor from the inner eye. Zinc – in Barley, wheat, chicken, crab has been shown to stabilize and even improve vision in people with macular degeneration.

An eye condition called 'xerophthalmia', which is a common cause of childhood blindness in developing countries, is a good example of how nutrition and eye health go hand in hand. This condition is caused by a lack of vitamin A in a person's diet and could be prevented by eating fresh vegetables, fat and protein. Half a carrot a day will provide you with your daily recommended dosage of vitamin A.

Global cases of the eye disease glaucoma are expected to reach 80 million by 2020. The diet of the patient suffering from glaucoma should be based on three basic food groups, namely seeds, nuts and grains, vegetables and fruits, with emphasis on raw vitamin C-rich foods, fresh fruits and vegetables. Magnesium supplementation reduced peripheral vasospasms and improved visual fields in patients with normal tension and open angle glaucoma.

More and more, researchers are finding a link between good nutrition and maintaining healthy eyes. Scientists now believe that some eye diseases may be slowed by vitamins and minerals found in fruits and vegetables, or taken in supplement form.

Good diet, protection from heat and other foreign objects and good exercise of your eyes keep them healthy with long life.

## **20. PRAY HEARKEN TO THE WISDOM OF THE VEDA!**

A.G.B. Reddi

### ***Abstract***

Although the Rig-Veda Samhita is central to Indian thought and way of life, it is also probably the most misunderstood of all our scriptures. This misunderstanding is largely the result of an ancient version of Sanskrit that had been dexterously employed by the Seers to conceal by design the true sense of words. Even the great scholar Sayana and also Yaska, the lexicographer, seem to have erred in accepting predominately the outer meanings with the result that Sacrifice, which is the principal element of the Veda, emerges somewhat diminished as a mere external ritual performed to win the favour of certain powers of Nature for material ends. Western scholarship seized on this interpretation and went on to invent the so called theory of Aryan Invasion with a view to denigrate the greatness of indigenous Indian civilisation and culture. Fortunately this mischievous hypothesis is being discredited today with rapidly accumulating Archaeological and other scientific evidences to the contrary. The ritualistic reading of Vedic sacrifice had other incalculable consequences as well in the form of various social and religious movements that swept the country at different points of time during India's chequered history and assailed each in its own way, the vast and perennial *Dharma* embodied in the Veda.

According to Mahayogi Sri Aurobindo, a careful philological examination of the Vedic words yields a remarkably coherent esoteric sense to the entire Scripture and its rite of

sacrifice assumes a profound psychological significance. For instance *ghrtam* is not clarified butter any more but represents a clear mind or intellect. And *Soma* wine is not the intoxicating brew but spiritual Bliss or *Ananda*. The *Mantra* is not any chant but the true Word that springs from deep within the being of the performer of the sacrifice. Cows and horses signify spiritual illuminations and power rather than the designated herds. *Agni* is not merely the physical flame but represents divine Will, Knowledge and Force. *Indra* too is not just the god of thunder but the deity presiding over a pure and spiritual mind. Similarly *Vayu* stands for Life-force. Even the rest of the Vedic Pantheon – the twin *Aswins*, *Brihaspati*, *Aryaman*, *Varuna*, *Mitra*, *Saraswati*, *Mahi*, *Ila* and a host of others – have all very distinct psychological significances and roles of their own in the spiritual growth of man. And the rite of Sacrifice itself turns out to be an inner *Tapasya*, a continual process of total self-giving in surrender to the Supreme Being.

And what precisely was the Vedic sacrifice intended to secure? Not just cattle, progeny or gold surely. The true goal of the Rishis was to evolve in consciousness. They sought to rise above the triple *Gunas*, scale the numerous levels of the mind and attain the principle of *Vijnana* described as *Satyam Rtam Brhat* meaning a vast home of Truth and the source of all spiritual action behind this creation of ours. Whoever attains to it not only *experiences* the Oneness of all existence which is *Jnana* or true Knowledge but also becomes a powerful centre of dynamic action in the world, action that would be in perfect harmony with divine Will. Unlike Vedanta which in its extreme form seeks escape into some distant eldorados of the spirit, the Veda is quite pragmatically concerned with transforming life on this very earth, *ihaiva*.

In the context of the Veda's spiritual goal of realising the Oneness of all existence, is it not indeed remarkable that the modern world, however imperfect otherwise, is today engaged in pursuing certain universal ideals that involve the entire mankind as a single family – ideals as diverse and ambitious as global peace and harmony, preservation of earth's greenery and climate, forging a seamless society with equal opportunities for one and all, equitable sharing and rational utilisation of earth's natural resources, softening of hostilities and even blurring of boundaries between nation states and what have you? All these and more affirm the overall march of mankind towards the ultimate goal of human unity. And yet if this goal remains a distant dream, and even hopelessly unrealisable at times, the fault rests entirely with the intrinsic nature of man which is highly ego-centric.

In other words it is essentially a *crisis of consciousness*, a crisis that is deep and pervasive vitiating all human relations and activity. This is where the Vedic Rishis can come to our aid. How and in what measure should be a matter of earnest debate amongst educationists and savants alike.

India is a cornucopia of ancient wisdom that has timeless relevance to entire humanity. We already have an outstanding example in the philosophy of the Bhagawad Gita that is said to be finding enthusiastic acceptance even in the so called mundane world of business houses across the world today. Like the Gita, the Rig-Veda too is a sublime Book of Works, works enjoined to be performed impersonally in submission to and in harmony with a superior Will or Power rather than the individual ego which is the cause of all conflict between men and nations and misery in the world. This radical shift of consciousness at one go will not be easy no doubt but surely not unattainable given the sincerity and perseverance needed for the purpose. Moreover it will mark a giant stride in our evolution which is after all a primordial urge of Nature.

## **21. GEOPATHIC STRESS AND ITS EFFECT ON HUMAN HEALTH AND HAPPINESS**

Dr. Mannem Murthy

### ***Abstract***

Eighty percent of doctors and scientists are not aware of Geopathic radiations, which are the root cause of 80% of long term diseases and sufferings that some people attribute to bad luck. It is scientifically verified by Germans, French, and now in India. Our ancients had also indicated the presence of such *stressed places* and advised people not to live in such areas. Although this subject appears to belong to Environmental scientists, they also seem to have no awareness on these natural harmful 'Earth grids'. But Germans are the first in the world to introduce techniques to neutralize such stressed places and clear for allotment of such houses in order to avoid medical reimbursement and criminal problems.

### ***What is Geopathic stress (GS)?***



GEO means *Earth*, PATHOS means *misery or sorrow* and the STRESS means disorder due to strain. Habitations living in these unseen radiation grids can cause misery and sorrow. These are harmful *electro magnetic radiations* coming from crust of the Earth. These are caused due to the presence of major or minor geological structures like faults, folds, fractures which also include flow of under ground waterlines. Presence of some harmful minerals like those of uranium, arsenic and lead or even *conscious bones* also give harmful radiations. (For details Search in Google for GS or see our site [www.vedicauraenergy.com](http://www.vedicauraenergy.com))

### ***How they affect the Human health?***

Human body is made of 33 trillion cells (DNA) enclosed in a membrane. Each cell has a size of 10  $\mu m$ , weighing one *nano gram* and having a capacity to communicate 100,000 times with the other cells to secure the body mechanism and its parts. These forces are electromagnetic in nature. The earth's negative electromagnetic radiations and their impact on cells can result in failure of their functioning and cause disorder in communication system. As a result certain weak parts of the body get diseased.

### ***What are the indications of Geopathic stress and consequences***

Our human system can understand these signals, but normally we ignore them. Most of the incurable long term chronic diseases are present in those areas which do not respond to any medicine. Mostly Cancer, Kidney failure, Heart attack, Psychic problems are common. These forces affect some people whose frequencies are in line with Geopathic stress. Some are affected within six months, and some may take even twenty years but certainly they lower the immune system. One may feel discomfort in the house compared to the other places due to several factors like:

- 1) People get irritated frequently and quarrel on silly events,
- 2) Tinkling in the legs, pain in knees,
- 3) Sleeplessness / sleep associated with bad and frightening dreams,
- 4) Infants do weep continuously.

- 5) In such places cats give kittens, termites make their ant hills, bats frequently visits such places where as dog, cow, horse, elephant keep away from such places (our Ancients wisdom)

The United States has worked on this phenomenon in detail in line with Germans, French, and concluded some facts. The *Dulwich Health Society* studied over 24,000 people with ill health and concluded that the following groups are Geopathically stressed.

- 100% of people who get secondary cancer.
- 95% of people who get cancer were sleeping and/or working in a GS place before or at the time the cancer was diagnosed.
- 95% of children, who are hyperactive, have learning disabilities or are difficult to control.
- 95% of people who get aids.
- 80% of parents/caregivers who abuse children.
- 80% of divorces are by one or both partners being GS.
- 80% of couples who cannot have babies, one or both are GS.
- 80% of women who have a miscarriage.
- 80% of babies who died of cot death.
- 30% suicide tendency and murder are accidents are prone on such areas sufferers.
- 70% of people who are allergic to food/drink

The author has invented a Universal Thermo Scanner which works on the molecular frequency. This instrument helps in identifying and quantifying the energy field of people, places, objects, plants, etc. It can measure the energies associated with various aforesaid chakras and also identify the various EMF radiations a person is being exposed to. The AURA HOUSE lead by the author has documented 6000 cases across the country and elsewhere and neutralized these lines in factories and residences successfully. ([www.vedicauraenergy.com](http://www.vedicauraenergy.com)).

## **22. VIRUDDHAHARA**

Smt. Soumya B and Dr. JSRA Prasad

### Abstract

The health of a person depends on the *trayopasthambhas*, which are *nidra*, *ahara* and *brahmacarya*. It is like the three legs of the tripod. If one of these is not in equilibrium the whole health of a person is affected. In this paper, our main emphasis is on *ahara*. Food is considered as one of the basic necessities. It is regarded as Brahman in Upanishads. Kasyapa calls food as *mahabhaishajya*. Food is responsible for the growth, development and enhancement of *ojas*.

अन्नं ब्रह्मेति व्यजानात् अन्नादे खल्विमानि भूतानि जायन्ते ।

अन्नेन जातानि जीवन्ति अन्नं प्रयन्त्यभिसंविशतीति॥

(Taittiriya Upanishad, Bhrguvalli)

Food is supreme (Brahma). All the beings originate from food, and it is responsible for the life of all beings. Anna is present in all living beings in the form of food sheath (*annamayakosha*). When the food is not wholesome, when it is not taken in time, and according to the nature of a person, it becomes the cause of disease. Caraka says that without wholesome food, diseases cannot be treated by just medicines.

न च आहारसमं किञ्चित् भैषज्यमुपलभ्यते ।

शक्यतेऽप्यन्नमात्रेण नरः कर्तुं निरामयः ॥

(Kasyapa samhita – khila sthana 4/5)

No medicine is equivalent to food. It is possible to make a person disease free with just proper diet. Most of the incurable diseases are produced due to improper food and improper food habits. Especially in the present scenario, the lifestyle and food habits have changed a lot. People are depending more on junk and fast foods. They are not concerned about when and where to take food. Caraka explains about *viruddhaharas* in this text. If we don't follow these norms of *ahara* and take food without knowing what to take and when, it may cause disease. *Viruddhahara* is incompatible or contradictory food.

यत्किञ्चिद्दोषमुत्क्रिय भुक्तं कोपत्र निहरित् ।

रसादीष्वयथार्थं वा तद्विवेकाराय कल्पते ॥

Susruta samhita – sutra sthana 20/20

The food and drugs which dislodge the *doshas* from its normal seat, but do not expel it out of the body are regarded as *viruddha*. It can be based on place, processing, cooking,

time, potency, combination, agni, bowel, wholesomeness, quantity, state of health, quality, conduciveness, order of intake, rules of intake, doshas and psychological factors.

These viruddhas are listed below:

1. Place (Desa viruddha)
2. Time (Kala viruddha)
3. Digestive fire (Agni viruddha)
4. Quantity or proportion. (Matra viruddha)
5. Conduciveness (Satmya viruddha)
6. Processing (Samskara viruddha)
7. Potency (Virya viruddha)
8. Bowel (Kostha viruddha)
9. Condition of health (Avastha viruddha)
10. Contradictory to rules (Krama viruddha)
11. Practice (Parihara viruddha)
12. Defect in process of preparation (Paka viruddha)
13. Combination (Samyoga viruddha)
14. Contradictory to mind (Hrdviruddha)
15. Richness of quality (Sampat viruddha)
16. Codes (vidhi viruddha)
17. Dosa (Dosa viruddha)

Most of the people are ignorant of this issue of incompatibility of food. Consumption of viruddhaharas cause severe problems for health.

विरुद्धमपि चाहारं विद्यात् विषगरोपमम् ।  
सद्योनाशकत्वं – मत्स्यनिस्तालितस्नेहसाधितं पिप्पली ।

*Ashtanga hridaya – 7/29*

Viruddhaharas may act both as acute poison or chronic poison, producing instantaneous and/or delayed effects

Though Caraka, Susruta and other scholars are explaining about the virudhaharas, it is also said that some of them can be ignored if we are used to that particular combinations of food from the childhood itself. There are also exceptions for

viruddha. We can see a lot of people suffering from allergies and many people are having various types of food intolerance. The major cause of these is viruddhaharas. This paper mainly emphasizes on the viruddhaharas and its effects on our health.

KEYWORDS: *nidra, ahara, brahmacharya, viruddhahara*

### **23. ENVIRONMENTAL PROBLEMS OF HONG KONG – AND LESSONS FOR CHINA AND INDIA**

Dr. Shanti Moganti

#### ***Abstract***

Hong Kong, once a small fishing village literary meaning “fragrant Harbor”, is bustling city now with over seven million people spread in an area of just about 1100 [sq.km](#). Being one of the fastest growing economies in the world, coupled with high population density, growth and modernization, the city faces huge environmental issues. Besides ambient air pollution generated by heavy vehicular traffic, Hong Kong regularly battles with air quality problems largely because of smog generated by tens of thousands of factories across the border in southern China, which causes more than a thousand deaths every year. Hong Kong’s construction industry generates huge environmental issues related to air, noise and water pollution. Hong Kong with its amazing biodiversity and long beautiful coastlines (461km in Kowloon Peninsula and New Territories and 728km in Hong Kong Island, Lantau Island and other small islands), heavily depends on its seas for navigation, recreation, seafood production and the supply of flushing and cooling water. Over-fishing and unsustainable fishing practices remain the single, major threat to marine life in Hong Kong. Bacterial contamination and algal blooms large concentrations of aquatic microorganisms are not uncommon sights, rendering some beaches unfit for public and leisure use. The recent red tide (common name for the phenomenon of algal bloom) had resulted in tones of dead fish, spreading the smell all over. Unhealthy sea food obtained from highly polluted coastline reaches the humans causing serious health hazards to the extent that toxicants like polychlorinated biphenyls (PCBs) have been shown in the breast milk of ethnic Chinese women though its consumption.

Hong Kong administration is fully alive to the problems. Vehicular pollution is significantly controlled by forcing better vehicle maintenance, tightening emission standards, providing incentives, banning of high sulfur fuel. Government would put a ban on idling engines from December 2011, as these are 10 times more polluting than the slow moving vehicles, These vehicles increase road side temperature by almost 5 degree Celsius according to a research. A study, conducted by a group of Norway-based scientists, compared the greenhouse emissions of 73 economies and found Hong Kong with a per capita footprint of 29 tons per year, second only to Luxembourg's 33 tons. The population density of Hong Kong is a whopping 6349 per sq. km against 140 in mainland China and 368 in India and a mere 30 in USA. Interestingly Beijing with a population density of 1167/sq.km and India's capital Delhi with a staggering population density of over 11,000 per [sq.km](#) fall in the top ten most polluted cities in the world. United States with a population of third of a billion produces nearly 6000 million metric tons of CO<sub>2</sub> emissions with a per capita of 20 tons. China also produces about the same quantity but with a per capita of 4.58. On the other hand India produces about 1300 with a per capita of mere 1.16. So it is unthinkable what would happen if India and China happen to emulate USA in their carbon emissions. All these figures are listed here only to highlight the astounding size of the problem and the absurdity of looking for only technological solutions for environmental control and preservation. In spite of it China has already decided to become the industrial estate of the world and going ahead full swing, for which a heavy price may have to be paid in the very near future. Shenzhen, the border city of Hong Kong and China has recently announced that it is going to build the world's largest rubbish incinerator capable of processing 5000 tons a day in an effort to cope up with almost 5 million tons of domestic waste produced by the city each year by its 13 million residents. Hong Kong is following suite with an incinerator of 3000 ton capacity, on a reclaimed land - a double trouble. A senior environmental Officer at 'FRIENDS OF THE EARTH', Hong Kong admits that "it is definitely not a image boost to tell others the incinerator is worlds largest", leave alone the serious environmental impact it is going to cause by the by the release of the most toxic dioxins, due to the pyrolysis of this mounting waste.

It is sad that the Oriental wisdom is totally blinded by the Western materialism. The fundamental question is whether the over populated and financially poor countries in the Orient like China and India should 'develop' in the same way as the West is developing.

If so, is it in the interest of these countries or in the interest of the West? Environmental pollution control any where in the world has two options - One is to go on finding expensive and incomplete solutions based on ever changing technology promoted by the West. The other is to cut down the pollution slowly and steadily by changing the life style into a more and more natural and eco-friendly methods. In this respect actually China and India can take a few pages from the history of their proud past and become pioneers and world leaders in environmental protection.

Technology is not always the answer to problems like these. The world is aware of peace, non-violence, vegetarianism etc promoted by Buddhism, which is quite popular in China. Similarly the principles of non-violence, self reliance, rural development, simple and natural eco-friendly living propagated through out his life by Mahatma Gandhi are equally popular all over the world. Eco- friendly practices commensurate with these ideals are: reducing one's *possessions* or increasing *self sufficiency* and being extremely resourceful. Simple living may be characterized by individuals being satisfied with what they *need* rather than what they *want*. A lot of environmental education is necessary for people of all ages. Films create a mass awareness. Attempts like Rainmakers, a multi award winning investigative documentary about the decline of China's environment told from the perspective of four ordinary people, who are deeply devoted to their causes – because the cause are their own- real threats that face their families and communities, can be cited here as an example.

Businesses should thrive around highly sustainable, honest and eco-friendly practices. There should be an anti-consumerist movement started and pursued mainly by the middle class because the poor has nothing to waste and the rich never care. A social stigma should be created against affluence and extravagance. The philosophy of Reduce, Recycle and Reuse should be religiously applied in all walks of life. Perhaps this is the cheapest and best way to restore the health of Mother Earth. These ideas might look far fetched. Never the less, given the magnitude of the problem and the pace with which the world is heading, this seems to be the most idealistic, non invasive and non destructive approach although it might feel non achievable and non lucrative alternative to solve the major environmental issues the world is facing today. But if we cannot control our greed and wasteful practices, Nature will take its own course and then we will have nothing but to submit ourselves to the so called 'vagaries' of Nature.

## **24. CERTAIN MYTHS AND TRUTHS REGARDING AYURVEDA**

**Dr.M.Srinivasulu**

Director, Marri Academy of Ayurveda, Hyderabad,  
former P.G.Professor, Govt. Ayurveda college Hyderabad

### **ABSTRACT**

'Ayurveda' is a self explanatory word with the meaning it is 'science of life'. It deals and discusses various aspects of the life. Since the life on earth, the quest for the healing of disease and maintenance of health started. The cumulative accumulation of that work since centuries is in the form of Ayurveda, with the blend of culture and heritage of natives. Ayurveda is based on experiences as if experimented on humans. Ayurveda is a stream of nectar running since ages safeguarding the survival of human race. After foreign invasions, Ayurveda covered by many clouds of myths lapsing royalty. Till last decade there was lot of debates by western based scientists saying whether Ayurveda is a science or not. Now Ayurveda cleared all the myths of scientific world like sun on darkness and emerged as best ecofriendly science of life.

But still a few myths are popular in public minds, some of them are 1.Ayurvedic medicines are costly 2. Ayurvedic medicines damage liver and kidney. 3. Ayurveda prescribes dietary restrictions. These three myths, as they can be termed as, are discussed below:

#### **1. Ayurvedic medicines are costly:**

The therapeutics of ayurveda mainly classified into three aspects. (i).yuktivyapasraya (therapeutic measures based on pharmaco therapy, dieto therapy and physio therapy) (ii) Satwavajaya (psycho therapy) (iii) Daiva vyapasraya (spiritual therapy).

Nowadays Ayurveda mostly in practice based on yukti vyapasraya in which pharmaco therapy is the premier. Pharmacotherapy of Ayurveda is mostly exploited by pharmaceuticals and multi nationals, leading to rise of cost of medicine. Truly speaking



Ayurvedic pharmacy depends upon herbs and minerals. It is true that certain gold medicines are costly in preparation and in market. But the percentage of gold containing medicines in use are less than 3% of whole medicines. Other medicines are herbal based for which our country is rich in source. Ayurvedic medicines are cheap and effective provided if we use more herbal medicine in practice. In Kerala no mineral compounds are in practice and the flora is also extensive, hence Ayurveda is more popular even in the common population. If the local governments promote the cultivation of herbal gardens, ayurvedic medicines will become still cheaper than any other medicine. Hence Ayurveda is a cost effective and cheaper medicine.

Another exploitation of Ayurveda is with the name of panchakarma therapy. Truly speaking 90% of popular panchakarma centers in the country are not practicing true panchakarma i.e. elimination therapy. All are practicing external therapies which are not going to eliminate the morbid factors from the body instead they are collecting more money in the name of pancha karma. It is also a myth that there is a separate 'Kerala Ayurveda' as advertising in the audio visual and media publicity. In the hands of a good physician ayurvedic treatment is actually cheaper and effective. Hence it is a myth that ayurvedic treatment is a costly one.

## **2. Ayurvedic medicines damage liver and kidney:**

"Nowadays many of the learned professors of other faculties are misguiding the public that ayurvedic medicines are having toxicity to damage the kidneys and liver etc."

It is an absolute baseless statement. More than 20% of the population in India are absolutely depending upon ayurvedic medicines apart from occasional users. What is the rate of organic damage on use of ayurvedic medicines? On iatrogenic usage as done in any medicine including allopathy the adverse damage may exist, which cannot be attributed to ayurvedic medicine. Further they must realize that Ayurvedic medicines are good hepato-protective and nephro protective. All mineral medicines in use by Ayurveda are processed to nullify the toxicity and purified; hence the question of damage either to liver or kidney is a myth. Apart from that it is an established fact that they are hepato protective and nephro protective according to many studies.

## **3. Ayurveda prescribes dietary restrictions:**

It is true that since ages Ayurveda prescribes the food for maintenance of good health as well to cure the disease and to help the drug and body in arresting the pathology of a disease. In the true sense, just you think how this body is formed in uterus and outside after the birth.

*“Deho ahara sambhava..”* this body is made-up of food. The exogenous food (proteins, fats or whatever may be the molecules required for tissue) in the atmosphere are turned into endogenous tissue with the help of Agni (Biofire useful for digestion and metabolism of tissue in the body) in the body. It is nothing but the food is the fuel of the body either to yield energy or for metabolic activities in the body. If the fuel is not in quality to suit the individual's health condition, it results in pathological condition; hence Ayurveda prescribes the diet in good sense to maintain health, to heal the disease and to prevent the relapses. Now this priority of diet realized and recognized by western medical community, which started to appoint a dietician in every hospital.

Still there are many myths created by western medical society which misunderstood the Ayurveda. In true sense, Ayurveda advocates the way of life for the embodiments of the universe, which understood the human as a component of this universe. Ayurveda thinks that this body is a component of nature, hence advocated to treat its imbalance with natural products, which best suites and acceptable by the body. The Ayurveda feels and advocates the treatment for entire body as a single unit; it never thinks in the terms of individual organs, it thinks that body is composite of all organs. Hence it is possible for Ayurveda to give comprehensive and radical treatment.

## **25. DATING THE ANCIENT EVENTS: DIFFICULTIES AND DRAWBACKS.**

Prof. V.Kannan

### ***Abstract***

For many of the ancient literary works like Vedas, Ramayana, Mahabharata, Sulba sutras, etc. that are replete with passages proclaiming profound scientific achievements and truths, we have been unable to determine the age of these

works, that certainly belong to a pre-Christian era. Four among the major difficulties in this task have been the following:

1. Many passages were interpolated on later dates and we cannot always distinguish them from the original.
2. There are so many unpublished manuscripts, some of which could have helped us in determining the dates of other books. Among them, many have not even been maintained properly.
3. The invaders and foreign rulers have both directly and indirectly led to the destruction of books and other sources.
4. The fact that many persons bear the same names has been a hindrance and a distraction, particularly when mishandled by vested interests.

Also four of the major demerits of the historians have been the following:

- Bias resulting in underestimates, sometimes as a counteraction to overestimates.
- Conjecturing against the self-confession of inability to determine.
- Completely ignoring traditional accounts.
- Unwillingness to make corrections based on facts gathered later.

We explain each of these, with concrete instances, often quoting the words of those historians themselves. We conclude that these dates cannot be determined even approximately, and that the range of proposed dates is really huge, defying our desire to converge. There is no evidence against their traditionally believed antiquity.

## **26. A GLIMPSE OF PATANJALI YOGA SUTRAS**

Dr. T.S.Ramakrishna

### ***Abstract***

The teachings of Lord Krishna through Bhagavad Gita mark the highest wisdom that inspires man to rise to the level of Supreme Soul. Patanjali's Yoga Sutras provide the practical route for achieving this spiritual objective where one can realize the

meaning of “Aham Brhamasmi”. The 195 yoga sutras or aphorisms of Patanjali, divided in to four chapters, are concentrated knowledge expressed in utmost brevity.

Yoga is said to be restraining the mind - Chitta, from taking various forms or Vrittis. These are right knowledge, indiscrimination, verbal delusion, sleep and memory, the appreciation of which can be had from direct perception, inference and clear evidence. Controlling these Vrittis is possible by long, continuous and firm practice of non-attachment to materialism and termination of all mental activity.

ESWARA, the Supreme Soul is the teacher of all ancient teachers and his manifesting word is AUM, by repeating and introspecting on which all obstacles like disease, mental laziness, doubt, lack of enthusiasm, clinging to sensory pleasures, false perception, lacking of concentration, falling down from the attained state etc are removed., The concentration that follows by systematizing breath, brings extra ordinary sensory perceptions and mind becomes undisturbed from the objects, atomic to infinite, attaining nirvitarka Samadhi, where there will be no questions asked. The resulting impressions from this Samadhi dissolve all other impressions, and by the restraint of even this comes the ultimate, which is the seedless Samadhi. The first step for achieving this is called the Kriya Yog, which calls for the practice of mortification, study of scriptures and surrendering the fruits of action to God.

Knowledge is only removal of ignorance, which takes the non-eternal to be eternal, impure to be pure, painful to be happy and the non-Self to be Self. Yogic practice is nothing but acquiring the ability to discriminate between the real and unreal. Every thought, word or action, after it passes on, does not die but becomes finer and goes down and stored up in the form of Samskaras in man, only to come up later. The most unfortunate aspect of Gunas born of contact with Nature is that we do not even recognize our miserable states. Knowledge comes in seven levels. The first level is to know what is to be known, the second is absence of pain, the third is the attainment of full knowledge, the fourth is the attainment of the end of all duty, the fifth is the freedom of the Chitta. Next is dissolution of Chitta itself and finally the feeling that we are established in the pure and perfect Self of our own.

We are the masters of our Self. All the bodies in the universe are made of Tanmatras but their difference lies in the arrangement, like the molecular structure. We can regulate this arrangement and be free from birth, disease and death. When man sees and feels the dwindling attachments and love in this world, then he gets a glimpse of Vairagya – renunciation, and the world Beyond. The practical means of reaching that state are through *Ashtanga Yoga* the eight limbs of Yoga, namely Yama, Niyama, Asana, Pranayama, Pratyahara, Dharana, Dhyana and Samadhi of which, the first four are related to the body and the latter are mind related. Pratyahara means withdrawal of senses while Dharana, Dhyana and Samadhi are three ascending levels of cessation of mental activity. When all these three states coalesce, it is called *Sanyama*.

By making *Samyama* on different objects, the Yogi gets enormous supernatural sensory powers. But all these powers, which are extraordinary in the worldly sense, are obstacles to Samadhi. Such extraordinary powers come to man by his birth, due to actions in past births or change of chemistry of the body and mind, by Mantra the power of words, mortification or Samadhi, the last being the highest means. By rejecting all these powers comes the power to destroy the very seed of evil, leading to *Kaivalya*.

Acquisition of powers is done generally in installments, birth after birth, which takes up lot of time. But if the same body can be preserved, a lot of time can be saved, which is not impossible. Patanjali declares that the true secret of evolution is the manifestation of perfection, which already exists in every being. In man there exists a potential god, kept in locks and barred by ignorance. When these locks and bars are broken by knowledge, God manifests in the man. All experiences are preceded by a desire for happiness. Experiences become impressions and they become memory, which includes unconscious coordination of past experiences. Chitta the mind stuff is a great warehouse storing all the desires in the form of Samskaras. By means of environment, we can check the Karma as well as keep the results of Karma in abeyance.

The gist of the theory is that the universe is both mental and material. Mind and matter are both moving but at different speeds as such we can distinguish between the two motions. The slowest motion can only be perceived when there is something fixed. And that is Purusha the changeless, the colorless and the pure. The mind is not self-

luminous being an object unlike Purusha, which alone is self-luminous and gives light to every thing. For the discriminating yogi, the perception of mind as Atman ceases. Even when arriving at the right discriminating knowledge of the essences, he who gives up the fruits acquires the Samadhi called cloud of virtue. The changes that exist in relation to moments that are perceived at the other end is defined by Patanjali as succession.

Mother Nature gently leads the Self-forgetting Soul by hand, shows us all experiences and all manifestations like pleasure and pain, good and evil, taking us higher and higher. Thus the infinite river of Souls flows in to the ocean of perfection and Self-realization. Blessed are such Souls.

## **27. HEALTH CARE THROUGH NATUROPATHY**

Dr.T.Krishnamurthy

Superintendent, Red Cross Institute of Yoga and Naturopathy, Banjara Hills, Hyderabad-

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### ***Abstract***

Naturopathy or Nature Cure is a system of treating disease with the help of Nature's agencies, products which are useful for the human system. The fundamental principles of Nature Cure are:

1. Our body is having a remarkable recuperative power when it is left alone ie not interfering with the healing powers of the body.
2. Deposits of toxic matter or un-eliminated metabolic end products through the intestine, kidneys, skin and lungs cause excess burden in the internal system and cause different organic disorders
3. Detoxification is one of the most effective healing method in Naturopathy
4. To maintain good health we have to concentrate on three things. a) balance of acid and alkaline levels in the system b) getting rid of toxins stored in the body and c) improvement of circulation by getting rid of congestion , particularly of lymphatic system.

The various Naturopathy treatments are Therapeutic massages, steam bath, spinal and hip baths, arm and foot baths, plantain leaf bath, immersion bath, mud bath, enema, thermoleum, acupressure and acupuncture, supported by Yoga. The various diseases that can be cured by Naturopathy are obesity, diabetes, hypertension, respiratory disorders, digestive disorders, menstrual and gynaec disorders, skin disorders, arthritis, spondylitis and other spinal problems. Food is a very important input to the body that not only affects our physical health but also mental health. There are some super foods that help boost the immune system of the body. We should consume them daily in required quantity. Per day one should eat:

1. 50 gms of nuts and sprouts. They provide proteins, which rebuild strength
2. Fruits and lightly steamed vegetables for Vitamin C and E and beta carotene
3. Sprouts, spinach, cabbage, water melon and musk melon for glutathione
4. Nuts and whole grains have more zinc.

The following routine and diet plan is essential for good health:

Time	Activity
5.00 AM	Rising from bed , drinking 400 ml of water , walking and attending to nature' call
6.00 AM	Yogic exercises: <div> <div>1.Uttana padasanam</div> <div>2 mts</div> </div> <div> <div>2.Naukasanam</div> <div>2 mts</div> </div> <div> <div>3.Bhujangasanam</div> <div>2 to 6 mts</div> </div> <div> <div>4.Salabhasanam</div> <div>2 mts</div> </div> <div> <div>5.Navasanam</div> <div>2 mts</div> </div> <div> <div>6.Pavana muktasanam</div> <div>2 to 6 mts</div> </div> <div> <div>7.Ardhamatsyendrasanam</div> <div>2mts</div> </div> <div> <div>8.Pranayama</div> <div>10 to 30 mts</div> </div> <div> <div>9.Savasnam</div> <div>5 mts</div> </div>

8.00 AM	Sprouts 50gms/Raw salad (cucumber or Keera + carrot ) 100gms Seasonal fruits- 200gms (water melon, musk melon) Dry fruits- Munakka/Fig/Almonds
1.00PM Lunch	Boiled vegetables (300 to 400 gms) (Bitter guard, ridge guard, snake guard, cabbage, beetroot etc) Dal with leafy vegetables 200gms Wheat polkas – 2 to 3 / 1 cup rice / Buttermilk
4.00 PM	Raw vegetable juice 200ml (tomato/carrot/beetroot) + 3 teaspoonfuls honey or any seasonal fruit juice
6.00 PM	Raw salads 200 gms, seasonal fruits, buttermilk
10.00 PM	Retire to sleep

Drink plenty of water (3.5 to 4 lts per day), except during meal and within 2 hours after that.

Healing through Yoga:

Yoga therapy refers to the treatment of diseases by means of yogic exercises, which may be physical or mental or both. Yoga kriyas, asanas and pranayama constitute the physical aspects of Yoga. All Yogic methods improve circulation and energize and stimulate major endocrine glands of the body. Pranayama slows down the ageing process. Meditation is the process of getting to know one's own self completely both what one is inside and how he reacts to the outside. Above all the word meditation is used to describe a number of different uses of mind from contemplation and concentration to devotion and chanting of mantras.

## **28. LIVING WITH THE NATURE**

Smt. G. Vamsipriya

### ***Abstract***

Nature is endowed with enormous and divine power that creates, promotes, regulates and terminates the entire universe. But this magnificent Nature is made up of just five elements, earth, air, water, fire and empty space, called the *Panchbhootas*. God in the name of 'Nature' has created a beautiful milieu with vast oceans, elegant mountains, beautiful forests, colorful scenarios of landscapes, serpentine rivers that flow through



valleys, enchanting, gushing and tumbling waters over cliffs, boulders, lush foliage, fertile lands of delta, vast deserts with sweet oases in the mirage of sand, volcanoes burning deep down and gushing out red hot lava that swallows everything on its way, milky white glaciers, lovely creatures of all kinds flora and fauna and of course the human being!

Nature provides us with ample resources, pleasant surroundings and comfortable climate for all living creatures to live a wonderful life. Although in the modern times there is a lot of destruction of Nature to cater to the endless greed of the humans, there is also a great concern and consciousness among a few people about the alarming degradation of Nature. Consequently Environmental science and Ecology have acquired great importance. Ecology is the interdependence of all living organisms and their natural surroundings. The most efficient and predominant difference between any other living species and mankind is the art of thinking, gifted by God as a boon, whereas other species are limited by their resources of thought and action. While man requires the help of plants and animals for his survival, the latter do not require man for their survival. Thus humans are inextricably involved in the ecology of our planet.

In the past, one could never imagine that this beautiful Nature can ever be destroyed, the 'endless' resources of earth can ever be depleted and life on earth can tend to be critical. But it is happening! And all because of the greed, indifference and ignorance of the human being, who wants to extend his own life as much as possible by using medical technology and control and regulate the births to prevent new arrivals and vandalize the earth for his own well being and pleasures. They overpopulated the earth highly disharmonious with the other ecological members. Human beings, in today's world, in the name of science and technology are destroying nature by demolishing forests, contaminating oceans, abusing land for our so called comforts, over damming rivers, creating nuclear weapons, and in conclusion abusing or misusing all natural resources, causing global warming and climate change through harmful emissions.

Every time man tried going against nature to dominate and have a hold on it by disturbing the equilibrium, nature has forcefully balanced earth and taught harsh lessons by creating tsunamis, cyclones, earthquakes, famine, draughts and eruptions of volcanoes. These simple facts and lessons are being unheeded by the avaricious

humans. Humans have neither created this universe nor are they permanent residents on this planet. So they do not have any right to control or hold anything including their mortal bodies. We got to control our senses to lead a balanced life.

It is time to wake up and the humans have to put a bridle on their selfishness and greed and concentrate on saving the nature. To save the Nature, and the mankind, the best solution lies in reviving our ancient traditions and cultures that have been passed on to us for many generations. The modern world is gradually drowning drastically into the depths of Western culture of short term fame and glory. It is high time to sit back and retrieve our customs of strength and integrity of our country. The modern man has forgotten the blissful enjoyment of watching blossoming flowers, chirping birds, clear blue skies with beautiful shapes of cloud, the soft and pleasant moonlight and many other such splendors of nature.

It is a blessing to be a part of this Nature and even more honor to be a part of this holy land, India. It teaches every Indian by birth, tolerance, care, love, affection and faith. Our ancient saints, who were sages and philosophers, created a life pattern for themselves and the progeny ahead, a simple, magnificent art of living - a life of togetherness with not only human beings but also the plants and animals around us. This requires controlling the body and mind and bringing them together. This is best done by yoga and meditation. While yoga helps us to keep our physical body in perfect health, meditation clears all our mental pollution which is responsible for all our internal and external miseries.

Kids of today's era are undergoing deep stress and agony due to physical and mental overloading. They lost the charm of simplicity, small childhood pleasures and instead they are carrying more burden beyond their age. Today's generation need to recapture the essence of life of our ancestor's staunch foundation of ancient art of living by starting with small deeds, caring for elders, planting trees, respecting nature for giving us this wonderful life to live by. They should be shown the taste of a natural and simple life – to live with the Nature – for health and happiness. They should be asked to watch the Nature. They should be educated in the principle of “live and let live” and not “live and let die” that seems to be gripping the world.

## 29. THE SCIENCE OF CONSCIOUSNESS

Prof. N.S.Prasad

### **Abstract**

*Scientists around the world, in the recent past, are putting efforts in understanding the mind-body problem and the nature of consciousness. Upanishads dealt more elaborately about the three conscious states namely waking, dream and deep-sleep - the understanding of which leads a man to a state of enlightenment. Scientists, on the other hand, discovering advanced technique like Gas Discharge Visualization (GDV) to scan and analyze the Aura around the human body. Combining the ancient wisdom and the modern technology can help humanity in monitoring progress in their pursuit of spiritual advancement.*

The highest goal of human life is to strive to realize the ultimate Reality, and to liberate and break away from the chain of births and deaths when the Atman merges with the Brahman. The Brahman has been described as Truth, Knowledge, Infinite and all pervading. The human personality continuously evolves towards this goal taking many births, following the law of karma. In this pursuit, some pray and worship to realize Brahman in the macrocosm while others meditate for the inner Atman. Though Brahman and Atman are one in reality, they appear to be enveloped or conditioned by three layers or planes both in the macrocosm and microcosm respectively. These three layers are referred as Gross Body, Subtle Body and Causal Body.

In the microcosm, the gross body is our physical body which is evolved from the food we eat, and the food in turn evolves from the five elements, namely, space, air, light, water and earth. Plants that give us food cannot grow without these five elements. The subtle body comprises of five senses, five organs of action, five vital breathes, mind and intellect. The causal body comprises of Nescience or ignorance which envelopes the Atman.

In the macrocosm, the Gross Body is the entire Universe we observe. This is called by the name **Virat**. The sum total of all the subtle bodies is the Subtle Body of Brahman. This is also known as **Hiranyagarbha**. The Causal Body is Maya that envelops the Brahman, and comprises of Satva, Rajas and Tamas as its characteristics. Causal body

is also known as **Ishwara**. The creation of the universe starts when the equilibrium between Satva, Rajas and Tamas is disturbed by Maya.

Our mind, every day, passes through three conscious states, namely, the waking state, dream state and deep-sleep state. These three states of consciousness are related to the three planes or layers that envelop the Atman in microcosm. The Atman appears to be conditioned by the three states of consciousness our mind experiences: In the waking state our senses give rise to the knowledge of the objects around us. The self that identifies with the waking state and our gross body is known as **Visva**.

When the senses are withdrawn, the knowledge arising out of the impressions of the waking state and the imaginary objects perceived there in is called the dream state. The self that identifies with the dream state and the subtle body is known as **Taijasa**.

When all thoughts of the waking state and the dream state are withdrawn and the intellect merges into the causal body or Nescience, it is called deep-sleep state. The self that identifies itself with deep-sleep state enveloped by the causal body or Nescience is known as **Prajna**. Beyond Prajna, the absolute identification of the self with Bliss is known as Samadhi.

To realize Atman, Upanishads prescribe meditation on AUM. Each of the three letters represents the three conscious states, Visva, Taijasa and Prajna respectively. One has to merge gradually one conscious state into the next. That is, Visva into Taijasa, and Taijasa into Prajna, Just like the letter A merges into U and then U into M as we pronounce AUM.

Thus from waking conscious state, we move to dream state, and from dream state to deep-sleep state until we reach a conscious state that is the substratum of the above three conscious states mentioned. The waking consciousness, the sleeping consciousness and the deep-sleep consciousness spring up from this substratum and is also known as Bliss.

This substratum consciousness is a continuous stream without a break. For example, I finished half the work yesterday and went to sleep, and today I woke up and completed the remaining work. We observe the consciousness is not broken during our sleep. Secondly, there are many instances where people regained consciousness after

remaining in coma for many years. In this sense, there is not much difference between deep-sleep and death. So, the stream of consciousness is not broken even after death.

This stream of consciousness is responsible for carrying out the law of Karma. All our karmas, positive or negative will be carried away by this stream of consciousness to our subsequent births. Thus spiritual progress one makes or the knowledge one acquires in the present life is carried forward into the next life.

Our scriptures say the enlightened person, one who identifies himself with the Bliss or Atman, can be identified by the brightness in the face, splendor in the eyes, noble gaze, pleasant voice and goodness. However, every individual pursuing the spiritual path is interested to know about his progress. So far there is no known mechanism specified in our scriptures. Here science can come to his rescue. If what scientists have discovered so far is any guide, we can be optimistic that the level of consciousness can be measured and recorded in the near future. In this effort, it seems, Russian scientists are way ahead of others, judging by the number of publications.

Every human body is enveloped by an energy field known as **Aura**. The Aura is our spiritual signature. By analyzing the aura around a person, it is possible to know about his conscious state. Children up to the age of five years can see the aura naturally. They also have much cleaner and stronger aura. Everyone has aura, but most people have weak and dull aura. One can improve the aura around him by getting rid off the qualities like jealousy, anger, greed and fear which continually deplete our bio-energy.

Every part of our body emits electromagnetic fields at different frequencies. Since heart emits electric field, doctors are able to record the functioning of the heart by studying the Electro Cardio Graph (ECG). Similarly EEG and MRI scans of our brains, and other parts are made possible because the respective parts emits radiation which can be measured and analyzed to find the state of health. In a similar way, by analyzing the energy field around our body one can find the state of consciousness thereby his level of spiritual advancement. .

The aura around the human body comprises of electromagnetic spectrum covering microwaves, infrared and ultraviolet regions. The body functions like metabolism, blood

circulation at cellular level comprising of low frequency microwaves and UV are linked to our conscious activity such as thinking and emotions.

Just like the randomly spread iron filings get aligned into a particular order when a magnet is brought nearer to them, the energy field that surrounds the human body holds all the parts in place. The main reservoir of free energy in our biological processes is the electron-excited states of complex molecules. Specific proteins within the mass of the skin provide necessary channels of heightened electron conductivity and helps in energy transfer in the body.

Our thoughts and emotions will have an effect on our physical body as well as on the Aura. What a person thinks and feels determines his actions. Our thoughts are nothing but a flow of energy while the field of energy is our consciousness. This field of energy extends out around our body to create the Aura. Within the Aura there are distinct layers. For example, heart has its own energy field, and the impulse of the energy flows through the heart and contracts its muscles. The impulse also controls the cells within the heart forming yet another layer. Likewise, the human body is made up of different parts with different energy fields. Also, the energy centers, known in yoga, as seven Chakras located along the line joining our head and spine will have influence on the Aura.

There are three methods discovered by scientists as on today for analyzing the Aura: Kirlian photography, Gas Discharge Visualization (GDV), and Electro photonic Capture (EPC).

The Kirlian technique involves photographing of subjects in the presence of a high-frequency, high-voltage, low-amperage-electrical field, which display glowing, multicolored emanations known as auras or bio-fields. Different colors can be identified with different characteristics of a person. For example, blue color is attributed to physical state, violet with emotional state, pink with psychological state and yellow with spiritual state.

The GDV Technique is an advanced technique over the Kirlian. It is a non-invasive, quick and definitive evaluation of physical health and psycho-emotional states. It was developed by Russian physicist Prof Konstantin Korotkov at St Petersburg Technical University in 1995. He has brought scientific vigour to the study of auras. His research

has lead to direct, real time viewing of the human energy fields, capturing the physical, emotional, mental and spiritual emanations from an individual. The data is captured on computer to give a 3-D image of body's energy field which is analyzed using a software program.

The EPC technique can take a unique position in the analysis of state of human health and its correlation with our Consciousness. It also helps to analyze the altered states of Consciousness (ASC).

When people realize that their Aura can be displayed they will try to put efforts to improve their own aura by improving their spiritual progress.

Reference:

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2. Panchikaranam, an Advaita Ashram Publication.
3. Published information by Dr. Konstantin Korotkov.
4. The author can be contacted at: [pasad.nanduri@gmail.com](mailto:pasad.nanduri@gmail.com)

### **30. VAASTU SHASTRA - SCIENCE OR MYSTIQUE?**

Dr B.S.R.Murthy

#### ***Abstract***

Vaastu Shastra, rooted in Vedic Science, is one of the most valuable treasures of ancient Indian wisdom. Vaastu means to dwell and Shastra means science and hence vaastu Shastra is considered as science related to designing and building of houses. Vaastu principles aim at ensuring the physical and mental well being of people by advising on an environment that is in harmony with nature's laws. There is no controversy so far but it's only when Vaastu talks about positive and negative energies of cosmic forces out there that some wonder if Vaastu is indeed a scientific discipline or

only a mystique. But in reality Vaastu Shastra mostly emphasises on the basic principles of cosmic energy, magnetic field of earth and the wind directions, which indeed is scientific. It is amazing to know that the Vaastu principles discussed in our ancient books are built upon solid foundations of science to provide all round prosperity for the dweller.

A house provides shelter to someone or the other and hence it is given the importance of a sacred activity in the Indian Culture and is counted as a part of dharma. "Vrahad Vaastumala" – a scripture of the Vaastu Shatra, highlights the purpose of house construction as –

*“Striputradikabho Aranya, Jananam Dharmarthakama Puram  
Jantunamayanam Sukhasyadamidam, Shitambu Dharmaham”*

meaning, house (home) is that which offers the worldly joys of having a family, keeping pets, cattle, etc; which protects from cold, heat, storms and other external hazards, and which facilitates the proper performance of *dharma* (righteous duties), *artha* (attainment of wealth/material power and progress) and *kama* (fulfillment of desires).

The world comprises of five basic elements, also known as the *Pancha Bhootas*. They are Earth, Water, Air, Fire and Space. Vaastu is the science of orientation that combines all the five elements of nature and balances them with the man and the material. Vaastu Shastra is creating a congenial setting or a place to live or work, in most scientific way, taking advantage of the benefits bestowed by the *Pancha Bhootas* of the nature thereby paving the way for enhanced health, wealth, prosperity and happiness in an enlightened environment. The sages of ancient India knew the secrets of using all the five elements of this universe and their special characteristics and influences such as the magnetic field, gravitational effect etc. of Earth, the galaxy in the sky, the directions and velocity of the winds, light and heat of the Sun including the effects of its Ultra-Violet and Infra-Red rays, the volume and intensity of rainfall etc. in suitably planning and constructing buildings for dwelling, and various other purposes. They evolved scientific methods and systems over the years which culminated as '*Vaastu Shastra*'.

According to Vaastu, the external and the internal energies are interchangeable, i.e. the cosmic energies that control the *Pancha Bootas* are the same as those that control the organs of the human body. In recent times the essential connection between the two is forgotten – the modern man dissociated himself with the fundamental forces that govern the universe. *Vaastu* states that when house buildings echo the underlying cosmic principles, they become part of the basic structure of the universe and vibrate in harmony with it.

Vaastu is a science of architecture which is aimed at balancing these five elements. However, when one tries to analyse the vaastu principles on the basis of modern science one may observe that while many of them do stand to scientific



reasoning while a few of them are unexplainable and therefore may be considered as mystique. Some important elements of vaastu that are relevant to science are given below.

East is the direction that belongs to Surya or Sun. Sun is the source of energy - Solar energy is the force for sustaining life on Earth. The early morning rays from the East have more of light and less of heat. Meditations and Dhyanas are performed in the early hours of the day, which is very effective on health, both mental and physical. The Sun rays are also a source of Vitamin-D, which is very essential for good health. This is the reason why all over the world the worship of Sun God is prevalent. Hence pundits of *Vaastu Shasthra* gave a lot of importance to derive the maximum benefits of sun rays, in planning the house. So the Main entrance door, more windows and vacant space are designed, in the East.

The direction of North-East, where along with prayer (pooja) room, other units like verandahs, Water bodies etc, are provided, high walls and tall trees which obstruct Sun's rays are not good. If the early morning mild ultraviolet rays enter into the house, they certainly do a lot of good to the health of inmates. In the same way, the Infrared rays of the hot Sun are not good. So less number of windows and openings are recommended in the West and South-West to prevent radiation. Thicker Walls and higher Walls are planned in West and South only for this reason.

The Kitchen is positioned in South-East (Agnaya) corner for it can receive maximum Sun rays from the East and good breeze from the South. A well ventilated kitchen wards off insects and germs which are disease carriers.

The water sources located in the North-East will be exposed to morning Sun rays which has the power to purify water and destroy disease causing bacteria, germs etc.

The open terrace in North-East, North or East will receive Maximum sun rays which is good for the health of the inmates. The Earth's magnetic field wields a greater influence on the health of the inmates. The *Vaastu Shasthra* recommends the inmates to sleep with their heads towards South direction. In that position the human body acts as a magnet and the head as North-pole. This will help blood circulation. On the other hand if the head is directed towards North, the head acting as North-Pole and the Earth's North-pole repel each other which affect blood circulation resulting in disturbed sleep and tension.

South-west corner for storage is very good for the south-West heat or radiation would keep the store-room dry because granary is usually positioned there. The Master bed room is located in south, because good southern winds keep the room cool. Particularly in summer, cool rooms are very essential. Thus *Vaastu Shasthra* gives us the principles in building a house which would ensure the owner a happy, healthy and prosperous life.

Vaastu prohibited trees such as Tamarindus indica (chintha), Jambo (navel), Phyllanthus (nalli), Ficus recemora (aththi), Crataeva religiosa (bhilvam), Palmyrah (panai), growing around the house since some of these tree's roots grow their roots deep into the ground and cause lot of damage to the foundation, which results collapse of the structure. Vaastu prohibited plants and creepers like Cactus to grow around the house as these plants attract insects and snakes. On the other hand Vaastu has given great importance to Tulasi which has many medicinal benefits and thus considered sacred.

However, there are also some of the Vaastu rules that are still not scientifically explainable because of which the Vaastshastra gets clouded in an aura of mystique. A few of these are mentioned below:

- To build staircase raising either East to West or North to South.
- To construct compound walls such that the Western and Sothern ones are higher than the Eastern and Northern ones respectively.
- Not to place heavy objects near the Eastern and Northern walls of rooms.
- Not to have cellar or soak pit in the southwestern side of the house

Vaastu principles like these may give a mystique appearance to it but they still may be having significant reasoning that are yet to be unraveled..

Summing up, Vaastu reminds us of the basic nexus between earth and the cosmos. The cosmic influences of solar energy, the earth's magnetic field and other subtle energies have a vibratory effect on houses and their occupants. As the modern living styles have been taking people more and more away from nature it has perhaps become somewhat a fashion to not to appreciate the benefits of Vaastu Shastra!

### **31. RELIABLE WEATHER FORECASTING IN ANCIENT INDIA FOR IMPROVING AGRO-ADVISORIES**

Dr.V.V.Ravi

#### ***Abstract***

As per “Brihtsamhita” Varahamihira has done lot of research on “Astrometerology”. He is the first man to design wind-vane and he also made an instrument to measure rain, with the then existing measuring, units around 500BC. Garga, Kasyapa, Siddasena, Yavana and Kalidasa also wrote about clouds, seasons, rainfall etc. But out of all these ancient Rishis Varahamihira’s contribution was of great value. He recorded the amount of rainfall under each during monsoon season. He emphatically said clouds will give rain after 195 days of their formation. He also gave some wonderful ideas in the form of “Yogas” with which the farmer can be advised as to what type of “Rabi” crop can be sown during that year.

He mentioned many principles to give long range forecast of rain as the production of food is crucial to the people in general. Hence, study of weather is important. He clearly mentioned under what particular stars there will be copious rain. While discussing about “Pregnancy of the cloud”, he says that when moon is in conjunction with any of the Lunar mansions - Poorvashada, Utharashada, Poorvabhadra, Uttarabhadra and Rohini - will yield copious rains, irrespective of season specially during months of Margasira, Pushya, Magha, Phalguna, Chaitra and Vaisakha and yield rain for 8,6,16,24,20 and 3 days respectively after 195 days.

We would be surprised to hear that ancient sages had discovered a correlation between some disturbances on the solar disc and terrestrial happenings like dust-storms, earthquakes, famines, destructive tendencies among men, diseases, destruction of life on a large scale. Varahamihira called them *Thamasakilakas* which are dark shafts appearing on the Sun’s disc. There are also other comets or Ketus that cause the phenomena akin to Sun-spots and solar flares. He did a lot of research work in depth and gave guidelines for long range forecasting - 15 days forecast, weekly forecast and days forecast called *Sadyo Varshanam*. Based on characteristics of cloud formation, he predicted the direction wind, rainfall and rainfall pattern.

In the Astro-meteorology we will discuss some basics and then proceed further. Temperature is ruled by Sun and Mars, wind by Saturn, sky by Jupiter, evaporation by Sun – Moon - Mars. The South West monsoon is ruled by Mars – Saturn, as Mars rules south and Saturn West. Based on these concepts the long range forecast can be given well in advance with validation. An example for rainfall prediction for the period 2000 - 05 and forecast for 2006 with this principle and its outcome in that year is given below.

Long Range Forecast	Validation (2000 –05)	On Annual Rainfall	Normal	Actual	% Deviation
2000	As per Varahamihira if Mars transits ahead of sun. It destroy rain bearing clouds, hence rainfall will be below normal. Sun was ahead of Mars during monsoon period. Excess above normal.	Very good rainfall. Principle worked out 100 % accurate	642	805	Excess
2001	In the year “Sun” was ahead of Mars. There was good rainfall on the whole.	There was good rainfall. Principle worked out 100 % accurate.	642	595	Normal
2002	Mars was transiting ahead of Sun. There should be drought. Rainfall was below normal.	Principle worked out 100 % accurate.	634	456	Deficit
2003	In this year Sun was ahead of Mars. Good monsoon on the whole. Rainfall was above normal.	Good rainfall. Principle worked out 100 % accurate.	637	656	Normal
2004	Once again, Mars is ahead of Sun	Principle worked out	637	523	Below Normal

	Hence, failure of monsoon. Drought.	100 % accurate.			
2005	Sun was ahead of Mars throughout the year. Healthy monsoon. Rainfall was above normal	Again principle worked out 100 % correct.	637	760	Above Normal

These examples show the reliability of weather forecasting based on the planetary positions and movements as practiced by ancient Indians..

### 32. PURIFICATION METHODOLOGIES OF METALS OF ANCIENT INDIA

Dr. Iragavarapu Suryanarayana

#### ***Abstract***

Necessity and utilization of metals appeared from the beginning of the civilizations. This is reflected starting from the Vedas and Brahmanas wherein important metals namely, Gold, Silver, Copper, Iron, Lead, Tin and Zinc and alloys like Bronze and Brass were mentioned<sup>1</sup>. Later Kanada in Vaiseshika Darsana mentions that these metals melt or take the liquid form by the effect of heat<sup>2</sup>.

Mahabharata<sup>3</sup> mentions Pipilika Gold which is a superior quality of Gold obtained from the ant hills or termite mounds. Ants dig the earth and make mounds of earth called anthills. In these mounds gold is brought as particles and deposited in heaps. The kings of the area (mainly the tribal kings) between Meru and Mandarachala hills, presented Dronas (a measure of volume of olden days) of this pipilika gold to Yudhishtira. This Pipilika Gold is equivalent to the present

day nano-gold, which has enormous applications in chemistry as well as industry and in Society.

Rasa sastra books like Rasaratnakara of Nagarjuna, Rasa Ratna Samucchaya of Vagbhata gave an extensive account of the metals, their purification techniques etc. Kautilya's Artha shastra<sup>5</sup> is a treasure of such knowledge which discussed the technology of mining, extraction, purification and assessment of their physical properties to achieve desired purpose.. Artha sastra also discusses precious stones like rubys, pearls and other gems. A detailed description of the mines and factories that dealt elaborately with the occurrence, nature and purification methods were discussed in detail. It was stated that in all ores, heaviness is indication of the metal content, which can be stated in modern chemistry principles that the greater the density of the ore, greater is the metal content. They also characterized based on the colour of the ore, to which metal it belongs. For example the ore from rocks or a region of the earth, which is heavy unctuous and soft tawny, greenish, reddish or red is copper ore. Crow black or of the colour of dove or yellow pigment studded with white lines and smelling like raw flesh is lead ore. Grey like saline earth or of a baked lump of the earth is iron ore. The director of mines known as Khanijadhyaksha was expected to be an expert in the science of metallic veins, exploration of ores, metallurgy and colouring of the Gems. Among the duties of the Khanijadhyaksha was that he should establish factories for copper, lead, tin, vaikranta, brass, steel, bronze, bell metal and iron and establish trade in metal ware.

Artha sastra also describes the qualities of Gold and silver. Gold which is of the colour of lotus filament, soft, lustrous and not producing any type of sound is stated to be the best. The reddish yellow coloured metal is of middle quality and the red coloured one is the lowest quality. This indicates that the colour of quality is taken as a measure of the purity. As the red colour increases, the copper content is increases. Similarly Gold contaminated with lead gives brittleness to the metal and this material was used to mould on wooden anvils. Similarly silver was also characterized by its colour. White colour with smooth and soft property is the best silver metal. The impure one is purified using lead by melting and separation. The khanitras or artisans of that time were not only skilled in kshepana (setting) , Guna (properties) and making solid or hollow articles of gold

and silver , but also mixing the metals in the molten state of correct proportions. As regards minting, the text says that silver coins should be made of four parts of copper, eleven parts of silver and one part of iron, tin or lead. Copper coins should be made of four parts of silver, eleven parts of copper and one part of iron or any other metal. (Kautilya's Artha Sastra)

1. *Sukla Yajurvedam ( Rudra Namakam & Chamakam)*
2. *Vaisesika Darsanam , by Kanada Maharshi, Telugu Translation by Sri Charla Ganapathi Sastry , published by*
3. *Mahabharata ( Sabha 52, 2-4)*
4. *R.K.Dube, Metallurgy in India, A retrospective. ed. P.Ramachandra Rao & NG Goswami , NML, Jamshedpur, 2001 .*
5. *Kautilya's Artha sastra Telugu commentary by Sri Pullela Sri Ramachandrudu, published by Sri Jayalakshmi Publications, Hyderabad.p.172.*

### **33. SOME INTERESTING ASPECTS OF SCIENCE IN YAJNAVALKYA SMRITI**

Prof. P. Shashirekha,

#### ***Abstract***

The Vedas, Smritis, Itihasas, Puranas and Kavyas are not only great literary works but also have contributed a lot of scientific concepts to the society. The Smritis which mostly deal with judicial matters have focused on many issues which play an important role in day-to-day life. Yajnavalkya Smriti takes a lead not only in judicial matters but also in the matters pertaining to domestic life. The commentary '*Mitakshara*' is very popular and regarded as the source of modern Hindu Law. In three parts, the Smriti discusses many things regarding the social structure, customs and traditions which guide the people to a righteous path which ultimately leads to the social wellbeing. It is very interesting to note that the various traditional practices may be easily interpreted in a scientific light. For example, in the first part '*Acaradhyaya*' in '*Dravya Suddhi Prakaranam*', the process of cleaning various articles is described, which is applicable even today. Similarly the '*Prayascittadhyaya*' gives the details of the gradual growth of fetus in the mother's womb. Information, such as the number of bones of teeth, including the root bones as sixty, the bones of fingers as twenty and other details of the entire human body system,

which are important part of study of medicine, is provided. The commentator Vijnaneshwara in his '*Mitakshara*', quotes from Susruta etc., which support the information given by Yajnavalkya.

The '*Dravyasuddhi Prakarana*' gives the details of cleaning the articles. It is very surprising to note that dry cleaning of woolen garments is mentioned. It is stated as '*Urnam (Wool) Vaatena Sudhyati*', woolen gets cleaned by air. Similarly, process to wash the pure silk garments is explained. Such knowledge has been transmitted through generations. Additionally, information is also provided on cleaning of metal articles. In present times, mostly acid is used to clean certain articles. It is to be noted that there is a possibility of diminution of material in such cleaning processes. But in ancient India, there were different materials to clean vessels of Brass, copper, Silver etc. As per the information available in Kautilya's *Arthashastra*, certain type of powder is used to clean the gold and silver article which cut the material without leaving any marks on the article. Innocent customers today insist the jewelry shop owners to polish gold and silver articles, unaware of existence of such materials.

The above examples are just drops of a vast ocean. A lot of information is available in *Smritis* and *Arthashastra* which are critical for the wellbeing of the society. Some of these details would be presented in the article.

### **34. A COMPARISON OF CUBE ROOT EVALUATION OF NUMBERS BETWEEN ANCIENT INDIAN AND WESTERN METHODS**

Prof.C.Santhamma and Smt.N.V.Uma Maheswari

#### ***Abstract***

Methods adopted by Aryabhatta and Bharati Krishna Thirtha Swamiji on one hand and the western methods on the other for the determination of the cube roots of numbers are compared. An example of the number 76928302277, which has 4 digits as the cube root are discussed in this paper. The results are as follows:

Aryabhatta's method makes use of only two digit expansion throughout with the help of intermediate cube roots as a package. Thus it is simplified and found extendable even



to higher roots of 4th, 5th, 6<sup>th</sup>, etc. The western method makes use of the same concept of using the two digit cubic expansion with suitable collective instead of stepwise subtraction made by Aryabhatta. On the other hand, Bharati Krishna Thirtha Swamiji used two different methods. The first method works from left to right of the given cube as is in the case of the above method. In this method Swamiji used a more comparison expansion say  $(a+b+c+d)^3$  where a,b,c & d stand in the digits in cube root. This method uses his innovation of straight division and the terms in the expansion. Swamiji's second method is considered to be novel and works from right hand side and proceeds to left hand side of the given cube. He uses argumentation followed by elimination of digits, which is simpler and more elegant.

All the four methods are detailed, as stated earlier, on the cube root determination of 76928302277, which is a perfect root.

The general expansion of  $(a+b+c+d+e+...)^n$ , where n is positive, a, b, c, d and e are numbers representing the digits in a root, is explained where the number of digits is 'm' and the power is 'n'. This is made use of in the determination of any root of numbers.

### 35. THE NATURE OF YAJUS

Prof Lakshmeswar Jha

*(Article, originally sent in Sanskrit and Hindi, is translated by  
Dr.Amba Kulakarni and Dr.R.Anupama)*

आर्षदृष्टि, the one which enlightens आत्मविद्या, is utmost authentic, as it is the supreme source of Indian tradition and culture. The great ancient sages have specified शब्दब्रह्म in two forms – (i) निगमशब्दब्रह्म, is the one that presents self and becomes the universe and (ii) आगमशब्दब्रह्म, is the one that sprouts from निगमशब्दब्रह्म | As *manu* quotes -

ततः स्वयम्भूर्भगवानव्यक्तः व्यञ्जयन्निदम् ।

महाभूतादि वृत्तौजा प्रादुरासीत्तमोनुदः ॥ (मनु.-1/6)

**The form of नित्यशब्द-**

Unlike the letters or alphabets, the word शब्द, refers to शब्दतन्मात्रा, the one that is mentioned in साङ्ख्यशास्त्र, as 'the subtle', 'अपञ्जीकृत', the source of the whole universe, endowed with the virtues सत्त्व etc., from which the space and other पञ्चतन्मात्राs are borne. The universe is borne from the eternal शब्दब्रह्म ।

The etymology of the word शब्द is 'शपं ददातीति शब्दः', which is also popularly known as वैखरी or वाक्, and is the main source of the universe. The शब्दब्रह्म that is in the form of वाक् is indeed कारणभूतशब्दब्रह्म. From this कारणशब्दब्रह्म, कार्यभूतशब्दब्रह्म, is borne by संयोगविभाग and शब्द. Hence, *manu*, quoted it as "वेदशब्देभ्यः एवादौ पृथक् संस्थाश्च निर्म्ममे", but not as 'वेदवाग्भ्यः'. In fact, the *veda* is considered as the eternal goddess of speech, from whom, the entire universe is borne out -

“वाचं देवा उपजीवन्ति विश्वे वाचं गन्धर्वा पशवो मनुष्याः ।

वाचीमा विश्वा भुवनान्यर्पिता सा नो हवं जुषतामिन्द्रपत्नी ।।” (तै.ब्रा.)

The ocean of speech of the truth remains tranquil in the प्राण, endowed with मनः, but waves are generated by various forceful actions like आविर्भाव, तिरोभाव, अभिक्रमण, प्रक्रम and व्यूहन etc., The वायव्यप्राण, that is related to these waves produces the audible sounds. The same is mentioned in यजुः प्रातिशाख्यम् as - "वायुः खात् शब्दस्तत्" (1.2.7).

The waves are generated in the tranquil ocean by 'संयोग', 'विभाग' and 'शब्द' – 'संयोगविभागशब्देभ्यः शब्दोत्पत्तिः" । For eg- the sounds produced by clapping hands, by tearing a paper and by uttering the words are called as 'संयोगज', 'विभागज' and 'शब्दज' respectively. Thus, the word निगमशब्दब्रह्म means निगमवाक्ब्रह्म and आगमशब्दब्रह्म means आगमवाक्ब्रह्म and both these are related to the *vedas*.

### ORIGINAL FORM OF THE *VEDAS*

The ऋक्तत्व, यजुस्तत्व and सामतत्व, comprises the main form of the *vedas*. The form of these three *vedas*, constitutely called as the eternal speech that is generated by the स्वयम्भूब्रह्म (self-originated brahman) and hence called as अपौरुषेयवेद. *Manu* mentions the same as - "वेदशब्देभ्यः एवादौ" or "वेदादेव प्रसूयन्ते प्रसूतिर्गुणकर्मतः" ।

बृहदारण्यकोपनिषद् also affirms that these *vedas* are not originated by any human and rather they are self-originated and are eternal -

“सा वा एष आत्मा वाङ्मयः प्राणमयो मनोमयः ।” (श.ब्रा. - 14.4.3.10)

and

“ऋचं वाचं प्रपद्ये मनो यजुः प्रपद्ये साम प्राणं प्रपद्ये ।” (श.यु.सं - 36.1)

This आत्मब्रह्म, with a desire to create, transforms in the form of त्रयीब्रह्म, that constitutes, मन, प्राण and वाङ्मय. Thus, the sages considered the ब्रह्म in the form of the *vedas* that were originated by the ब्रह्म ।

As the Sun gives light to the entire universe and doesn't require any light for itself, similarly, the *vedas* are self authentic and provide authenticity for all the other objects.

#### THE FORM OF आगमब्रह्म

स्वयम्भूप्रजापति, the form of आनन्द, endowed with the विज्ञान, मन, the seven प्राणs, the seven पुरुषs, witnesseth of the creation, had put efforts through the division of वाङ्मय, had performed penance through the division of प्राणमय and wished through the division of मनोमय and transformed himself in the form of प्रतिष्ठा. This form of प्रतिष्ठा that is borne out of ब्रह्म, who is endowed with ऋक्, यजुस् and साम is called as प्रतिष्ठाब्रह्म. Having assembled on him स्वयम्भूप्रजापति creates the universe in manifold forms. As it is said in शतपथश्रुति - 'श्रमेण तपसा अरिषन् तस्माद् ऋषयः । त इद्धाः सप्त नानापुरुषानसृजन्त । सप्तपुरुषोद्भयं पुरुषः (प्रजापतिः) स एव पुरुषः प्रजापतिरभवत् । सोऽश्राम्यत् । स तपोऽतप्यत् । स श्रान्तसोपानः "ब्रह्म" एव प्रथमसृजत त्रयीमेव विद्याम् । सेवास्यै प्रतिष्ठाऽभवत् । तस्मादाहुः ब्रह्म (त्रयीविद्या) वै अस्य सर्वस्य प्रतिष्ठा इति । प्रतिष्ठा ह्येषा यद्ब्रह्म (त्रयीविद्या सैव निगमविद्या) ।' (श.प.ब्रा.6.1.1.1-8)

*manu* also mentions the same -

“आसीदिदं तमोभूतमप्रज्ञातमलक्षणम् ।

अप्रतर्क्यमनिर्देश्यं प्रसुप्तमिव सर्वतः ॥ 1 ॥

ततः स्वयम्भूर्भगवानव्यक्तो व्यञ्जयन्निदम् ।

महाभूतादि वृत्तौजाः प्रादुरासीत्तमोनुदः ॥ 2 ॥

योऽसावतीन्द्रियग्राह्यः सूक्ष्मोऽव्यक्तः सनातनः ।

सर्वभूतमयोऽचिन्त्यः स एव स्वयमुद्बभौ ॥ 3 ॥ (मनु.1.57)

## THE NATURE OF यजुस्

निगमब्रह्म is the form of the three *vedas* and is endowed with the seven पुरुषs. To create the henceforth creation, he should consummate, without which the वेदत्रयीपुरुष can't be succeeded in creation. To accomplish this consummation (दाम्पत्यभाव), the यजूः divides himself into two as यत् and जूः and becomes a couple. The यजुःपुरुष is the mediocre of वेदत्रयी. As the शतपथश्रुति quotes -

“अथ य एष एतस्मिन्मण्डले पुरुषः, सोऽग्निः । तानि यजूंषि स यजुषां लोकः । ।” (श.ब्रा.10.5.2-1)

Of these यत् and जूः, जूः is in steady form and is considered as space (आकाश) and यत् is in motion form and is considered as wind (वायु). Hence, motion form endowed with space is यजुः. The same was asserted by याज्ञवल्क्य -

“अयं वाव यजुर्योऽयं पवते । एष हि यन्नेवेदं सर्वमिदं जनयति, एतं यन्तमिदमनु प्रजायते । तस्माद्वायुरेव यजुः । अयमेवाकाशो जूः यदिदमन्तरिक्षम् । एतं हयाकाशमनु जवते । तदेतत् यजुर्वायुश्च, अन्तरिक्षञ्च यश्च यूश्च (यजुः) तदेतत् यजुः ऋक्सामयोः प्रतिष्ठितम् । ऋक्सामे वहतः । ।” (श.ब्रा.10.3.5.1)

Hence the blend of यत् and जूः, motion and space, वायु-आकाश, प्राण-वाक्, all these are synonyms of each other. As it is mentioned in तैत्तिरीय-

The प्रजापति had again performed the penance for the growth of creation. From the space, which is also popularly called as वाक्, he created अप्(water), which is called as the creation of सत्त्वादि virtues. Thus, the त्रयीमयब्रह्म gets consummated with अप्. These यत् and जूः, त्रयीमयब्रह्म and space or wind, and प्राण and वाक् get consummated with each other for creation. This indeed is called as यज्ञसृष्टि, क्षरसृष्टि or विकाससृष्टि. As it is mentioned in the श्रुति- “तत्सृष्ट्वा तदेवानुप्राविशत्” and त्रय्या विद्यया सह आपः प्राविशत्” । (श.ब्रा. 6.1.1.8-9)

शतपथश्रुति also asserts the same -

“तस्यां प्रतिष्ठाया प्रतिष्ठितोऽतप्यत । सोऽपोऽसृजत वाच एव लोकात् । वागेवास्य साऽसृजत । सेदं सर्वमाप्नोत् यदिदं किञ्च । यदाप्नोत् तस्मादापः । यदवृणोत् तस्माद् वाः । (श.ब्रा. 6.1.1.8-9)

*manu* also supports the same -

“सोऽभिध्याय शरीरत्स्वात्सिसृक्षुर्विविधाः प्रजाः ।

अप एव ससर्जादौ तासु बीजमवासृजत् । ।” (मनु-I.8)

Having consummated with each other i.e. यत् with जूः and वाक् with आकाश and get transformed into आपः, whose mainधर्मis procreation and hence it is called as जाया, as it is said - "सर्वमाप्नोत् तस्मादापः". It is also called as धारा as it is the first and foremost to create all the coarse elements. Thus, the three names आपः, जाया and धारा are the प्रकृति form of आप्। गोपथब्राह्मण depicts the same as – sweat (स्वेद) is formed on the forehead of त्रयीब्रह्म, while performing penance. This sweat (स्वेद) is called सुवेद and त्रयीवेद is called as ब्रह्म. यजुराग्नि is called as ब्रह्म and आपः is सुब्रह्म। जाया, धारा and आपः, these three are his धर्मs. Thus, the त्रयीब्रह्म is the main form of अग्निवेद and आपः is the main form of सोमवेद. Having consummated with each other, they create the universe and are called as the parents of the universe. Here, this form of consummation is considered as अर्धनारीश्वर or the incarnation of नृसिंह । Thus, ऋक्, यजुस् and साम are यत् in the form of पुरुष and सुब्रह्म is जूः or अप् in the form of प्रकृति. These यत् and जूः, प्रकृति and पुरुष are indeed the source of the universe. Thus, the providence called the *veda*, divides himself into two as यत् and जूः and creates the universe in manifolds. The terms प्रकृति and पुरुष, that is mentioned in साङ्ख्यदर्शन is none other than the form of यजुः।

### **36. CLASSIFICATION OF IRON ORE AS PER VAGBHATA'S RASARATNA SAMUCAYA AND ITS MODERN RELEVANCE**

Dr. Srinivas Madabhushi

#### ***Abstract***

Iron is next only to gold in its importance in Rig Veda and the Rig Vedic people used this metal for agricultural implements, weapons and even fort walls and fortifications. Over course of time the Loha or Kalaayas as it was called gained importance in social requirements. The Arthashastra speaks about its importance as the tikshana variety. The Rasaratnasamucaya (V.67.) classifies iron as "Mundam tikshanam and kantam. Each of these varieties have many sub classifications as given below:

1. Mundam type of iron has three varieties:

- 1(a) Mrudu is one which melts readily and is not brittle.
- 1(b) Kuntam is one which takes more time for tempering and is brittle.
- 1(c) Kadarma: is one which breaks very easily and shows a black portion inside

2. Tikshana variety of iron is of six types;

*“Kharam saram ca hrnnalam taravattam ca vajiram,  
Kalalohabhidanam ca shadvidham tikshnamucyate”.*

(Rasaratnasamucaya, V.74.).

2 (a) Kharaloha: hard, devoid of wavy lines and has the luster of mercury on broken surface. Breaks when bent.

2 (b) Saraloha: characterized by clear wavy lines; edges break very fast and occurs in yellowish white field.

2 (c) Hrnnalam: very hard to break, black with a white body.

2 (d) Taravattam: characterized by wavy lines – pogara, anga, kshaya or vanga, breaks easily and shines.

2 (e) Vajiram: with diamond like pogara and extremely dense.

2 (f) Kalaloham: bluish black, heavy, dense, and shining; edges do not break even after hit by metal.

3. The Kanta type of iron has five varieties:

*“Bhramakam cumbakam caiva karshakam dravakam tatha,  
Evam caturvidham kantam romakantam ca pancakam.*

(Rasaratnasamucaya, V.83)

According to the text, each of these is superior to next in order.

3 (a) Brahamakam: moves other iron pieces.

3 (b) Cumbakam: strongly magnetic and attracts other iron pieces to touch it.

3 (c) Karshakam: magnetic ore which merely draws iron pieces towards it.

3 (d) Dravakam: makes pieces of iron to melt just by mere touch.

3 (e) Romakantam: showing structure similar to series of hairs on breaking.

(Ferrite showing “Widmanstätten” structure is comparable to romakantam).

It is quite interesting that this type of mineralogical science evolved and developed in the 13<sup>th</sup> Century AD in India which period is considered as dark ages in the development of geological sciences in the Europe.

## **WHEAT GRASS, GOD'S MANNA – A CONCENTRATED SUN POWER, THE NATURE'S BEST TONIC AND ANTIDOTE TO CANCER**

By

Kondeti.Nageswara Rao  
HansaYoga Kendra

### **Introduction**

Wheatgrass is appreciated for its value as a food and medicine. The young wheatgrass blades that are 7 to 10 days old which are grown under shade, but with ample light and air, and with natural manure stand to this health attributing subject. The wheatgrass can be easily grown in every house even by the poorest.

Wheatgrass juice is identical to healthy human blood in all respects, except that the molecule of wheatgrass has the mineral element magnesium as its central nucleus whereas the molecule of hemoglobin has iron. Taken on empty stomach, the magnesium element in the molecule of wheatgrass is replaced by iron within 20 minutes. It shows that the wheatgrass is assimilated in such a small time and the vitality lasts throughout the day. Therefore Wheatgrass is known as GREEN BLOOD.

In many cases doctors put patients on oxygen as a last resort and a few of them recover. Oxygen is a life giver. Dr. Otto Warberg, M.D., a German biochemist who won Nobel Prize in 1931, showed that cancer cell did not thrive in an oxygen poor environment. He viewed cancer not as a virus but as a process of cell mutation caused by oxygen deprivation at the cellular level. Warberg arrived at his discovery more than 76 years ago, yet his theory still stands uncontradicted, while dozens of some others theories are discredited every year. There are many causes of cancer but there is only one prime cause – the lack of oxygen at the cellular level.

### **Benefits of wheatgrass**

Dr. Ann Wigmore, DD,M.D.(1909-1993) of USA, developed cancer in the colon, arthritis, hernia, migraine headaches, blood poisoning, depression and grey hair by the time she was fifty. She realized that the only thing to do was to turn back to nature. So

gradually she developed the LIVING FOOD STYLES and could regain her health within three years.

In general it is opined that if the blood is alright in its contents and its circulation is ensured to all the cells of the body, a person is not likely to suffer with any disease. With the same opinion Dr. Ann Wigmore, being a professor of the Agriculture University, Boston, USA, concentrated on a quest to find out such a chlorophyll which is identical to human blood in all respects. She conducted experiments on 4700 species over 30 years and finally discovered wheatgrass, the best tonic of nature and could cure with it 350 diseases of rich America before authoring several copyright books on the subject. Her most favourite slogan is "Reconnect with nature and your body will take care of the rest. This is the beauty of Self-healing"

Dr. Ann Wigmore is the modern prophet of wheatgrass and scientists like Dr Charles Francis Schnabel (1895-1974) an agricultural chemist, the first eater of wheatgrass in 1930 in USA, is the father of wheatgrass. Dr. Birscher, Dr. Earp Thomas and Dr. Shawn Miller who probed into the subject listed out many uses of wheatgrass, but the list given below is not exhaustive as only some of the many important uses are reproduced.

1. The wheatgrass contains liquid oxygen. The liquid oxygen has an expansion ratio of 1:861 at 20<sup>0</sup> C. When taken into the system 1 c.c. of liquid oxygen is converted to 861 c.c. of gaseous oxygen. Extensive practice of Pranayama and eating of raw food may not get the blood oxygenated so much. Moreover wheatgrass is a natural source of Vitamin B17, which is used for cancer cure and prevention as one of the natural alternatives of scientific remedies and treatments.
2. The wheatgrass is the richest source of vitamins like A,B,C,E and K and minerals related to calcium, iron, magnesium, potassium, phosphorous, sodium, sulfur, zinc, cobalt etc. as well as 17 amino acids and enzymes in the organic form that the body can digest and assimilate easily.
3. Dr. Earp Thomas, a soil chemist, USA, said that wheatgrass picks up 92 of 102 minerals in the soil. Due to this reason the nutrition value of 28.3 gm of wheatgrass juice is equal to 908 gm of organically grown vegetables. Wheatgrass naturally shuts off the appetat in the brain.
4. The wheatgrass contains a variety of trace elements and 20% of vegetable protein.
5. Wheatgrass juice has twice the quantity of vitamin A that carrot juice contains.
6. The wheatgrass has more vitamin C than oranges.
7. Dr. Birscher, a research scientist, called chlorophyll "Concentrated Sun Power". He said chlorophyll increase the functions of heart and helps the vascular system, the uterus, the intestine and the lungs.
8. Easily digestible in less time using very little of the body's energy.
9. Eliminates foreign and diseased elements from the blood tissues and digestive wastes.
10. Wheatgrass is valued for wound healing, detoxifying and deoxidizing.



11. Those who are allergic to wheat eating also can use wheatgrass safely.
12. Wheatgrass juice can dissolve scars that are formed in the lungs from breathing metallic gases and acid fumes. The effect of carbon monoxide is minimized since the chlorophyll increases hemoglobin production.
13. It prevents tooth decay. It draws out toxins from the gums and teeth relieving tooth ache.
14. Combined with food organics it helps to overcome blood disorders of all kinds including anemia.
15. After an enema wheatgrass juice implants are greatly useful for healing and detoxifying colon walls as well as cleansing the internal organs.
16. It helps to overcome aging and give energy to the sex hormones.
17. Wheatgrass builds up the white blood cells through its cleansing energy and nutritional value when combined with a diet of organically grown foods.
18. Dr.Pfeiffer, an Agricultural Researcher, USA, stated that the wheatgrass when dried, contains 47.7% protein; then it is three times more than protein concentrations of beef.
19. Toxic metals like lead, cadmium, mercury, aluminum and excessive amounts of copper can be successfully removed with small amounts of wheatgrass taken in.
20. It can overcome radiations from TV and computer screens, pollutions and odours in home.
21. Wheatgrass contains trace amounts of selenium which is a semi-conductor of electricity, thus promoting and regulating bioelectric circuits in the body. The bioelectricity that enters into the cell is converted into heat, which makes the cell healthy and functional.
22. The amino acids contained by the wheatgrass are useful for building muscle tissues, repairing cells and clotting the blood.
23. Wheatgrass juice is excellent in case of constipation keeping the bowels open.
24. Wheatgrass helps in reducing High Blood Pressure and also curing various liver diseases as it aids reduction of toxins from the body and giving blood iron which helps circulation by dilating blood vessels.
25. The liver is known as the workhorse of the body performing more than five hundred functions. All the disorders of the liver including jaundice can be successfully cured with the use of wheatgrass.
26. It neutralizes inorganic molecules. Fruits and vegetables contaminated by chemical sprays can be cleaned with wheatgrass placed in the rinse water.
27. It has beneficial effects on the capillaries.
28. Pregnant women can use wheatgrass as a tonic in addition to any kind of medication, so that their babies form and born healthy, strong and smart. It helps production of healthier breast milk.
29. With the use of wheatgrass children will grow healthy and strong, intelligent and peaceful.
30. Wheatgrass is a boon to athletes and weight trainers to improve performance.
31. Wheatgrass has curative properties to many eye diseases like cataract.

32. A few blades of wheatgrass in water neutralize the fluorine; apparently it renders inorganic chemicals harmless.

Thus wheatgrass is a survival food for the good health of to people everywhere.

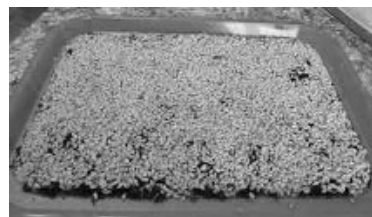
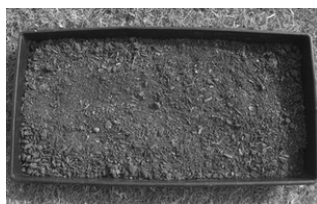
### **List of curable diseases by the wonderful wheatgrass juice**

- |               |                   |                   |                    |
|---------------|-------------------|-------------------|--------------------|
| 1.Diabetes    | 2. Hypertension   | 3. Gastritis      | 4.Stomach Ulcers   |
| 5. Pancreases | 6. Liver troubles | 7. Obesity        | 8. Asthma          |
| 9. Fatigue    | 10. Constipation  | 11. Arthritis     | 12.Female problems |
| 13. Colitis   | 14. Hemorrhoids   | 15.Athlete's foot | 16. Cancer         |

### **Growing wheatgrass at home**

#### **Requirement**

1. Healthy wheat grains, Sherabth or Bansi
2. Earthen pots or plastic trays of easily handling size, with about 7.5 cm depth and drain holes
3. Soft soil with natural manure. Fertilizers, pesticides, insecticides and any other chemicals should not be used.
4. Wooden or metal rack covered with a wire mesh to protect the trays from birds and pet animals.
5. Natural fertile soil to fill the tray uniformly to a minimum depth of 5 cm. Fresh soil is required to refill the tray after every harvesting. The removed soil, with wheatgrass roots, may be reused after composting.



#### **Method of growing wheatgrass**

- Soak the wheat grains with water for 12 hours, say from 06 Pm to 06 AM.
- Clean the soaked wheat grains with fresh water and keep it tied up in a cotton cloth for 24 hours (06 Am to 06 AM next day)for sprouting. During this period, to

maintain wetness of the cloth, sprinkle water on it once or twice depending on the season.

- Spread the sprouted grains very closely without overlapping over the soil in the tray/pot.
- Sprinkle on them thin layer of soil to cover the sprouted grains fully.
- Everyday, depending on the season, sprinkle water on the tray adequately to maintain wetness of the soil to its full depth.
- By the 7<sup>th</sup> day the wheatgrass blades will grow to a height of 15cm or a little more.
- Wheatgrass grown for 7 to 10 days only has to be used to serve its beneficial purpose. After 10<sup>th</sup> day, the chlorophyll, protein and vitamin content of the wheatgrass blade decline sharply as the level of cellulose increases; cellulose is the indigestible plant fiber which provides structural stability to the growing plant.



### **Juicing and consuming of wheatgrass**

- For harvesting, only the greenish stems of the wheatgrass have to be cut. If it is a small dosage, chewing and spitting out the pulp is preferable, as the fiber of wheatgrass is indigestible by humans. However, for larger quantities chewing may wear out the jaws and also a lot of patience is needed.
- If the need is more it is better to extract juice from the wheatgrass. For this purpose, use a slow turning electric juicer or hand crank types. High speed juicers are not to be used for the reason that the blade cuts the grass and oxidize the juice and due to the heat produced some trace elements get evaporated.
- The best and safest way for extracting wheatgrass juice is with the use of the simple and good old mortar and pestle. Mincing on a stone grinder is also equally good; water has to be sprinkled while grinding or mincing.
- Maximum benefits are obtained by making juice out of wheatgrass within 10 minutes of its harvesting and consumed. Trace elements get gradually evaporated with delay. After 3 hours it loses almost all of its beneficial values.
- Honey is a good addition to the wheatgrass juice. If anyone develops dislike to the odour of wheatgrass juice or gets vomiting sensation add a very small dose of fresh ginger juice and the taste becomes similar to sugarcane juice.
- Diabetic patients also can use honey limitedly.
- To start with 25 to 50ml of juice diluted with 15 to 25 ml of water may be used. Gradually the juice content may be increased cutting down on the water addition.
- Recommended recipes like “green drink”, “vegetable grass drink”, “wheat-beat juice” stand second in order to the pure nascent wheatgrass juice.

- Sipping to allow the wheatgrass juice mixed properly with saliva in mouth is preferable to gulping; smaller doses taken 5 or 6 times a day is preferable, particularly in the case of beginners.
- Neither lemon juice nor salt is to be added to the wheatgrass juice.
- From a newly born baby to the oldest can make use of wheatgrass; Infants may be given 4 or 5 drops of the juice daily.



**Author's Note:** If there are any questions about growing or using wheatgrass the author is glad to help. He may be contacted at the following address:

K.Nageswara Rao, Dy.Director(Retd), D.G.E.T.,  
Yogacharya, Hamsa Yoga Kendra, 2-2-18/18/3/14, Baghamberpet,  
Hyderabad-500013. Phones: 04027424204, 09949237732

### 38. HOMA THERAPY - A UNIQUE TECHNIQUE FOR SOIL AND CROP PROTECTION

Prof. Pramod W. Basarkar

Homa Therapy employing the traditional Agnihotra is an excellent tool in agriculture, horticulture, animal and human health. This technique, which has a reference in Yajurveda has been brought out and popularized by Saint Gajanan Maharaj of Akalkot. It is performed daily according to 'Circadian rhythm' of nature at stipulated times of local sun rise and sun set. Fire is lit in a semi-pyramid shaped copper vessel using dried cow (preferably) or bullock dung cakes. Two pinches full of raw, unbroken organically grown rice grains (Akshata) smeared with cow's ghee are offered to the fire. It is a daily process of fumigation and power enriching practice though yajna. Two offerings are made while chanting two simple mantras (set of two sound vibrations) ordained by the Vedas as follows:

*At sunrise*

*Sooryaya swaha, sooryaya idam na mama|*

*Prajapataye swaha, prajapataye idam na mama||*

*At sunset*

*Agnaye swaha, agnaye idam na mama|*

*Prajapataye swaha, prajapataye idam na mama||*

According to Vedic science, the energy levels emerging out of Agnihotra go high in the atmosphere, assimilate medicinal quality-holding matter and gases in the space and return to the mother earth through rains. Agnihotra regulates 'Rain cycle' and brings rains according to the requirement of kharif / rabi crops. It is known as 'Yajna chakra'. When Agnihotra is performed in the close vicinity of plants, the healthy atmosphere generated by Agnihotra helps the growth and development of plants to a great extent. Agnihotra provides love and care to the crops / plants. They, in turn, reciprocate by giving us good quality grains and fruits. In 'Agnihotra' atmosphere, the metabolic rate of plants increases. The ingredients added to fire while performing Agnihotra, like ghee, whole rice and chanting of specific mantras help these metabolic processes. There are various energy levels. These get transformed and become beneficial to man and environment. Through modern gadgets one can measure these effects. Because of cow's ghee and dung the smoke gets electrically charged and charges the atmosphere, continues to provide internal resistance to plants against all types of pollutions till next performance of Agnihotra and thus the cycle continues. This type of energized atmosphere is created due to burning of whole rice grains and cow's ghee in the copper semi-pyramid of specific size at specific time and due to specific sound waves created by chanting of mantras. If specific vibrations are sung in the form of mantras while fire is lit in the pyramid, there is resonance effect. Ancient science points out that resonance effect produced in the pyramid invigorates the plant cells and helps their reproductive cycle. The Agnihotra performer acts as a biological transducer since 'fire' is described as a special state of matter.

For the benefit of crops in larger areas, Agnihotra should be performed daily in the center of the farm/field. For observing wider beneficial effects, 'Resonance Point' technique should be followed which provides protection to the crops or plants in around

150-200 acres of land by doing Agnihotra at one place only. A small shed or hut in the field / farm is ideal to perform Agnihotra during all the seasons without any obstruction from wind, rain etc. Agnihotra performed regularly accelerates 'Healing cycle'. Water holding capacity of 'root zone' of plants increases due to Agnihotra. Also, nutrient absorbing capacity of the plants and phosphate solubilisation capacity in the soil increases. Agnihotra maintains 'nutrition balance' in soil and plants. In short, 'Agnihotra' acts as a catalyst for the plants

Agnihotra improves soil health and earthworm cultivation and is useful in agricultural and horticultural farms and forestry. It imparts resistance to crops and plants against pollution and deadly chemicals. Agnihotra sets up a life-pattern based on biopsychological techniques given by Vedas. 'Agnihotra' fumigation and ash have wide range of applications in medical field also. In short, 'Agnihotra' acts as a catalyst for the plants and all life forms. The aims of Agnihotra are to heal and improve the lands that we cultivate rather than burdening it with pollution of chemicals, to grow superior crops without the use of chemicals fertilizers, pesticides, insecticides and herbicides to protect and heal the environment. Agnihotra creates clean, pure and medicinal quality local atmosphere. It's effects are beneficial and wide ranging on not only for human beings but on all the life forms.

Agnihotra is a unique technique for pollution control and the well being and safety of all life on the earth. It can be performed by any human being irrespective of age, sex, colour, race, caste, religion, country and economic status. Although Agnihotra is of Indian origin, it is practiced for individual and community benefit in more than 75 countries including Yugoslavia, Chile, Peru, Australia, Poland, America and Germany. Any member of the family can perform it.

Age-old agricultural practices have undergone sweeping changes with the introduction of latest scientific techniques involving machineries and a variety of chemicals including poisonous ones to get maximum yield from the available land. Despite modern technology and increase in the use of chemicals, the entire plant life seems to be reeling under the devastating effect of pollution. Soil is the life-line of agriculture and soul of civilization. It's destruction is alarming but being chronic, slow

and without any immediate environmental crisis, cannot be noticed early. Perhaps the last chance to save the planet from the devastating effects of pollution is Agnihotra.

### **39. HYBRID BIOGAS PRODUCTION PLANT SYSTEMS**

K.S. Anand Kumar K.S and S.Sankaran

This research paper presents & discuss the demonstration plant have been built and developed in the National Geophysical Research Institute (Council of Scientific and Industrial Research) for production of cooking gas from kitchen wastes & bio wastes using 4<sup>th</sup> generation hybrid bio gas production plant System. A Hybrid Bio Gas Production Plant Systems comprise several innovations and many mature low cost renewable energy technologies and that have been well established for many years and supplies high calorific value of biogas output compare with existing bio gas production plants.



A novel experiment project of a mini scale low tech hybrid biogas production plant systems for the canteen block using kitchen wastes generated by itself being converted into biogas and those in the food business should seriously consider these project in order to lower their cost as well as good to the environment. In India, some kitchens have already adopted converting their food leftovers and food preparation peelings into feedstock for their very own biodigester. In turn the methane/biogas harvested from them is used in the cooking process. Although it doesn't totally eliminate

their need for LPG when cooking, it does take a considerable dent out of the cost incurred in their operations.

Individual Houses, Canteens, Hotels, Hostels, Universities and Major institutions can replicate the above methodology and become energy independent.

#### **40. RESEARCH IN SRI MAHARSHI RESEARCH INSTITUTE OF VEDIC TECHNOLOGIES WITH SPECIAL REFERENCE TO GREEN NANO TECHNOLOGY IN ANCIENT INDIA**

Dr. A. Bala Sudhakara Sastry

The Achievements of the Indian Seers and Rishies in the metaphysical and spiritual sciences have won worldwide attention and appreciation. However, the spectacular achievements of such seers in the sphere of physical sciences have not received due attention and recognition. It is heartening to note that during the recent years, there has been a change in this stand and there is a willingness to explore avenues for collaborative effort between the adherents to the paths of Vedic and mainstream sciences. We believe that the time is ripe for a thorough review of the ancient Indian knowledge already brought to light by Vedic scholars, their correlation with modern developments in the respective fields and an appraisal of areas where fruitful bridges can be built for the development of a unitary science, which could effectively extend the frontiers of knowledge in this vital area. One of the primary factors reducing the effectiveness of all such joint endeavors is the lack of a commonly understandable terminology. To overcome this, the Sri Maharshi Research Institute of Vedic Technologies (SRIVT) has made a compilation of treatises on Vedic knowledge in different public and private libraries and have digitalized the results over the last 6 years. As a result the SRIVT has :

- Developed 1,00,000 digital pages of ancient manuscripts, journals, and publications.
- Prepared a gist of 450 ancient technical treatises on various subjects like physics, agriculture, chemistry, medicine, solar energy, alchemy, fuels, astronomy and related disciplines
- Established a good processing laboratory for conducting experiments based on Vedic sciences and their validation.



- Translated for the first time ancient aeronautics by Bharadwaja in to a comprehensive ancient engineering book on Avionics.
- Developed of a number of superior alloys based on the ancient aeronautic texts one of which is corrosion resistant copper alloy.
- Confirmed by SRIVT's collaborators that the processing and purification methods developed by SRIVT are economical, efficient and eco-friendly, which can be adopted for immediate industrial applications.

#### **Green Nanotechnology through ancient Indian knowledge:**

It is well known that research in nanoscience and nano technology in several disciplines like physics, chemistry, biology, medicine, and engineering have become a vital during the past two to three decades. Nano particles have attracted the whole scientific community due to their novel functionalities and also due to their tremendous scope of creating new knowledge in explaining the size dependencies of the evolution of various physical, chemical and mechanical properties. Nano copper materials are prepared by both physical and chemical techniques in which vapour deposition technique, sol-gel and ball milling have gained better attention. But the cost involved in producing these nano particles is huge and in bulk production the cost further soars up. Apart from that, these techniques are not eco-friendly. This is the main reason for the scientific community to shift towards eco-friendly or green technologies.

As an alternative to these modern techniques, SRIVT came up with Vedic technology which was described in ancient Indian manuscripts which is eco-friendly, economical and efficient. With this technology, SRIVT successfully produced copper and other nano metal particles of 20-100 nm size with 99 to 100% purity within a time span of 20 minutes. The samples were tested for confirmation of size in Indian Institute of Technology (Madras), Chennai. The process of producing nano copper was optimized and standardised. SRIVT has produced particles in different size ranges viz 10-30 nm, 40-60 nm, 70-100 nm for different applications. Nano copper has potential applications in many fields due to its high thermal conductivity, anti fungal, anti bacterial, medical applications, high strength electrical conductors, corrosion resistant copper alloys, marine applications, coatings and paintings etc.

## **41. ANCIENT INDIAN WISDOM IN FOREST MANAGEMENT**

Dr. P. Raghuveer IFS

Ancient India always practiced eco-sensitive philosophy, with a good emphasis on environmental ethics. The Vedas, Upanishads, Bhagavad Gita, Mahabharata, Ramayana, Puranas and Smritis all contain the earliest messages for preservation of environment and ecological balance. Man is taught to live in harmony with nature and recognize that divinity prevails in all elements, including plants and animals. That is why our ancestors worshipped trees, rivers, birds, snakes and stones which all form part of the nature and play a silent role in the preservation of nature. The rishis of the past had always advocated a great respect for nature.

Vedas carry enormous wisdom for the man. A quote from Rigveda says “May this earth, whose surface undulates with many gradients and sustains an abundant variety of herbs and plants of different potencies and qualities, support all human beings, in all their diversity of endowment in mutually supportive harmony”. According to Yajurveda good environment comprising a) abundance of greenery around, b) plenty of Sunshine, c) raw Earth for being tread upon and d) regular performance of Homa to keep the atmosphere free from air borne infections is a pre-requisite to ensure healthy living conditions.

Prithvi Sukta in Atharva Veda says :‘Mata Bhumi Putroham Prithivyah: Earth is my mother, I am her son.’ King Prithu cleared forests and established organized agricultural settlements and towns. But every village was complete only if it has Mahavan (protected natural forest), Shrivani (to provide goods and services to humans and livestock) and Tapovan (the sacred home of sages where animal or tree could not be harmed). Each village was responsible through Panchayat for maintaining the forests. Woodlands are a must in and around houses. The Panchavati has to be there in every village – cluster of five great trees – symbolizing Earth, Water, Fire, Air and Ether.

Ishopanishad says:

*“Akashat Patitam Toyam Yatha Samrakshayati Bhumi param Thatheva Sarvatra  
Krishmit Krishwa Idameva jeevanam shreyasam Bahujana Manyaha”*

meaning: “Whatever water falls on earth from sky If it is conserved suitably above and below the earth surface, it may be available everywhere for all living beings” reflects the arts and science of Rain water Harvesting.

Varhamitra's Brihat Samhita (700 AD) talks of relationship between irrigation tanks and trees. Without the shade of the trees on their sides, water reservoirs do not look safe and charming; therefore, one ought to plant the gardens on the banks of the water bodies. Prescription species– eg Arjuna, Banyan, Pipal, Jamun, etc are supposed to be planted on the embankment. Charaka, Susruta, Dhanwanthari, Nagarjuna, Parashara, etc popularised the usage of medicinal plants. Planting of medicinal herbs and trees along with shade giving trees are recommended along the roads. Planting of fruit plants on wastelands was made mandatory by Ashoka (273 BC). Gods and goddesses are identified with specific trees and plants and taken care of. For example Tulasi is identified with goddess Laxmi and grown in every household.

It is believed that during the Chaturmasya coinciding with the rainy season, Gods are supposed to be resting on the trees and plants. No tree is cut during this time. When cutting is a must the tree spirit is asked for forgiveness to alleviate the ill effect. That was an excellent way of protecting forests and other plant life. Nakshatravans are encouraged to be developed by individuals to take care of Trees corresponding to their Birth Star.

When digging the earth was essential, it was done with great respect:

*“Yathathe bhumi vikhnami kshipram tadapi rohatu  
Maathe marm vribhagvari Maathe hriday marpipam”*

which means “O mother earth! Whatever I collect and dig from You Let it revive and flourish. Let me not pierce thy heart

The importance of greenery can be understood from the saying that

- Ten wells are equal to one pond.
- Ten ponds are equal to one lake.
- Ten lakes are equal to one son.
- Ten sons are equal to one tree !!!









Oh Earth, may only pure water flow for our bodies. May all the water on earth remain pure and unpolluted. May harmful substances be away from us. May only good action occur at our instance... O pure Earth, may the we utilize your soil well ( for creative production ) with out causing you injury or harm and disturbing any vital element in you.

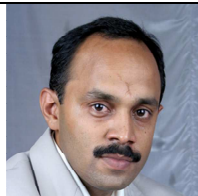







The Bishnoi Community believes that "If one has to lose head for saving a tree, know that the bargain is inexpensive". According to Lord Mahavira: 'One who neglects or disregards the existence of earth, air, fire, water and vegetation disregards his own existence which is entwined with them.' Mahatma Gandhi says : "I bow my head in reverence to our ancestors for their sense of the beautiful in nature and for their foresight in investing beautiful manifestations of Nature with a religious significance."



Our ancestors viewed the earth as rich and bountiful, which it is. Many people in the past also saw nature as inexhaustibly sustainable, which we now proved it to be wrong. It is essential that we reexamine ethically what we have inherited, what we are responsible for and what we will pass on to coming generations. There is an urgent need to invoke our great ancient wisdom to stop the destruction of Nature and also save ourselves from disaster.

## ABOUT THE AUTHORS

Dr. T.S.Ramakrihna Sr,Director (Retd), Geological Survey of India & Founder Secretary of ESWARA tsr@eswaraindia.org	
Shri M.V.Ramanamurthy Geological Survey of India(Retd), Academician rm_malladi@yahoo.com	
Shri Pidaparty P. S. Hariprasad Management Consultant hariprasadpps@gmail.com	
Dr. P.N.Vinaya Ayurvedic Physician and Research Scholar Dept of Sanskrit Studies, University of Hyderabad vinayaballakur22@yahoo.co.in	
Dr. Goverdhanam Vani Research Scholar, Department of Sanskrit Studies University of Hyderabad vani_mudumba@yahoo.com	
Dr.J.S.R.A. Prasad Associate Professor, Department of Sanskrit Studies, University of Hyderabad jsraprasad@gmail.com	
Smt. Soumya B Research Scholar Department of Sanskrit Studies, University of Hyderabad soumyabalan376@ gmail.com	
Shri Siva Panuganti Research Scholar Department of Sanskrit Studies, University of Hyderabad panugantisiva@gmail.com	
Prof. Kottapalli Seshagirirao Dept. Of Plant Sciences, University of Hyderabad kssl@uohyd.ernet.in	

<p>Shri Surendra Komatineni Research Scholar, Dept. of Sanskrit Studies, University of Hyderabad surendrak94@gmail.com</p>	
<p>Dr G.S.Murthy, Scientist (Retd), BARC Researcher, lntegration of Mathematics and metaphysics gurajadamurty@hotmail.com</p>	
<p>Dr. B.Lakshmi Doctor of Alternative Medicine vedicplants@yahoo.co.in</p>	
<p>Smt. Sreedevi Kasavajjhala Research Scholar, University of Hyderabad sridevi.kasavajjhala@gmail.com</p>	
<p>Ms.Ayesha Sultana Department of Genetics , osmania university ,Hyderabad ayeshaasra68@yahoo.com</p>	
<p>Dr. S.Y.Anwar Professor(Emeritus) Department of Genetics , Osmania university Yousuf_anwar@yahoo.com</p>	
<p>Y. L. Nene Dy. Director General (Retd.), ICRISAT Founder, Asian Agri-History Foundation, Hyderabad yeshwantn2@gmail.com</p>	
<p>Dr.P.RajiniM.D (Prasutitantra) Medical officer, Govt ayurvedic dyspansory, Patloor Researcher, Marri Academy of Ayurveda raj_chanakya1@yahoo.com</p>	

Dr.Kulamarva.Jayakrishna Agasthya Ayurveda Clinic, Anandbagh, Hyderabad Jkkulamarva@rediffmail.com	
Shri Shaik Ameer Jani Research Schilar Department of Genetics and Biotechnology, Osmania Univeristy ameerjaniz@gmail.com	
Dr.Pundareekaksha Rao Research Scholar Dr.B.R.K.R.Ayurvedic college, Hyderabad dr.pundareeayush@gmail.com	
A.G.B. Reddi, DyDG(Retd), Geological Survey of India, Academician and Spiritual Scholar, Bengaluru breddi@gmail.com	
Dr. Mannem Murthy Former Nuclear Scientist, Aura House Mahendra hills Scunderabad-500027 murthy_aura@yahoo.co.in	
Dr. Shanti Moganti Environment Consultant & Guest Faculty, City University of Hong Kong, Hong Kong Shanti.moganti@gmail.com	
Dr.M.Srinivasulu, Director, Marri Academy of Ayurveda & former P.G.Professor, Govt. Ayurveda college, Hyderabad. marrisdri@gmail.com	
Prof. V.Kannan Professor of Mathematics, University of Hyderabad, vksm@uohyd.ernet.in	









Dr.T.Krishnamurthy Superintendent, Red Cross Institute of Yoga and Naturopathy, Jubilee Hills, Hyderabad. tkrishnamurthy5@rediffmail.com	
Smt. G. Vamsipriya Nature Lover and Garden expert. vamsipriya.choudary@gmail.com	
Prof. N.Sai Prasad Scientist(Retd), ISRO & Professor City Engineering College, Bengaluru nsprasad60@hotmail.com	
Dr B.S.R.murthy D.D.G.(Retd), Geological Survey of India Murthybsr123@ gmail.com	
Dr.V.V.Ravi Indian Meteorological Department Pune. vamaraju_ravi@yahoo.co.in	
Dr. Iragavarapu Suryanarayana Chief Scientist (Retd.), Indian Institute of Chemical Technology iragsurya@yahoo.co.in	
Prof. P. Shashirekha Head, Dept. of Sanskrit, Osmania University, Hyderabad ps_rekha@yahoo.com	
Prof.C.Santhamma Professor of Physics (Retd.), Andhra University & Vedic Mathematician, Visakhapatnam santhamma_c@yahoo.co.in	
Smt.N.V.Uma Maheswari, Research Scholar in Vedic Mathematics.	

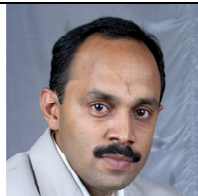












<p>Prof Lakshmeswar Jha Head of the Ved Department and Faculty Dean Sri Lal Bahdur Sastri. R. S. Vidyapeeth, New Delhi <a href="mailto:drsnjha.delhi@gmail.com">drsnjha.delhi@gmail.com</a></p>	
<p>Dr. Srinivas Madabhushi D.D.G. and H.O.D., Eastern Region Geological Survey of India, Kolkata and Sanskrit Scholar <a href="mailto:srinivasmadabhushi@gmail.com">srinivasmadabhushi@gmail.com</a></p>	
<p>Shri Kondeti.Nageswara Rao Dy.Director(Retd), D.G.E.T., Yogacharya, Hamsa Yoga Kendra, Hyderabad Phone 9949237732</p>	
<p>Prof. P.W.Basarkar Professor &amp; Head of Biochemistry, University of Agricultural Sciences, Dharwad (Karnataka) <a href="mailto:pwbyoga@rediffmail.com">pwbyoga@rediffmail.com</a></p>	
<p>Anand Kumar K.S., S.T.O, National Geophysical Research Institute, Uppal Road, Hyderabad, <a href="mailto:anand_kumarks@yahoo.com">anand_kumarks@yahoo.com</a>.  Sankaran, Scientist-'G', Head of Environmental Geophysics, National Geophysical Research Institute, Hyderabad, <a href="mailto:sankaran_46@hotmail.com">sankaran_46@hotmail.com</a>)</p>	
<p>Dr.A.Bala Sudhakara sastry, Chairman, Sri Maharshi Research Institute of Vedic Technologies</p>	
<p>Dr. K. Raghuveer, Director, Andhra Pradesh Forest Research Academy</p>	

## ABOUT THE AUTHORS

Dr. T.S.Ramakrihna Sr,Director (Retd), Geological Survey of India & Founder Secretary of ESWARA tsr@eswaraindia.org	
Shri M.V.Ramanamurthy Geological Survey of India(Retd), Academician rm_malladi@yahoo.com	
Shri Pidaparty P. S. Hariprasad Management Consultant hariprasadpps@gmail.com	
Dr. P.N.Vinaya Ayurvedic Physician and Research Scholar Dept of Sanskrit Studies, University of Hyderabad vinayaballakur22@yahoo.co.in	
Dr. Goverdhanam Vani Research Scholar, Department of Sanskrit Studies University of Hyderabad vani_mudumba@yahoo.com	
Dr.J.S.R.A. Prasad Associate Professor, Department of Sanskrit Studies, University of Hyderabad jsraprasad@gmail.com	
Smt. Soumya B Research Scholar Department of Sanskrit Studies, University of Hyderabad soumyabalan376@ gmail.com	
Shri Siva Panuganti Research Scholar Department of Sanskrit Studies, University of Hyderabad panugantisiva@gmail.com	
Prof. Kottapalli Seshagirirao Dept. Of Plant Sciences, University of Hyderabad kssl@uohyd.ernet.in	

<p>Shri Surendra Komatineni Research Scholar, Dept. of Sanskrit Studies, University of Hyderabad surendrak94@gmail.com</p>	
<p>Dr G.S.Murthy, Scientist (Retd), BARC Researcher, lntegration of Mathematics and metaphysics gurajadamurty@hotmail.com</p>	
<p>Dr. B.Lakshmi Doctor of Alternative Medicine vedicplants@yahoo.co.in</p>	
<p>Smt. Sreedevi Kasavajjhala Research Scholar, University of Hyderabad sridevi.kasavajjhala@gmail.com</p>	
<p>Ms.Ayesha Sultana Department of Genetics , osmania university ,Hyderabad ayeshaasra68@yahoo.com</p>	
<p>Dr. S.Y.Anwar Professor(Emeritus) Department of Genetics , Osmania university Yousuf_anwar@yahoo.com</p>	
<p>Y. L. Nene Dy. Director General (Retd.), ICRISAT Founder, Asian Agri-History Foundation, Hyderabad yeshwantn2@gmail.com</p>	
<p>Dr.P.RajiniM.D (Prasutitantra) Medical officer, Govt ayurvedic dyspansory, Patloor Researcher, Marri Academy of Ayurveda raj_chanakya1@yahoo.com</p>	

Dr.Kulamarva.Jayakrishna Agasthya Ayurveda Clinic, Anandbagh, Hyderabad Jkkulamarva@rediffmail.com	
Shri Shaik Ameer Jani Research Schilar Department of Genetics and Biotechnology, Osmania Univeristy ameerjaniz@gmail.com	
Dr.Pundareekaksha Rao Research Scholar Dr.B.R.K.R.Ayurvedic college, Hyderabad dr.pundareeayush@gmail.com	
A.G.B. Reddi, DyDG(Retd), Geological Survey of India, Academician and Spiritual Scholar, Bengaluru breddi@gmail.com	
Dr. Mannem Murthy Former Nuclear Scientist, Aura House Mahendra hills Scunderabad-500027 murthy_aura@yahoo.co.in	
Dr. Shanti Moganti Environment Consultant & Guest Faculty, City University of Hong Kong, Hong Kong Shanti.moganti@gmail.com	
Dr.M.Srinivasulu, Director, Marri Academy of Ayurveda & former P.G.Professor, Govt. Ayurveda college, Hyderabad. marrisdri@gmail.com	
Prof. V.Kannan Professor of Mathematics, University of Hyderabad, vksm@uohyd.ernet.in	

Dr.T.Krishnamurthy Superintendent, Red Cross Institute of Yoga and Naturopathy, Jubilee Hills, Hyderabad. tkrishnamurthy5@rediffmail.com	
Smt. G. Vamsipriya Nature Lover and Garden expert. vamsipriya.choudary@gmail.com	
Prof. N.Sai Prasad Scientist(Retd), ISRO & Professor City Engineering College, Bengaluru nsprasad60@hotmail.com	
Dr B.S.R.murthy D.D.G.(Retd), Geological Survey of India Murthybsr123@ gmail.com	
Dr.V.V.Ravi Indian Meteorological Department Pune. vamaraju_ravi@yahoo.co.in	
Dr. Iragavarapu Suryanarayana Chief Scientist (Retd.), Indian Institute of Chemical Technology iragsurya@yahoo.co.in	
Prof. P. Shashirekha Head, Dept. of Sanskrit, Osmania University, Hyderabad ps_rekha@yahoo.com	
Prof.C.Santhamma Professor of Physics (Retd.), Andhra University & Vedic Mathematician, Visakhapatnam santhamma_c@yahoo.co.in	
Smt.N.V.Uma Maheswari, Research Scholar in Vedic Mathematics.	

<p>Prof Lakshmeswar Jha Head of the Ved Department and Faculty Dean Sri Lal Bahdur Sastri. R. S. Vidyapeeth, New Delhi <a href="mailto:drsnjha.delhi@gmail.com">drsnjha.delhi@gmail.com</a></p>	
<p>Dr. Srinivas Madabhushi D.D.G. and H.O.D., Eastern Region Geological Survey of India, Kolkata and Sanskrit Scholar <a href="mailto:srinivasmadabhushi@gmail.com">srinivasmadabhushi@gmail.com</a></p>	
<p>Shri Kondeti.Nageswara Rao Dy.Director(Retd), D.G.E.T., Yogacharya, Hamsa Yoga Kendra, Hyderabad Phone 9949237732</p>	
<p>Prof. P.W.Basarkar Professor &amp; Head of Biochemistry, University of Agricultural Sciences, Dharwad (Karnataka) <a href="mailto:pwbyoga@rediffmail.com">pwbyoga@rediffmail.com</a></p>	
<p>Anand Kumar K.S., S.T.O, National Geophysical Research Institute, Uppal Road, Hyderabad, <a href="mailto:anand_kumarks@yahoo.com">anand_kumarks@yahoo.com</a>.  Sankaran, Scientist-'G', Head of Environmental Geophysics, National Geophysical Research Institute, Hyderabad, <a href="mailto:sankaran_46@hotmail.com">sankaran_46@hotmail.com</a>)</p>	
<p>Dr.A.Bala Sudhakara sastry, Chairman, Sri Maharshi Research Institute of Vedic Technologies</p>	
<p>Dr. K. Raghuveer, Director, Andhra Pradesh Forest Research Academy</p>	





**The Earthsystem Sciences Awareness And Research Association, popularly known as “ESWARA” places here on record their grateful acknowledgements to the**

**Executive committee members  
Advisory council members  
Speakers of ancient Indian Science Series  
Various national laboratories  
Universities and Departments  
Engineering colleges  
Medical colleges  
and the inspiring audience**

**Without whose support and cooperation it would not have been possible for organizing fifty lectures.**

**ESWARA is also greatly indebted to**

**The Ministry of Earth Sciences, Govt. of India  
Ministry of Environment, Forests, S & T, Govt. of AP  
Andhra Pradesh Pollution Control Board  
National Geophysical Research Institute  
University Of Hyderabad  
&  
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**And finally ESWARA is beholden to all the authors of the papers presented in the seminar besides many silent supporters and sympathizers, with out whose cooperation the 2-day National Seminar focusing on the need to protect the human environment and human values, would not have been possible.**

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The Director  
National Geophysical Research Institute  
Uppal Road, Hyderabad - 500007

Telephone: +91-40-23434600 & 23434700

Fax: +91-40-23434651 & 27171564

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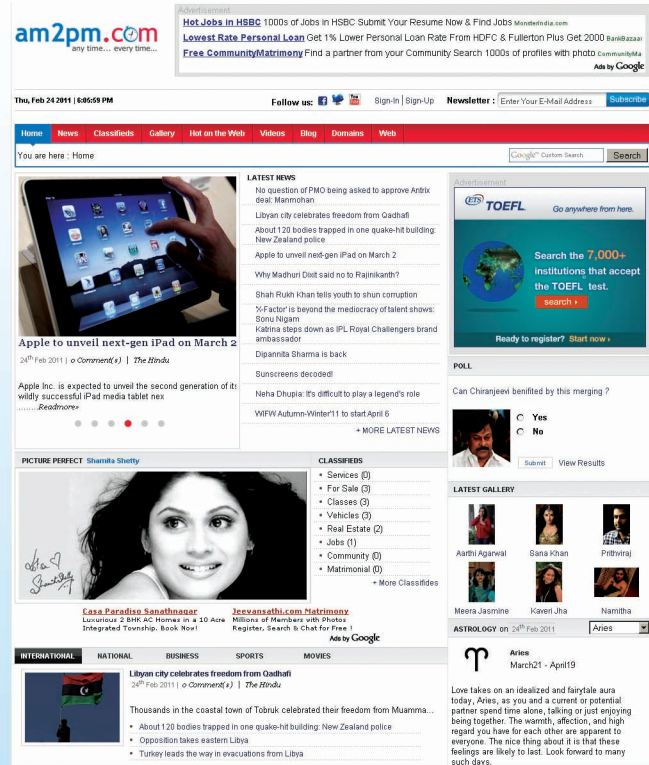
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**EARTHSYSTEM SCIENCES AWARENESS AND RESEARCH ASSOCIATION**  
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**(ESWARA)**

**A brief report on the 2 Day National Seminar by ESWARA On**  
**“Ancient Indian Sciences and their Relevance to Modern Society,**  
**with Special Reference to Green Concepts”**

The 2 Day National Seminar by the EARTHSYSTEM SCIENCES AWARENESS AND RESEARCH ASSOCIATION hereafter called ESWARA on “Ancient Indian Sciences and their Relevance to Modern Society, with Special Reference to Green Concepts” has been successfully conducted on 20 -21 October 2011 in Dr S. Balakrishna Hall, National Geophysical research Institute, Hyderabad. The seminar was cosponsored by Ministry of Earth Sciences, Govt. of India and Andhra Pradesh Pollution Control Board and supported by the National Geophysical Research Institute, Hyderabad.

The seminar encompassed six themes:

- |   |                                      |
|---|--------------------------------------|
| (1) Earth and Environmental sciences      | (2) Health and Medical Sciences      |
| (3) Life Sciences and Agriculture         | (4) Forestry and Veterinary Sciences |
| (5) Mathematical and Engineering Sciences | (6) Vedic Science Literature         |

There was a spontaneous and overwhelming response to the seminar from many eminent scholars as well as research students who are associated with many academic and research Institutions dealing with Ancient Indian Sciences. Nearly 40 Abstracts / Extended Abstracts connected with the various themes of the seminar have been received. A Seminar Souvenir has been published containing all the abstracts along with other information related to the seminar.

The inaugural function of the seminar, held on the 20<sup>th</sup> October at 9.30 AM, was initiated on an auspicious note with *Vedic* chants by scholars and prayer rendered by young students of *Vedic* learning. The function was presided over by Dr. Y. J. Bhaskara Rao, Director, National Geophysical Research Institute and inaugurated by Prof. Ramakrishna Ramaswamy, Vice Chancellor and University of Hyderabad. Dr Kamala Krishnamurthy, President of ESWARA, gave the welcome address and expressed her pleasure on the excellent response to the seminar received. Dr T.S.Ramakrishna, Founder and Secretary, ESWARA, presented a brief profile of the Association and gave a concise account of its activities. Dr Y.J.Bhaskara Rao, who chaired the function, released the Souvenir of the seminar and conveyed his pleasure for choosing the venue in NGRI, which is celebrating its Golden Jubilee Year and praised the Association for its efforts during the last ten years in spreading the message on our eco-friendly, heritage based Ancient Indian Sciences. Prof. Ramakrishna

Ramaswamy, in his inaugural speech, while appreciating ESWARA's objective, has also pointed out some of the drawbacks in the suggestion of fully adopting the Ancient systems as the ratio of available resources to population is entirely different now from the past. He said while ancient Indian culture and heritage are readily acceptable, ancient Indian sciences need to be understood and developed better. He has also made reference to the Chaos theory in this regard. Dr Y.R.Rao, member of the Seminar Organizing Committee, who also ably compeered the function, briefly explained about the technical sessions that were to follow. The function ended with a vote of thanks given by Dr. P. Koteswara Rao, Scientist, NGRI, and Member of the Organizing Committee.

On the first day of the seminar three technical sessions were completed. Session I on Earth and Environmental Sciences was chaired by Shri AGB Reddi, DDG (Retd), GSI, an academician and philosophic researcher. Four papers were presented in this session. Session II, Health and Medical Sciences was held in two segments. The first one was chaired by Prof. M.Srinivasulu, (Retd.), Dept. of Ayush, Govt. of AP and Founder and Director of Marri academy of Ayurveda, and the second segment was chaired by Dr K.Jayakrishna of Agasthya Ayurvedic clinic. A total of 12 papers were presented on this theme covering various ailments like Kidney dysfunction, infertility, vandhya, psychiatric disorders etc and the eco-friendly ayurvedic treatments available for these diseases. There were also papers on diet management in eye disorders, the effects of Viruddhahara (adverse foods), panchagavya, wheat grass, health care through Naturopathy etc. The Session III on Life sciences was chaired by Prof S.Y.Anwar (Retd.) Dept of Genetics, Osmania University. Analysis of bioactive constituents in *Achyranthes Aspera*, probable relation between the stars, planets, related plants, bioenergies and certain plant extracts that could cure some dreadful diseases were all presented.

The remaining three technical sessions were completed during the second day of the seminar. Session IV on Agriculture, Forestry and Veterinary Sciences covered papers on Forest management, indigenous knowledge in conservation of agriculture, weather forecasting for agricultural purposes, Homa therapy for soil and crop protection in ancient India were covered. The Session on Mathematical and Engineering Sciences was chaired by Dr.G.S.Murthy and Dr. G.V.S.R.K.Somayajulu. Accurate time measurements in ancient India, the effects of geopathic stress on people, classification of iron ores in ancient India, a comparison of cube root evaluation by ancient and modern methods, Green nanotechnology through Vedic research etc. were some of the every interesting papers related to this session. Within this session the 50th Golden Jubilee lecture of ESWARA's Lecture Series in Ancient Indian Sciences was organized. This lecture titled "The Astounding Mathematics of Ancient India" was delivered by Prof. V.Kannan, Professor of Mathematics, University of Hyderabad under the President ship of Prof. C.Santhamma, Vedic Mathematician and retired Professor of Physics, Andhra University, Visakhapatnam.

The VI and final session earmarked for Vedic Science Literature was chaired Brahma Shri Kuppa Venkata Krishnamurthy who at the outset gave an account of the efforts being put in by the I-SERVE organization in

promoting the Vedic sciences and the availability vast scientific literature in Sanskrit. Another paper on the scientific aspects of Yajnavalkya Smruti was also presented in this session. After completing the presentation of papers corresponding to all the six technical sessions, the seminar concluded with a Valedictory Function.

The valedictory function was organized with Dr. K. Aravinada Rao, Retired DGP and a Sanskrit Scholar as Chief Guest and Brhama Shri. Kuppa Venkata Krishna Murthy as guest of honor, with Prof. P.Shashirekha, Vice President and Dr.T.S.Ramakrishna, Founder & Secretary of ESWARA on the dais. Professor Shashirekha welcomed the guests. Dr.B.S.R.Murthy read out a report on the proceedings of the seminar from the inaugural function to the end of the technical session. Brahma Shri. Kuppa Venkata Krishna Murthy released a book titled "Super Scientific Concepts in Ancient India" published by ESWARA. This was followed by speech by him, outlining the commendable work done by ESWARA in the past decade in bringing awareness about the eco-friendly sciences and practices of ancient India. The book, edited by Dr.T.S.Ramakrishna, is a collection of abstracts and essays of all the 50 lectures conducted by ESWARA under the Ancient Indian Lecture series during the last ten years. Releasing the book Brhama Shri Kuppa Venkata Krishna Murthy lauded the efforts of ESWARA during the past decade and in particular its efforts in addressing these lectures to modern scientists and students in national laboratories, universities, engineering and medical colleges. Dr.Aravinda Rao while complimenting ESWARA for its efforts and also this unique seminar has stressed on the need for reliable and acceptable research in ancient Indian Sciences and avoid hype, which will be counter productive. Dr. Ramakrishna explained about the steps that are already in practice in ESWARA to filter baseless and unsubstantiated claims about the greatness of ancient Indian Sciences. Dr.M.R.K.Prabhakara Rao, Joint Secretary, ESWARA presented a vote of thanks.

The seminar has been a great success in propagating and promoting eco-friendly ancient Indian sciences. It has generated a lot of interest even in the younger generation. A large number of people have attended the seminar and also a good number of people have also joined the association to strengthen the spread of environmental consciousness among the people.

**Main Recommendations of the Seminar are:**

- 1. The association has organized a seminar after ten long years. Instead, it should hold such seminars more frequently, yearly or at least once in 2 years to promote environmental consciousness among the public.**
- 2. Adopting ancient Indian practices of sustainable development in education, medicare and lifestyle are the best and cheapest ways to control the all round pollution.**
- 3. India can be a world leader by developing its own brand of simple science and minimum technology and a key player in the control of global warming and climate change by reviving its amazing wealth of ancient wisdom.**

\* \* \* \* \*