

May - June 2018 ... Vol 14.13 - 14.14 ... ISSN 1149 - 3551

Bhavan Australia

LIFE
LITERATURE
CULTURE

www.bhavanaustralia.org

MAN IN THE REALM OF NATURE



Words of Eternal Wisdom



Because we all share this planet earth, we have to learn to live in harmony and peace with each other and with nature. This is not just a dream, but a necessity.

- *Dalai Lama*

“The creatures outside looked from pig to man, and from man to pig, and from pig to man again; but already it was impossible to say which was which.”

— *George Orwell, “Animal Farm”*

I have seen many storms in my life. Most storms have caught me by surprise, so I had to learn very quickly to look further and understand that I am not capable of controlling the weather, to exercise the art of patience and to respect the fury of nature.

-*Paulo Coelho*

“The greatness of a nation and its moral progress can be judged by the way its animals are treated.”

— *Mahatma Gandhi*

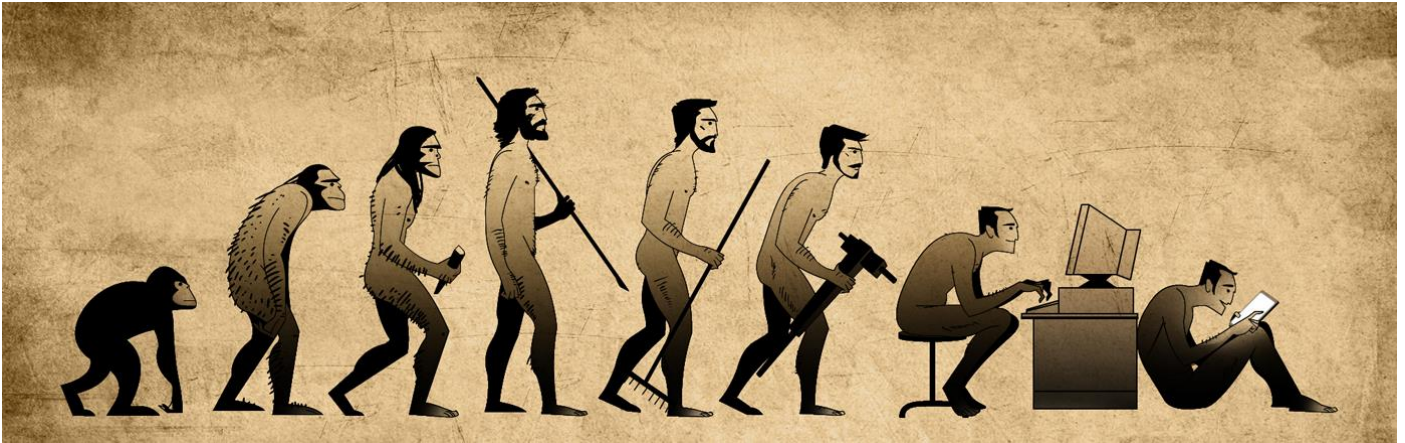
“The assumption that animals are without rights and the illusion that our treatment of them has no moral significance is a positively outrageous example of Western crudity and barbarity. Universal compassion is the only guarantee of morality.”

— *Arthur Schopenhauer,*

“Our task must be to free ourselves... by widening our circle of compassion to embrace all living creatures and the whole of nature and it's beauty.”

— *Albert Einstein*

THE UNITY OF UNIVERSE, NATURE AND HUMANITY



On the 22 of April the whole world was celebrating The Earth Day. As we know our Planet is an incredibly complex and fragile network of interconnected systems that have developed slowly over the last 4.5 billion years or so. According to the scientific belief, from the ashes of the Big Bang this planet emerged as a mass of energy and elements. From that newly born mass of energy and elements evolved structured, dynamic systems of solids, liquids, and gases. The evolution of this planet continued to unfold over billions of years in such a unique way that eventually conditions arose with the ability to foster life.

From the smallest microorganisms to the largest animals, all life on Earth has a common ancestor. Everything is connected to everything. With our population at seven billion and climbing, we have played a tremendous role in the disruption of the Earth's natural systems. As we continue to grow and have a greater impact on the Earth's systems, it is imperative that we address our role and relationship with nature.

The ability of humans to manipulate the landscape and recognize the consequences of doing so puts us in a peculiar position. As a species we are assigned the duty to provide and proliferate. Our goal is to achieve stability for ourselves and our kind. However we also have an obligation to maintain the environment, as we depend on the resources and services it provides. The question then becomes: what is our role in nature? Do we have the right to manipulate the land, factory farm animals, and pollute waterways? Or do we have an obligation to reduce our numbers and merely subsist?

Our relationship with nature has historically been one of imbalance and overuse. Nearly every step in human history has unfortunately been accompanied with a leap in environmental degradation. As society evolved, populations grew and more and more resources were required to fuel the expansion. With breakthroughs in agriculture, settlements became more permanent and cities began to take shape. This shift to city life inadvertently led to a distancing from nature. While many people were still in-tune with nature on a subsistent level, the need for more and more resources began to change our regard for nature.

Although our distancing from nature began several thousand years ago with advancements in agriculture and social order, it is the age of industry to which we owe our modern regard for nature. The growth of cities allowed for a separation between people and nature and our obsession with convenience and efficiency beckoned a new

perspective on the environment. With technological advancements, nature became something we were no longer apart of and entirely subject to, but something that we could control and profit off of. The growth of industry enabled humans to truly dominate the landscape and disrupt the natural systems that have been in place for billions of years. Although every species plays a unique role in the biosphere and inherently has its own impact, not every species has the cognitive ability to measure their influence or the capacity to change it. Humans are unique in that respect, which is the root of the problem. We are capable of understanding our influence over nature, but we tend to ignore the Earth's reaction to our presence. I am not arguing that we purposefully degrade nature, but that environmental degradation is an inherent trait of our population's perpetual progression. We know we are crippling the environment. We have the ability to do something about it. Therefore, we should make change where change is necessary.

Humans play a vital role in nature just like everything else. What separates us from nature though, is the ability to understand our place within it. This cognitive capacity of ours has historically been the cause of a perceived division between man and nature. However, in order to achieve a sustainable future in which humans assume a more natural role and have less of an impact it is imperative that we reconsider our role and relationship with nature. A change in the way we regard nature has obvious political, economic, and social repercussions, but our cognitive ability obliges us to reevaluate our position in the world rather than continue to degrade it.

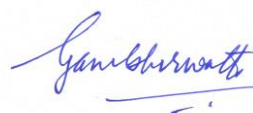
After thousands of years of societal evolution, we find ourselves at the peak of technology and pollution. We are already seeing the effects of our industrial ways through the extinction of species, the melting of glaciers, and the destruction of the landscape. As we continue to disturb the world's natural systems we are recognizing a rippling of consequences. Our recognition of these effects suggests that our role in nature is far more influential than it should be. Therefore it is necessary that we make major changes and that we make them soon.

Our role within nature should be one of subsistence rather than commercialization. We have exploited the world for too long and the consequences of doing so are everywhere. As everything is related to everything, we have no right to infringe on the livelihood of any other species. In fact, our cognitive ability and understanding of nature obliges us to maintain the integrity of the environment. So we must change how we influence the land. We must respect the natural order of things and find a way to live accordingly.

Inspired by "Our Role and Relationship With Nature"

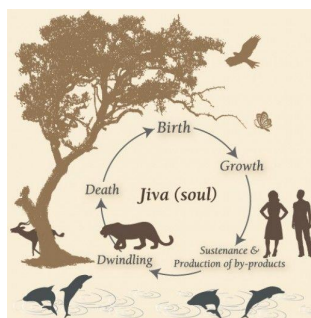
Source: <https://you.stonybrook.edu/>

Gambhir Watts OAM



*President, Bharatiya Vidya Bhavan Australia
Organiser of Holi Mahotsav*





CONTENTS

Man In The Realm Of Nature	6	Stephen Hawking	34
The History Of Earth Day	12	Sensing the Essence of the Universe	37
Nine things you need to know about climate change in 2018	14	Memory, Soul and Reincarnation	42
A New Form of Recycling: Creating Materials that Self-Destruct	23	Of Astronomy, Astrology and Eclipse	43
10 Hindu Environmental Teachings	25	HOW CLIMATE CHANGE AFFECTS EXTREME WEATHER IN THE US	45
Vegetarian diets almost twice as effective in reducing body weight	28	Hydration	47
HUMAN RIGHTS: Australia 2017 EVENTS	30	6 Day Itinerary	
		EVERLASTINGS WILDFLOWER TRAIL	56

BOARD OF DIRECTORS

**Bharatiya Vidya
Bhavan**
AUSTRALIA
www.bhavanaustralia.org

Chairman: Shanker Dhar
President: Gambhir Watts OAM
Secretary/Director: Sridhar Kumar Kondepudi
Other Directors: Krishan Kumar Gupta, Kalpana Shriram, Srinivasan Venkataraman and Moksha Watts.

Directors from Bhavan Headquarters

(Bharatiya Vidya Bhavan Worldwide):

President: Surendralal Mehta
Executive Secretary: Homi Navroji Dastur
Directors: Palladam Narayana Santhanagopal
jagannathan Veeraraghavan

Patrons (Former High Commissioner of India in Australia):

His Excellency Biren Nanda, Her Excellency Mrs Sujatha Singh, His Excellency Prahat Shukla and His Excellency Rajendra Singh Rathore

Honorary Life Patron (Former Consul General of India in Australia and a Founder of Bharatiya Vidya Bhavan Australia): His Excellency M. Ganapathi

Publisher & General Editor:

Gambhir Watts OAM
president@bhavanaustralia.org

Editorial Committee:

Shanker Dhar, Anna Andriashina, Sridhar Kumar Kondepudi, editors@bhavanaustralia.org

Advertising:

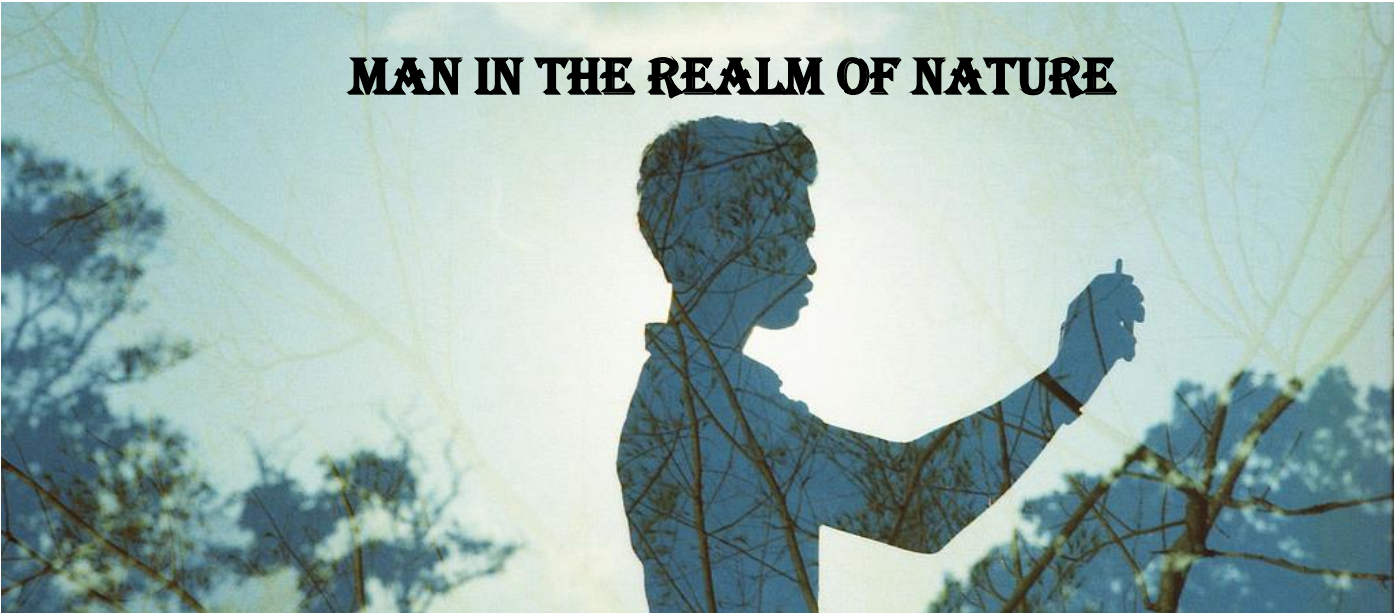
pr@bhavanaustralia.org
Bharatiya Vidya Bhavan Australia
Suite 102 Level L1 (Lower Ground)
515 Kent Street,
Sydney NSW 2000
T: +61 2 9283 6088,
E: pr@bhavanaustralia.org
W: www.bhavanaustralia.org

The views of contributors to *Bhavan Australia* are not necessary the views of Bhavan Australia or the Editor. Bhavan Australia reserves the right to edit any contributed articles and letters submitted for publication. *Copyright:* all advertisements and original editorial material appearing remain the property of Bhavan Australia and may not be reproduced except with the written consent of the owner of the copyright.

Bhavan Australia includes a number of articles from Bhavan's Journal.

Bhavan Australia: - ISSN 1449 – 3551

MAN IN THE REALM OF NATURE



The unity of man and nature. Human beings live in the realm of nature, they are constantly surrounded by it and interact with it. The most intimate part of nature in relation to man is the biosphere, the thin envelope embracing the earth, its soil cover, and everything else that is alive. Our environment, although outside us, has within us not only its image, as something both actually and imaginatively reflected, but also its material energy and information channels and processes. This presence of nature in an ideal, materialised, energy and information form in man's Self is so organic that when these external natural principles disappear, man himself disappears from life. If we lose nature's image, we lose our life.

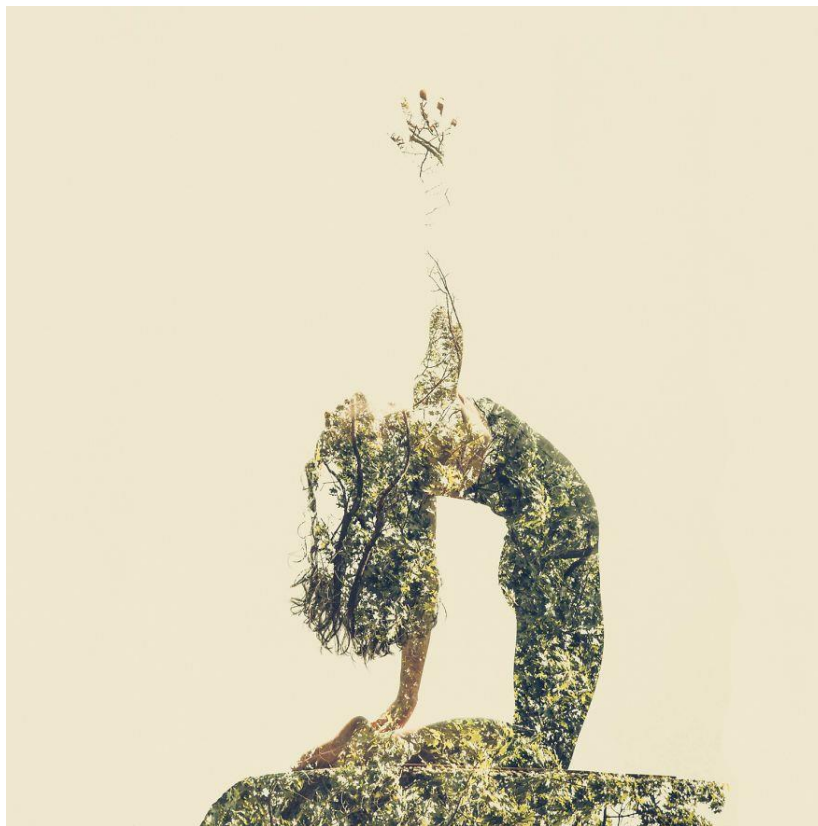
Everything, from each separate cell of a living organism to the organism as a whole, generates bioenergy. Just as the bioenergy of the separate cell goes beyond its boundaries, so the bioenergy of the organs and the organism as a whole extends beyond their boundaries, forming a luminous aura. As the ancient acupuncture therapists intuitively established, bioenergy and bioinformation move along special channels (meridians) forming a complex structure, in which all the components of the living whole interact both with themselves and with the external world. Energy-information interactions are a vital dimension of any living system, including that of man as the highest stage in the hierarchy of the structures of existence known to science.

Man is constantly aware of the influence of nature in the form of the air he breathes, the water he drinks, the food he eats, and the flow of

energy and information. And many of his troubles are a response to the natural processes and changes in the weather, intensified irradiation of cosmic energy, and the magnetic storms that rage around the earth. In short, we are connected with nature by "blood" ties and we cannot live outside nature. During their temporary departures from Earth spacemen take with them a bit of the biosphere. Nowhere does nature affect humanity in exactly the same way. Its influence varies. Depending on where human beings happen to be on the earth's surface, it assigns them varying quantities of light, warmth, water, precipitation, flora and fauna. Human history offers any number of examples of how environmental conditions and the relief of our planet have promoted or retarded human development.

At any given moment a person comes under the influence of both subterranean processes and the cosmic environment. In a very subtle way he reflects in himself, in his functions the slightest oscillations occurring in nature. Electromagnetic radiations alone from the sun and stars may be broken down into a large number of categories, which are distinguishable from one another by their wavelength, the quantity of energy they emit, their power of penetration, and the good or harm they may do us. During the periods of peak solar activity we observe a deterioration in the health of people suffering from high blood pressure, arteriosclerosis or infarction of the myocardium. Disturbances occur in the nervous system and the blood vessels are more liable to suffer from spasms. At such times the number of road accidents increases, and so on. It has been

noted that there is a dependence between any weakening in the Earth's magnetic field and acceleration of growth, and vice versa, growth is retarded when the magnetic field becomes stronger. The corpuscular, radioactive irradiations, cosmic dust, and gas molecules which fill all universal space are also powerful creators and regulators of human existence in biological life. The universe is in a state of dynamic balance and is constantly receiving various forms of energy. Some forms are on the increase or decrease, while others experience periodic fluctuations. Each of us is a sensitive resonator, a kind of echo of the energy flows of the universe. So it would be quite wrong to regard only the energy of the sun as the source of life on earth and humanity as its highest manifestation. The energy of distant cosmic bodies, such as the stars and the nebulae, have a tremendous influence on the life of man as an organism. For this reason our organisms adjust their existence and development to these flows of external energy. The human



organism has developed receptors that utilise this energy or protect themselves from it, if it is harmful. It may be said, if we think of human beings as a high-grade biological substance, that they are accumulators of intense energy drives of the whole universe. We are only a response to the vibrations of the elemental forces of outer space, which bring us into unity with their oscillations. Every beat of the organic pulse of our existence is coordinated with the pulse of the cosmic heart. Cosmic rhythms exert a substantial influence on the energy processes in the human organism, which also has its own rhythmic beat.

Man's influence on nature. Man is not only a dweller in nature, he also transforms it. From the

very beginning of his existence, and with increasing intensity human society has adapted envioning nature and made all kinds of incursions into it. An enormous amount of human labour has been spent on transforming nature. Humanity converts nature's wealth into the means of the cultural, historical life of society. Man has subdued and disciplined electricity and compelled it to serve the interests of society. Not only has man transferred various species of plants and animals to different climatic conditions; he has also changed the shape and climate of his habitation and transformed plants and animals. If we were to strip the geographical environment of the properties created by the labour of many

generations, contemporary society would be unable to exist in such primeval conditions.

Man and nature interact dialectically in such a way that, as society develops, man tends to become less dependent on nature directly, while indirectly his dependence grows. This is understandable. While he is getting to know more and more about

nature, and on this basis transforming it, man's power over nature progressively increases, but in the same process, man comes into more and more extensive and profound contact with nature, bringing into the sphere of his activity growing quantities of matter, energy and information.

On the plane of the historical development of man-nature relations we may define certain stages. The first is that of the complete dependence of man on nature. Our distant ancestors floundered amid the immensity of natural formations and lived in fear of nature's menacing and destructive forces. Very often they were unable to obtain the merest necessities of

subsistence. However, despite their imperfect tools, they worked together stubbornly, collectively, and were able to attain results. This process of struggle between man and the elements was contradictory and frequently ended in tragedy. Nature also changed its face through interaction with man. Forests were destroyed and the area of arable land increased. Nature with its elemental forces was regarded as something hostile to man. The forest, for example, was something wild and menacing and people tried to force it to retreat. This was all done in the name of civilisation, which meant the places where man had made his home, where the earth was cultivated, where the forest had been cut down. But as time goes on the interaction between man and nature is characterised by accelerated subjugation of nature, the taming of its elemental forces. The subjugating power of the implements



of labour begins to approach that of natural forces. Mankind becomes increasingly concerned with the question of where and how to obtain irreplaceable natural resources for the needs of production. Science and man's practical transforming activity have made humanity aware of the enormous geologic al role played by the industrial transformation of earth.

At present the interaction between man and nature is determined by the fact that in addition to the two factors of change in the biosphere that have been operating for millions of years—the biogenetic and the abiogenetic—there has been added yet another factor which is acquiring decisive significance—the technogenetic. As a result, the previous dynamic balance between man and nature and between nature and society as a whole, has shown ominous signs of breaking down. The problem of the so-called replaceable

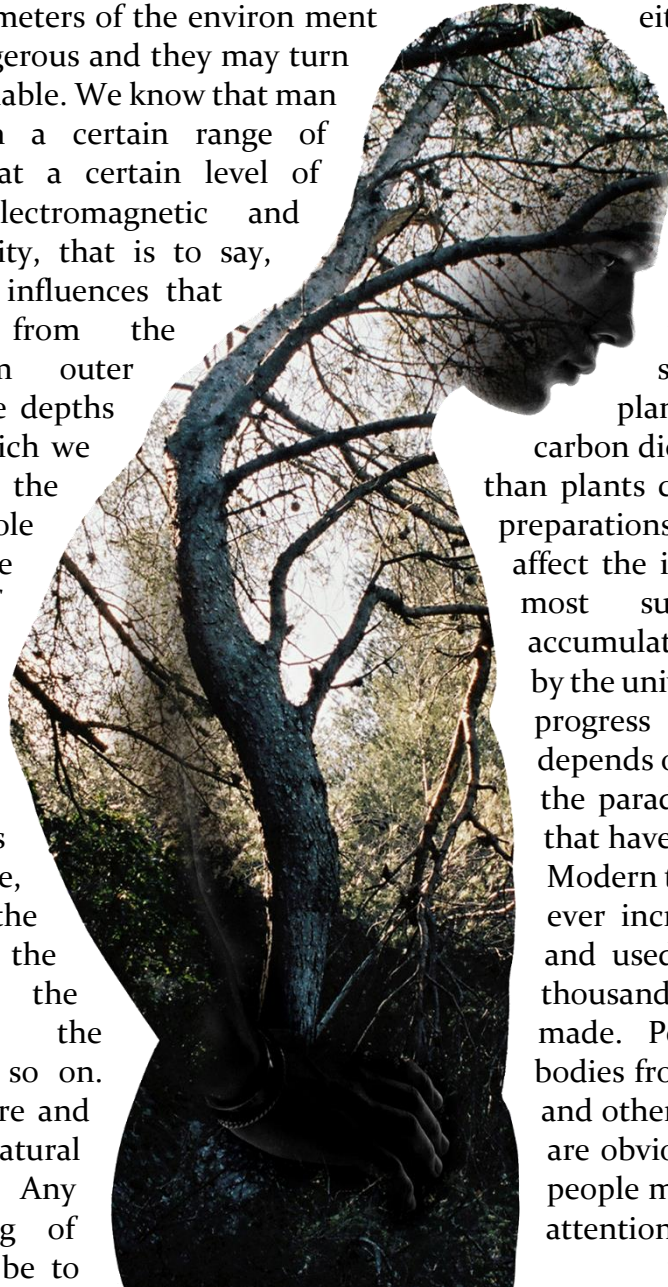
resources of the biosphere has become particularly acute. It is getting more and more difficult to satisfy the needs of human beings and society even for such a substance, for example, as fresh water. The problem of eliminating industrial waste is also becoming increasingly complex. The threat of a global ecological crisis hangs over humanity like the sword of Damocles. His keen awareness of this fact has led man to pose the question of switching from the irresponsible destructive and polluting subjugation of nature to a reasonable harmonious

interaction in the "technology-man-biosphere" system. Whereas nature once frightened us and made us tremble with her mysterious vastness and the uncontrollable energy of its elemental forces, it now frightens us with its limitations and a new-found fragility, the delicacy of its plastic mechanisms. We are faced quite uncompromisingly with the problem of

how to stop, or at least moderate, the destructive effect of technology on nature. In socialist societies the problem is being solved on a planned basis, but under capitalism spontaneous forces still operate that despoil nature's riches.

Unforeseen paradoxes have arisen in the man-nature relationship. One of them is the paradox of saturation. For millions of years the results of man's influence on nature were relatively insignificant. The biosphere loyally served man as a source of the means of subsistence and a reservoir for the products of his life activity. The contradiction between these vital principles was eliminated by the fact that the relatively modest scale of human productive activity allowed nature to assimilate the waste from labour processes. But as time went on, the growing volume of waste and its increasingly harmful properties destroyed this balance. The human

feedback into nature became increasingly disharmonised. Human activity at various times has involved a good deal of irrational behaviour. Labour, which started as a specifically human means of rational survival in the environment, now damages the biosphere on an increasing scale and on the boomerang principle—affecting man himself, his bodily and mental organisation. Under the influence of uncoordinated production processes affecting the biosphere, the chemical properties of water, air, the soil, flora and fauna have acquired a negative shift. Experts maintain that 60 per cent of the pollution in the atmosphere, and the most toxic, comes from motor transport, 20 per cent from power stations, and 20 per cent from other types of industry. It is possible that the changes in the chemical properties of the biosphere can be somehow buffered or even halted, but the changes in the basic physical parameters of the environment are even more dangerous and they may turn out to be uncontrollable. We know that man can exist only in a certain range of temperature and at a certain level of radiation and electromagnetic and sound-wave intensity, that is to say, amid the physical influences that come to us from the atmosphere, from outer space and from the depths of the earth, to which we have adapted in the course of the whole history of the development of human life. From the beginning man has existed in the biosphere, a complex system whose components are the atmosphere, the hydrosphere, the phytosphere, the radiation sphere, the thermosphere, the phonosphere, and so on. All these spheres are and must remain in a natural state of balance. Any excessive upsetting of this balance must be to



the detriment not only of normal existence but of any existence at all, even human vegetation. If humanity does not succeed in preventing damage to the biosphere, we run the risk of encountering the paradox of replacement, when the higher plants and animals may be ousted by the lower. As we know, many insects, bacteria, and lichens are, thanks to their relatively simple structure, extremely flexible in adapting to powerful chemical and even physical factors, such as radiation. Mutating under the influence of an unfavourable environment, they continue their modified existence. Man, on the other hand, "nature's crown", because of the exceptional complexity of his bodily and mental organisation and the miraculous subtlety and fragility of his genetic mechanism may, when faced with a relatively small change in the chemical and physical factors of the environment, either produce unviable progeny or even perish altogether.

Another possible result of harmful influences on the environment is that the productivity of the biosphere may substantially decline. Already we observe unfavourable shifts in the great system of the universe: Sun-plants-animals-plants. Much more carbon dioxide is being produced on earth than plants can assimilate. Various chemical preparations (herbicides, antibiotics, etc.) affect the intensity of photosynthesis, that most subtle mechanism for the accumulation of the vital energy required by the universal torch of life. Thus, not only progress but even human life itself depends on whether humanity can resolve the paradoxes in the ecological situation that have arisen today.

Modern technology is distinguished by an ever increasing abundance of produced and used synthetic goods. Hundreds of thousands of synthetic materials are being made. People increasingly cover their bodies from head to foot in nylon, capron and other synthetic, glittering fabrics that are obviously not good for them. Young people may hardly feel this and pay more attention to appearance than to health.



But they become more aware of this harmful influence as they grow older.

As time goes on the synthetic output of production turns into waste, and then substances that in their original form were not very toxic are transformed in the cycle of natural processes into aggressive agents. One gets the impression that human beings are working harder and harder to organise bits of synthetic reality by disorganising the systems evolved by nature. Emphasising man's hostility to nature—a hostility armed with the vast achievements of modern technology—both natural scientists and philosophers are today asking themselves the pessimistic question: Is it not the fatal mission of man to be for nature what cancer is for man himself? Perhaps man's destruction of the biosphere is inevitable?

One would like to think that the limited capacities of nature do not signify a fatal limitation of civilisation itself. The irrational principle, which once permeated human nature, still exists in human behavioural mechanisms, as can be seen, for instance, in the unpredictable consequences of their individual and concerted efforts. Much in human activity goes beyond the limits of the predictable, even when it is humanely oriented.

The man-nature relation, the crisis of the ecological situation is a global problem. Its solution lies in the plane of rational and humane, that is to say, wise organisation, both of production itself and care for mother nature, not just by individuals, enterprises or countries, but

by all humanity, linked with a clear awareness of our planetary responsibility for the ecological consequences of a civilisation that has reached a state of crisis. One of the ways to deal with the crisis situation in the "man-nature" system is to use such resources as solar energy, the power of winds, the riches of the seas and oceans and other, as yet unknown natural forces of the universe. At one time in his evolution man was a gatherer. He used the ready-made gifts of nature. This was how human existence began. Perhaps even today it would be wise to resort to this method, but on a quite different level, of course. The human being cannot restrict himself to gathering, any more than he could in primitive times. But such a shift in attitude could at least abate the destructive and polluting principle in civilisation.

As cybernetic methods and principles in the various fields of knowledge and practice develop, control theory has been widely applied in many spheres. Its aim is to ensure the optimal function of a system. A humanely oriented mind should be able to transfer the idea of optimality and harmony to ecological phenomena.

In their production activity people are mastering more and more new materials and learning to replace one with another. In the long term this could lead, as the alchemists once believed, to production on the principle of everything out of everything. Moreover, our planet has an active balance—it loses less substance in the upper layers of the atmosphere than it receives from

outer space. It would therefore appear that the amount of substance available as a whole will not place any radical limitation on material production.

Life, including human life, is not only metabolism; it is also a form of energy transformation and movement developed to degrees of subtlety that are as yet beyond our comprehension. Every cell, every organ and organism as a whole is a crucial arena of the struggle between entropic (dispersing) and anti-entropic processes, and the biosphere represents the constant victory of life, the triumph of the anti-entropic principle in the existence of the living.

Losses of living energy from our organism are constantly compensated by various forms of energy flowing from the vast expanses of the universe. We need not simply energy, such as electromagnetic radiation or heat, but radiant energy of the finest quality. The struggle for the existence of living creatures, including man, is a struggle not so much for the elements that compose his organism—they are abundantly available in the air, water and underground—not for solar energy in its direct, electromagnetic radiation, but for the energy that is captured by the mechanisms of photosynthesis and exists in the form of organic, particularly plant structures. When we consume vegetable food, we take the energy of nature, particularly that of the sun, at first hand, so to speak. But plants are also the food of herbivorous animals, and when we eat meat, we take this energy at second hand.

So the biosphere is not a chaotic conglomeration of natural phenomena and formations. By a seemingly objective logic everything is taken into account and everything mutually adapts with the same obedience to proportion and harmony that we discern in the harmonious motion of the heavenly bodies or the integral paintings of the great masters. With a sense of wonder we see revealed before us a picture of the magnificent universe, a universe whose separate parts are interconnected by the most subtle threads of kinship, forming the harmonious whole which the ancient philosophers surmised when they viewed the world with their integrating, intuitively perceptive gaze. We are part of the ecological environment and it is a part of the universe. It contains myriads of stars and the nearest of them is the Sun. The Sun is the master of Earth. We are, in a certain sense, its children. Not for nothing did the rich imagination on whose wings mankind flies ever further and higher in the orbit of civilisation portray the Sun in ancient legends as the highest deity.

But to return to our theme, the bitter truth is that those human actions which violate the laws of nature, the harmony of the biosphere, threaten to bring disaster and this disaster may turn out to be universal. How apt then are the words of ancient Oriental wisdom: live closer to nature, my friends, and its eternal laws will protect you!

Source:

<https://www.marxists.org/reference/archive/spirkin/works/dialectical-materialism/cho5-so3.htm>



THE HISTORY OF EARTH DAY

The New York Times

U
We
and
The
474

97

© 1970 The New York Times Company

NEW YORK, THURSDAY, APRIL 23, 1970

Millions Join Earth Day Observances Across the Nation



Each year, Earth Day—April 22—marks the anniversary of the birth of the modern environmental movement in 1970.

The height of counterculture in the United States, 1970 brought the death of Jimi Hendrix, the last Beatles album, and Simon & Garfunkel's "Bridge Over Troubled Water." War raged in Vietnam and students nationwide overwhelmingly opposed it.

At the time, Americans were slurping leaded gas through massive V8 sedans. Industry belched out smoke and sludge with little fear of legal consequences or bad press. Air pollution was commonly accepted as the smell of prosperity. "Environment" was a word that appeared more often in spelling bees than on the evening news. Although mainstream America largely remained oblivious to environmental concerns, the stage had been set for change by the publication of Rachel Carson's New York Times bestseller *Silent Spring* in 1962. The book represented a watershed moment, selling more than 500,000 copies in 24 countries, and beginning to raise public awareness and concern for living

organisms, the environment and links between pollution and public health.

Earth Day 1970 gave voice to that emerging consciousness, channeling the energy of the anti-war protest movement and putting environmental concerns on the front page.

THE IDEA

The idea for a national day to focus on the environment came to Earth Day founder Gaylord Nelson, then a U.S. Senator from Wisconsin, after witnessing the ravages of the 1969 massive oil spill in Santa Barbara, California. Inspired by the student anti-war movement, he realized that if he could infuse that energy with an emerging public consciousness about air and water pollution, it would force environmental protection onto the national political agenda. Senator Nelson announced the idea for a "national teach-in on the environment" to the national media; persuaded Pete McCloskey, a conservation-minded Republican Congressman, to serve as his co-chair; and recruited Denis Hayes from Harvard as national coordinator. Hayes built a national staff of 85 to promote events across the

land. April 22, falling between Spring Break and Final Exams, was selected as the date.

On April 22, 1970, 20 million Americans took to the streets, parks, and auditoriums to demonstrate for a healthy, sustainable environment in massive coast-to-coast rallies. Thousands of colleges and universities organized protests against the deterioration of the environment. Groups that had been fighting against oil spills, polluting factories and power plants, raw sewage, toxic dumps, pesticides, freeways, the loss of wilderness, and the extinction of wildlife suddenly realized they shared common values.

Earth Day 1970 achieved a rare political alignment, enlisting support from Republicans and Democrats, rich and poor, city slickers and farmers, tycoons and labor leaders. By the end of that year, the first Earth Day had led to the creation of the United States Environmental Protection Agency and the passage of the Clean Air, Clean Water, and Endangered Species Acts. “It was a gamble,” Gaylord recalled, “but it worked.”

As 1990 approached, a group of environmental leaders asked Denis Hayes to organize another big campaign. This time, Earth Day went global, mobilizing 200 million people in 141 countries and lifting environmental issues onto the world stage. Earth Day 1990 gave a huge boost to recycling efforts worldwide and helped pave the way for the 1992 United Nations Earth Summit in Rio de Janeiro. It also prompted President Bill Clinton to award Senator Nelson the Presidential Medal of Freedom (1995)—the highest honor given to civilians in the United States—for his role as Earth Day founder.

EARTH DAY TODAY

As the millennium approached, Hayes agreed to spearhead another campaign, this time focused on global warming and a push for clean energy. With 5,000 environmental groups in a record 184 countries reaching out to hundreds of millions of people, Earth Day 2000 combined the big-picture feistiness of the first Earth Day with the international grassroots activism of Earth Day 1990. Earth Day 2000 used the power of the Internet to organize activists, but also featured a drum chain that traveled from village to village in Gabon, Africa. Hundreds of thousands of people gathered on the National Mall in Washington, DC for a First Amendment Rally. Earth Day 2000

Bhavan Australia | May - June 2018

sent world leaders the loud and clear message that citizens around the world wanted quick and decisive action on global warming and clean energy.

Much like 1970, Earth Day 2010 came at a time of great challenge for the environmental community. Climate change deniers, well-funded oil lobbyists, reticent politicians, a disinterested public, and a divided environmental community all contributed to the narrative—cynicism versus activism. Despite these challenges, Earth Day prevailed and Earth Day Network reestablished Earth Day as a relevant, powerful focal point. Earth Day Network brought 250,000 people to the National Mall for a Climate Rally, launched the world’s largest environmental service project—A Billion Acts of Green®—introduced a global tree planting initiative that has since grown into The Canopy Project, and engaged 22,000 partners in 192 countries in observing Earth Day.

Earth Day had reached into its current status as the largest secular observance in the world, celebrated by more than a billion people every year, and a day of action that changes human behavior and provokes policy changes.

Today, the fight for a clean environment continues with increasing urgency, as the ravages of climate change become more manifest every day. We invite you to be a part of Earth Day and help write many more chapters—struggles and victories—into the Earth Day book.

2020 marks the 50th anniversary of the first Earth Day. In honor of this milestone, Earth Day Network is launching an ambitious set of goals to shape the future of 21st century environmentalism. Learn more here.



Source: <https://www.earthday.org/about/the-history-of-earth-day>

NINE THINGS YOU NEED TO KNOW ABOUT CLIMATE CHANGE IN 2018

by Rebecca Macfie / 02 February, 2018
SHARE

As the time approaches when climate change will start seriously disrupting life, here's what you need to know.

In 2017, the world witnessed an extraordinary trio of hurricanes that shredded Caribbean islands, deadly wildfires that razed thousands of hectares in Portugal, Spain and California, extreme monsoon rains that killed 2700 people in South Asia and a succession of heat waves across Europe.

It's all part of the "new normal", says global reinsurer Munich Re, which describes last year's weather catastrophes as a "foretaste of things to come" in a warming climate. Insurers understand the cost of climate change better than most – last year's extreme weather events have left the industry with a record bill of US\$135 billion (\$186 billion).

For New Zealand, too, last year was the most expensive ever for weather-related damage, with the insurance industry paying out \$242 million. Wildfires tore across Christchurch's Port Hills, the remnants of Cyclone Debbie caused devastating floods, and in July, Oamaru experienced its wettest day on record – three times its previous one-day record for that month. So far this year, we have sweated through hot days – Dunedin Airport hit a record of 35°C in the middle of the month, and Invercargill experienced its second-hottest day on record, at 32.3°C – and sweltering nights. Across the Tasman, Sydneysiders have suffered through extreme heat that saw the suburb of Penrith reach a record 47.3°C.

Such conditions offer a glimpse of what the future will be like as a result of human-induced climate change. As Victoria University professor of

physical geography James Renwick points out, the world has already warmed by about 1°C since the 19th century. Two degrees of warming will bring treble the number of very hot days for New Zealand, treble the number of droughts, wide-ranging fire danger and double or treble the number of major floods.



"Unbearable" summer heat is on the cards for some regions."

"The way we experience climate change and sea-level rise is through extreme events," he says. "And the climate is clearly changing, as recent heat waves, wildfires, flooding rains, and coastal inundation attest."

Like the 196 other countries signed up to the Paris climate accord, New Zealand needs to act rapidly over coming decades to keep temperature increase as close as possible to 1.5°C, to avoid the worst impacts of climate change. Here's why.

1. IN A WORLD THAT'S 2°C WARMER, WE WILL EXPERIENCE DANGEROUS CLIMATE CHANGE

The words "two degrees" trip off the tongue. They've become part of the global climate shorthand, abbreviating the existential threat of global warming to a simple, easy-to-remember mega-target. The international consensus that a rise in average global temperature should be limited to no more than 2°C compared with pre-

industrial times is often described as a “guardrail”: provided we stay inside the railing, we will be fine; if we venture beyond it we will be unsafe.

But it is foolhardy to think that a 2°C world will be benign. Climate scientist Kevin Anderson, of the Tyndall Centre for Climate Change Research in the UK, has said that 2°C represents a threshold not between acceptable and dangerous, but between dangerous and extremely dangerous climate change.

Veteran climate scientist James Hansen, who first testified before the US Senate committee on energy and natural resources in 1988, says 2°C is not the safety margin it is often understood to be. Instead, it would represent “disastrous” climate change, with some regions suffering “unbearable summer heat, ecological collapse, species extinction, widespread famine, coastal cities lost to rising seas ... and national and international conflict”.



James Renwick. Photo/Victoria University

Victoria’s Renwick says the incidence of extreme heat and major floods will double or triple, and eastern regions of New Zealand will be at acute risk of wildfire for four to six months of the year. High fire danger tends to be a feature of mid-Canterbury, northern Hawke’s Bay and Gisborne,

but in a 2°C warmer world the fire zone will extend from East Cape to South Otago.

The big glaciers that draw international tourists will probably disappear from view. “Even if we get to 2°C and stop there, the glaciers might not disappear completely, but they would recede up their valleys so far that, to all intents and purposes for the tourist trade, it will be as if they have disappeared completely,” says Renwick.

How will life be for ski bunnies? We can probably forget about skiing and boarding the fields of the Central Plateau by the end of this century. Renwick predicts snowmaking will keep working for another 20 to 30 years, enabling enough artificial snow on the main runs to keep things going, but by the second half of this century, North Island ski fields will be “marginal at best”. In the southern South Island, skiing may remain viable, although with a shorter season. With each 1°C of warming, he notes, the snow line recedes about 150m.

Living in a 2°C warmer world has political ramifications, too. As rising seas make parts of low-lying Pacific islands uninhabitable, more people will want to move to New Zealand. At the same time, the world’s wealthy may see this country as a bolthole from climate-induced instability.

“If we get a substantial amount of sea-level rise and temperature extremes become much more prevalent in the tropics and rice crops start failing and so on, and you start to have millions of people wanting to move,” says Renwick, “how will we deal with that?”



Droughts, wildfires and floods will more than double in frequency as the temperature rise reaches 2°C. Photo/Getty Images

2. CLIMATE CHANGE ISN'T JUST A PROBLEM FOR FUTURE GENERATIONS: IT'S HAPPENING NOW

It's been a long hot summer and we are only halfway through it. Sam Dean, Niwa's chief climate, atmosphere and hazards scientist, is confident human-induced climate change has played a big part in this year's baking temperatures. "There is no doubt that this kind of heat has an anthropogenic [man-made] contribution from climate change."

That's not to say that exceptionally high early-summer temperatures could not have occurred without the influence of climate change, but the chances of that happening would have been tiny. This summer is also influenced by the La Niña effect, but the climate change impact is significant, he says.



Sam Dean. Photo/Dave Allen

Dean works in the fast-developing field of climate attribution science, studying the extent to which global warming is influencing extreme weather events. High temperatures are the easiest type of weather to trace back to climate change, he says, because "as you emit carbon dioxide, the atmosphere warms up. It's a first-order response." For the past six years, the American Meteorological Association has published an annual collection of studies on extreme weather

events. Dozens of studies have found that climate change has increased the odds of such extremes, but late last year – for the first time – three studies concluded that certain weather events would not have happened without human-induced climate change. They were the record global temperatures of 2016; an extreme heat wave that hit Asia that year; and an area of persistently warm ocean water off Alaska, known as "the Blob".

The searing temperatures, as high as 45°C, in New South Wales in February 2017 have also been attributed to climate change. The World Weather Attribution (WWA) project – a collaboration between Oxford University, the Royal Netherlands Meteorological Institute, University of Melbourne, Red Cross/Red Crescent, and Climate Central – crunches observational data, peer-reviewed research and on-the-ground reports to identify the fingerprint of climate change on extreme events. The researchers concluded that the record average summer temperatures of 2016/17 were 50 times more likely because of climate change. WWA has not yet published any analysis of the extreme heat experienced recently in Australia, with Sydney hitting 47.3°C in January.

What about the hurricanes that smashed into the US Gulf Coast and Caribbean in 2017? Research published last month showed climate change played a significant role in Hurricane Harvey, which battered the Caribbean and the southeastern US in August. One study found climate change had increased the intensity of the storm by at least 19%, and another found that the same cause had made the record rainfall over Houston three times more likely and 15% more intense. The researchers said that because warmer air can carry more moisture, it can lead to more extreme rainfall, and warmer ocean-surface temperatures are known to intensify powerful hurricanes.

Dean says climate change is not expected to increase the number of cyclones (as hurricanes are called in our part of the world), but those that do occur will be more intense. These megastorms are formed when the ocean's surface temperatures are high for a prolonged period. This will become more likely, but he says the evidence suggests climate change will cause wind shear in the tropical atmosphere to increase, cancelling out the effects of warming waters.

“But when they do happen, it’s in an environment when the sea-surface temperature is higher, so they will be bigger and more powerful. New

Otago Daily Times

Monday, 15 January 2018

Scorcher around Dunedin as South swelters

f 917 t 11

News > Dunedin

1 Comment



Zealand doesn’t usually get tropical cyclones – mostly we are impacted by former tropical cyclones that have lost their warm core and transitioned to low-pressure systems – and we would expect the same number of those. They will be carrying more moisture and stronger winds and will therefore be more destructive, but we don’t per se expect any increase in frequency.”
Temperature records are falling in the south.

3. IT’S STILL POSSIBLE TO LIMIT WARMING TO 1.5°C – JUST

When the Paris climate accord was signed in April 2016, there was jubilation, not only because a global agreement had finally been reached but also because the level of ambition had increased. Until then, the focus had been on limiting global warming to no more than 2°C, beyond which climate change would unleash intolerable instability. But thanks to the efforts of small vulnerable island states, the world’s leaders agreed in Paris to “pursue efforts” to limit temperature increase to 1.5°C.

But at the time, no one knew if this was achievable, given that the planet had already warmed by about 1°C. Some scientists were critical of the world’s climate diplomats for signing up to a goal they considered unrealistic. But recent research has concluded that the 1.5°C goal is not yet out of reach. “Our calculations suggest that staying below 1.5°C looks scientifically feasible, if extremely challenging,” wrote two of the co-authors of the study, David Frame of Victoria University and Damon

Matthews from Concordia University in Montreal, in *The Conversation*.

It all comes down to how much room we have left in the global carbon “budget”. This is the total amount of greenhouse gas emissions consistent with a particular temperature target. The carbon budget is a critically important piece of information in the battle to limit warming. Just as a household budget requires you to restrict your spending to avoid going into overdraft, the carbon budget tells us how much we can afford to dump into the atmosphere without pushing the climate above a given threshold.

The Oxford University-led research group concluded that the carbon budget consistent with the 1.5°C goal was larger than previously thought. However, meeting the target would require emissions to fall by 4-6% a year for several decades.

That might not sound like much, but Frame and Matthews point out that such declines have historically been seen during periods like the Great Depression, the aftermath of World War II and the collapse of the Soviet Union. At the same time, “there is no historical analogy to show how rapidly human societies can rise to ... the matrix of problems (and opportunities) posed by climate change. We do not really know how fast we can decarbonise an economy while improving human lives, because so far we haven’t tried very hard to find out.”

4. IT’S PROBABLY A GOOD TIME TO RETHINK THAT WATERFRONT PROPERTY

Whether it’s a bach or a permanent home, a beachfront property is part of the Kiwi dream. But that dream will become an expensive nightmare. Sea levels have already risen by 20cm since the start of the 20th century and a further rise of about 30cm is expected by 2065. Even if aggressive efforts are made to reduce greenhouse-gas emissions to zero in coming decades, the sea level will continue rising for centuries.

Higher seas, combined with king tides and increasingly frequent severe storms, will mean more coastal flooding and erosion, and elevated groundwater. Even a modest (30-40cm) sea-level rise by mid-century will turn one-in-100-year storm-tide floods into annual events, according to advice by the Ministry for the Environment.

Almost 300,000 New Zealanders live less than 3m above mean high-water spring tide. Homes and

buildings worth \$52 billion are located within that zone, along with roads, railway lines and airports. For now, bankers are still lending money to people wanting to buy coastal property and insurers are still – with a handful of exceptions – offering all-perils insurance. But that seems certain to change.

In the case of coastal properties vulnerable to coastal erosion and tide surges, bankers expect a “gradual reduction in the extent to which they could lend against those properties and/or they will also require a higher level of equity from the borrower to issue a loan or they will likely apply a penalty interest rate”, according to a 2016 report, “Climate Change Impacts and Implications for New Zealand to 2100”.

Insurance Council chief executive Tim Grafton says properties experiencing more frequent flooding will become “less and less insurable”. And if a property is not insurable, banks won’t lend on it, which means it will become less and less saleable.

“If you get [situations] where a bank says, ‘Well, you want to buy this \$2 million property beside the sea – we’ve looked at it and all the predictions say it will become pretty much uninsurable. There’s an 80% chance it won’t happen in five years, but maybe a 50% chance it could happen in five to 10 years, so we’ll give you a five-year mortgage’. At that point the affordability of the property is restricted to people with a whole lot of money who can afford to buy with only a five-year mortgage. And as the market gets smaller, the value of the property is going to drop.”

5. THE FUTURE OF THE ICE SHEETS WILL DETERMINE HOW BAD THINGS GET

If not for the oceans, the planet would already be uninhabitable. About 93% of the atmospheric heating caused by humanity since the start of the Industrial Revolution has been absorbed by the oceans. The seas have cushioned the impact of climate change in the short term, but now those warmer waters are eating into the ice sheets.

By mid-century, the average global sea level will have risen 50cm in 150 years; the extent to which seas rise more than this – and how rapidly – depends very much on what happens to the frozen masses of Antarctica and Greenland. The huge West Antarctic ice sheet sits on bedrock 2km or more below the sea. As the temperature

of the sea increases, the warmer water gets under the ice, melting and destabilising it from below.

The Pine Island and Thwaites glaciers are key areas of concern, and are thought to be Antarctica’s biggest contributors so far to rising sea levels, says associate professor Nick Golledge, of Victoria University’s Antarctic Research Centre. Some researchers have concluded that parts of the West Antarctic ice sheet are already in irreversible retreat, although Golledge says this



finding remains controversial.

More recently, concern has grown that parts of the vast East Antarctic ice sheet – long assumed to be more stable than the West – are also vulnerable. Research published last year, co-authored by Victoria University Antarctic researcher Tim Naish, concluded that if CO₂ emissions continue on their current path and reach 600 parts per million by the end of this century (currently they exceed 400ppm), melting from the East Antarctic ice sheet would eventually lead to massive sea-level rise.

The melting of the Greenland ice sheet is caused primarily by warmer air rather than warmer seas, because it sits largely on rock above sea level and is subjected to air temperatures that are rising at rates far above the global average. The huge Jakobshavn Glacier alone contains the equivalent of 60cm of sea-level rise, and is retreating at about 600m a year, says Emily Shuckburgh, co-leader of oceanography at the British Antarctic Survey in Cambridge, UK.

Melting ice sheets also create a dangerous feedback loop, Golledge says. Melted ice flows as freshwater into the ocean, which sits as a layer near the surface. Because freshwater freezes more easily, it may cause more sea ice to form and keep the local atmosphere cooler. But the freshwater



layer causes the ocean to become more stratified. “That means the warmer water from below, which would otherwise be brought up and mixed by the wind, can’t go anywhere,” he says. “It remains trapped at a depth where it melts the base of the ice sheet.”

Strong winds and a king tide swamped Auckland’s Maraetai. Photo/Times Online

Golledge’s research shows that fresh water from melting Antarctic ice could disrupt global ocean circulation, leading to climatic changes in the Northern Hemisphere.

Similarly, the freshening of Arctic waters as a result of melting sea ice and diminishing Greenland glaciers is affecting the ocean circulation system of the Atlantic, with huge implications for the North Atlantic climate, says Shuckburgh.

6. THE GOOD NEWS IS THAT THERE IS PLENTY OF GOOD NEWS

The price of renewable energy worldwide is plummeting and the level of investment in renewable generation is soaring. There’s still a long way to go before climate-warming fossil

fuels are sidelined, but a profound shift in favour of green energy is under way.

Last May, an article in the Financial Times described a “wave of disruption ... After years of hype and false starts, the shift to clean power has begun to accelerate at a pace that has taken the most experienced experts by surprise.”

Oil, gas and coal still account for 86% of the world’s energy needs, and the International Energy Agency predicts demand for fossil fuels will continue rising until at least 2040. But solar photovoltaic panels were the world’s leading source of additional electricity generation in 2016, according to the Renewable Energy Policy Network (REN21), with the equivalent of 31,000 solar panels installed every hour.

Since 2010, the average cost of onshore wind generation has fallen 23% and the cost of power from solar photovoltaic panels is down by 73%, according to a report released this month by the International Renewable Energy Agency (IRENA). The organisation expects the cost of solar generation to halve again by 2020, and says all renewable energy should be price-competitive with fossil fuels by that date. It reports that US\$1

trillion has been invested in renewables since 2013, and the sector now employs 10 million people.

Much of the clean-energy momentum is coming from China and India. According to REN21, for the billion citizens of developing nations without access to reliable electricity or who are far from a national grid, decentralised renewables such as solar panels are offering “important and often cost-effective options” for electricity.

The cost of lithium-ion batteries – crucial to the affordability of electric vehicles – is also falling fast, down 73% since 2010 and likely to fall another 75% by 2030, according to Bloomberg New Energy Finance.

And 2017 was a year of groundbreaking announcements indicating the shift away from fossil-fuel-guzzling vehicles is accelerating. More than 20 countries, states and cities – including France, the UK, China, India, Scotland, California, Athens, Madrid and New Mexico – announced future bans on petrol- and diesel-powered vehicles. Chinese-owned car maker Volvo said it would stop designing fossil-fuel cars from 2019, and Tesla has showcased an electric truck capable of travelling 400km on a single charge.

The year closed with the World Bank saying it would no longer finance oil and gas exploration, other than in “exceptional circumstances” for the poorest countries if there was a “clear benefit in terms of energy access” and the project fits within the countries’ commitments under the Paris Agreement. At the same time, 225 institutional fund managers (including the New Zealand Superannuation Fund) responsible for US\$26.3 trillion in investors’ savings announced an effort to pressure the world’s biggest carbon emitters to start shifting to a more climate-friendly mode of business.

And, in a sign of mounting pressure on oil, gas and coal companies to bear the cost of climate change, the City of New York filed a lawsuit against the five biggest fossil-fuel companies for the costs of protecting the city’s residents from the effects of increasingly severe heat waves, extreme rain and sea-level rise. The lawsuit alleges the companies “produced, marketed and sold” fossil fuels for years despite knowing they produced emissions that caused “grave harm” to the climate system. The suit adds to a growing body of climate-related litigation around the

world against both fossil-fuel companies and governments that are perceived to be too slow to act on climate change.

7. WE’LL HAVE TO SUCK IT UP

Even if we stopped using fossil fuels tomorrow, it wouldn’t be enough to stabilise the temperature at less than 2°C above pre-industrial levels. To do that, we will also have to suck CO₂ out of the atmosphere.

Carbon dioxide concentrations are at their highest level in 800,000 years, averaging 403.3 parts per million in 2016, according to the World Meteorological Organisation. “The last time the Earth experienced a comparable concentration of CO₂ was 3-5 million years ago, the temperature was 2-3°C warmer and sea level was 10-20m higher than now,” it reported last October.

The CO₂ molecules we release today – by driving to work or the supermarket in our fossil-fuelled car, for instance – will stay in the atmosphere “for hundreds if not thousands of years”, says Massey University energy expert Ralph Sims. “It’s cumulative; it does not diminish with time. So if we can pull some of those molecules out of the atmosphere and lock them up somewhere, then that 403ppm decreases, so we have less concentration in the atmosphere and less global warming forcing effect.”

How can we do that? One important way is by growing trees where there are currently none – either by planting the likes of fast-growing radiata pine or allowing land to revert to native forest. “As long as the forest stays there, the carbon dioxide used in photosynthesis is taken out of the atmosphere and locked up as biomass in the tree,” says Sims.

Forestry will be a key tool in New Zealand’s efforts to manage its greenhouse gas emissions. Experts at the University of Canterbury’s School of Forestry have mapped out approximately 1.3 million hectares of erosion-prone land that could be turned over to carbon-sequestering trees.

Sims says another method is to increase soil carbon by adding more straw and green cover crops, and also by adding biochar. This is woody biomass (for instance, branches from a forest that has been logged) that’s turned into charcoal by heating it at a high temperature in the near-absence of oxygen. “That charcoal is mainly carbon, and you can then pulverise it and put into

the soil where it is locked up.” The fertility of some soil types is boosted by this process.

But the method of CO₂ removal that’s central to the United Nations’ Intergovernmental Panel on Climate Change climate forecasts is bioenergy with carbon capture and storage, known as BECCS. This is a process by which crops or trees are burnt to produce energy, with the resulting emissions captured and pumped deep underground, using the same technology that has long been used in the oil industry to extract the last drops from oil wells.

But there are lots of unknowns, including the implications for land use and water consumption from growing large scale BECCS crops. And, in the absence of a realistic price on carbon that would create the necessary incentive, there have so far been no large-scale demonstration plants to prove its viability, says Sims.

§. HEALTH WARNING

If you are inclined to think that climate change is largely a problem for other people in faraway places, research by Canterbury Museum

arachnologist Cor Vink may jolt you out of your complacency. Vink has closely studied the venomous redback spider and its incursion into New Zealand’s warm, dry places.

The Australian arachnid was first seen in New Zealand in the early 1980s, near Glendhu Bay, a popular holiday spot a few kilometres from Wanaka. Since then, it has taken up residence in Alexandra and Bannockburn (near Cromwell), and there have been recent sightings in Queenstown. Vink says as New Zealand’s eastern regions get warmer and drier, the potential habitat for the redbacks will expand.

He says they are shy creatures, but if they bite, they cause serious illness. “The best description I’ve heard is, ‘You probably won’t die, you’ll just feel as if you are going to’.”

A warmer climate will also bring other health risks, which are spelt out in a 2017 report by the Royal Society. Rising sea temperatures and changing currents could lead to the permanent establishment in New Zealand waters of toxic marine algae, which can contaminate shellfish and cause ciguatera fish poisoning if consumed.



Similarly, the risk of toxic blue-green algal blooms in freshwater is likely to increase as a result of warmer water, lower flows and increased nutrient run-off from land during heavy downpours. Contact or ingestion can cause liver damage, skin disorders and gastrointestinal, respiratory and neurological symptoms.

More extreme rainfall and higher temperatures are also likely to interact with agricultural run-off to increase the incidence of water-borne diseases such as campylobacter, which poisoned the drinking water of Havelock North in 2016. The report says the same factors are also likely to increase the risk from parasites, such as giardia or cryptosporidium, and bacterial infections such as salmonella, E coli and leptospira (which is introduced into water from the urine of infected animals).

Communities affected or displaced by sea-level rise will experience a rise in mental illness. And an increase in the number of very hot days will bring greater risk of heat-related deaths especially among the elderly. Asthma sufferers are likely to be worse off, as longer growing seasons mean more pollen.

And we can expect heightened risk of mosquito- and tick-borne diseases that are currently absent from New Zealand, such as the West Nile virus and dengue fever. The risk of emerging pathogens such as the Zika virus could also increase with higher temperatures and changing precipitation patterns.

9. DON'T JUST STAND THERE. DO SOMETHING

The advice from climate scientists is clear and unambiguous. As Johan Rockström, this year's Hillary Laureate and director of the Stockholm Resilience Centre, has put it, "We need to bend the global curve of emissions no later than 2020, and reach a fossil-fuel-free world economy by 2050. Yes, this is a grand transformation. Is it doable? Yes. Is it a sacrifice? No. The evidence grows day by day that a decarbonised world is a more attractive world."

The massive cuts to emissions that are needed will be driven primarily by the policies set by governments, the establishment of a price on carbon that reflects the true cost of greenhouse-gas pollution and the emergence of low-carbon technologies.

The Government intends to introduce legislation that will commit New Zealand to carbon-



Johan Rockström. Photo/M. Axelsson/Azote

neutrality by 2050, and set up an independent climate commission. Climate Change Minister James Shaw is promising extensive consultation this year, before drafting a Zero Carbon Act. National Party climate spokesman Todd Muller has welcomed consultation, to avoid "shock and pain" to established sectors, and is "particularly interested" in testing how a "successful model" like the UK-style climate committee could work here.

ACTION PLAN

Per capita, New Zealanders are the fifth-highest greenhouse-gas emitters in the OECD, according to the Ministry for the Environment. These steps can help us produce less CO₂.

Drive less often.

Reduce household food waste.

Eat less red meat and more plants.

Reduce long-haul plane travel, and when you fly, buy carbon credits to offset your emissions.

When you need to replace your car, choose a fuel-efficient one, or go electric.

Recycle or, preferably, reuse.

Source: <https://www.noted.co.nz/>

This article was first published in the August 19, 2017 issue of the New Zealand Listener.

A NEW FORM OF RECYCLING: CREATING MATERIALS THAT SELF-DESTRUCT



By Laurie Brenner; Updated September 25, 2017

Plastic trash, mobile phones, and other nondegradable materials account for millions of tons of waste thrown away each day. But researchers at the Technical University in Munich, Stanford University and research and development departments around the world have found ways to create materials that self-destruct, following nature's recycling plan.

ARTIFICIAL MATERIALS ARE MADE TO LAST

Fossil fuels and petroleum have become mainstays of products that include plastics, electronics, fabrics, and more, and typically don't biodegrade like materials made from natural, Earth-based resources such as trees and plants. Even though petroleum was created by the biodegradation of dinosaurs, when manufacturers started using petroleum to make plastics and other products, they ended up creating indestructible goods.

The main ingredient derived from petroleum products, propylene, turns into polypropylene during the manufacture process. The heat and catalysts applied during the production process create carbon-based polypropylene chains that

form virtually indestructible bonds, something Earth's natural recycling process cannot break down.

Nature took billions of years to develop organisms that break down organic matter, something that until recently, did not occur in man-made products made with petroleum.

SELF-DESTRUCTIVE MATERIALS

Because most man-made materials are typically stable and don't exchange molecules with their environment, they are basically indestructible. In nature, organic matter is not in balance and will begin to degrade without input from sources that help to rebuild cellular structures.

LIFE CYCLE OF SELF-DESTRUCTIVE MATERIALS

Taking cues from nature, researchers at the Technical University in Munich have found ways to make materials that self-destruct. When these products lack energy sources, such as adenosine triphosphate – a coenzyme the human body uses to convert glucose from fats, carbohydrates and proteins into energy – these new self-destructive materials begin to break down, much in the same way that nature biodegrades organic matter.

Without the energy source, just like in nature, these man-made materials begin to die.

SELF-DESTRUCTIVE MATERIAL USES

Scientists at Stanford University have developed faux wood made from biodegradable plastics. The biodegradable plastics can replace indestructible plastics, and the wood can be used to make building materials, biodegradable electronics and even plastic bottles that break down. Virtually any product made with no destructible components can be made from these new materials.

MEDICAL APPLICATIONS

By making materials that self-destruct or break down into their original building blocks, engineers and researchers postulate that they can make frameworks for drug delivery and transplant anchors. Researchers at UCLA have also developed a hydrogel that creates a scaffold to allow wounds to heal and tissue to regenerate as the structure biodegrades. The hydrogel promotes rapid regeneration allowing wounds and skin grafts, among other medical uses, to heal quicker.

MAN-MADE MATERIALS AND ENVIRONMENTAL HEALTH

The online newspaper, The Guardian, stated in a January 2017 article that, “annual consumption of plastic bottles is set to top half a trillion by 2021,

far outstripping recycling efforts and jeopardizing oceans, coastlines and other environments.” Claiming that world’s plastic addiction is more dangerous than climate change, plastics have a negative affect both on the Earth and its oceans’ environmental health. The article also stated that a million plastic bottles are purchased every minute, which is building toward this environmental crisis. Adding to the problem, is that only half of all the plastic purchased is ever recycled.

WHAT IT ALL MEANS

Materials that self-destruct can begin to alleviate the burgeoning environmental crisis that threatens to overtake our oceans and landfills. By developing products that self-degrade, dangerous plastics and chemicals will no longer affect the Earth’s biosphere. By not adding to the already existing pollution problem, scientists may be able to develop less costly methods to collect and recycle existing petroleum-based plastics into other uses. In the long run, the means to eliminate plastic and other pollution problems begins with recycling at home, work and school.

Source: <https://sciencing.com/a-new-form-of-recycling-creating-materials-that-self-destruct-13559038.html>



10 HINDU ENVIRONMENTAL TEACHINGS

By Pankaj Jain, Ph.D.

Hinduism contains numerous references to the worship of the divine in nature in its Vedas, Upanishads, Puranas, Sutras and its other sacred texts. Millions of Hindus recite Sanskrit mantras daily to revere their rivers, mountains, trees, animals and the earth. Although the Chipko (tree-hugging) Movement is the most widely known example of Hindu environmental leadership, there are examples of Hindu action for the environment that are centuries old.

Hinduism is a remarkably diverse religious and cultural phenomenon, with many local and regional manifestations. Within this universe of beliefs, several important themes emerge. The diverse theologies of Hinduism suggest that:

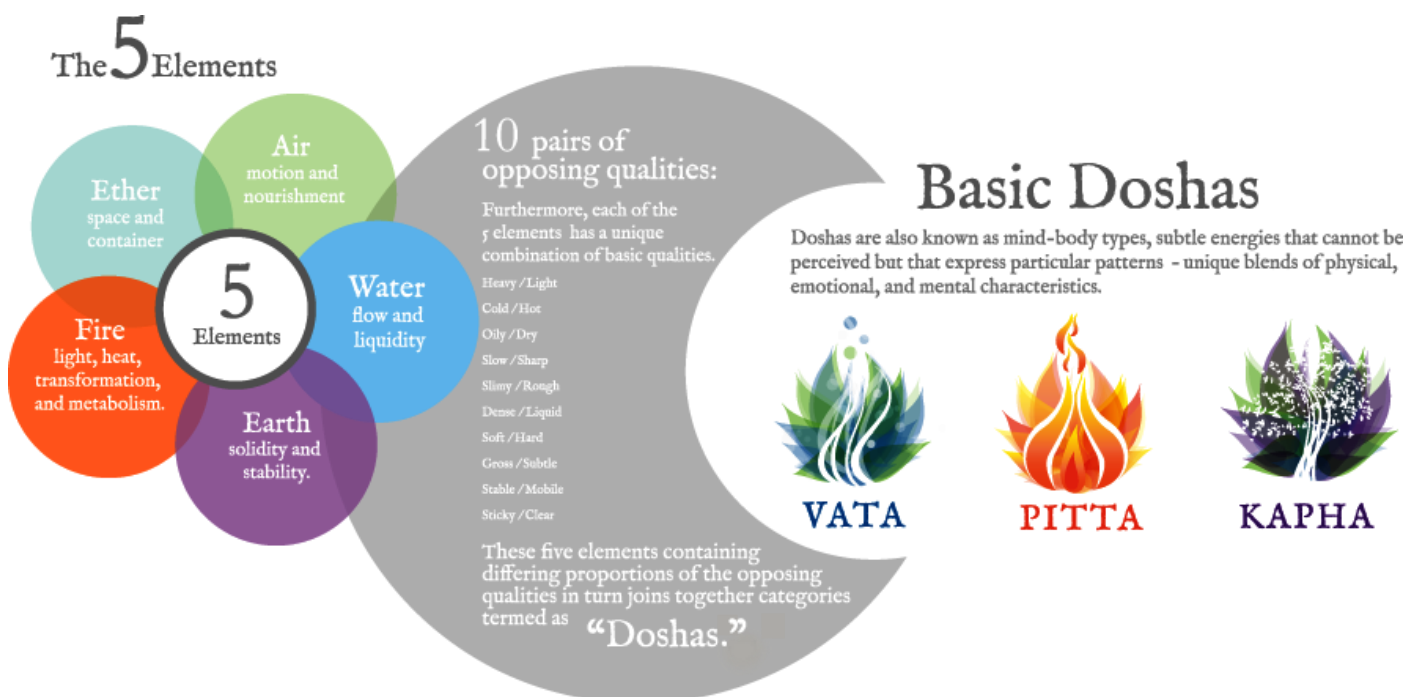
- *The earth can be seen as a manifestation of the goddess and must be treated with respect.*
- *The five elements — space, air, fire, water and earth — are the foundation of an interconnected web of life.*
- *Dharma — often translated as “duty” — can be reinterpreted to include our responsibility to care for the earth.*
- *Simple living is a model for the development of sustainable economies.*
- *Our treatment of nature directly affects our karma.*

Gandhi exemplified many of these teachings, and his example continues to inspire contemporary social, religious and environmental leaders in their efforts to protect the planet.

The following are 10 important Hindu teachings on the environment:

1. PANCHA MAHABHUTAS (The five great elements) create a web of life that is shown forth in the structure and interconnectedness of the cosmos and the human body. Hinduism teaches that the five great elements (space, air, fire, water and earth) that constitute the environment are all derived from prakriti, the primal energy. Each of these elements has its own life and form; together the elements are interconnected and interdependent. The Upanishads explains the interdependence of these elements in relation to Brahman, the supreme reality, from which they arise: “From Brahman arises space, from space arises air, from air arises fire, from fire arises water, and from water arises earth.”

Hinduism recognizes that the human body is composed of and related to these five elements, and connects each of the elements to one of the five senses. The human nose is related to earth, tongue to water, eyes to fire, skin to air and ears to space. This bond between our senses and the elements is the foundation of our human relationship with the natural world. For Hinduism, nature and the environment are not outside us, not alien or hostile



to us. They are an inseparable part of our existence, and they constitute our very bodies.

2. ISHAVASYAM - Divinity is omnipresent and takes infinite forms. Hindu texts, such as the Bhagavad Gita (7.19, 13.13) and the Bhagavad Purana (2.2.41, 2.2.45), contain many references to the omnipresence of the Supreme divinity, including its presence throughout and within nature. Hindus worship and accept the presence of God in nature. For example, many Hindus think of India's mighty rivers — such as the Ganges — as goddesses. In the Mahabharata, it is noted that the universe and every object in it has been created as an abode of the Supreme God meant for the benefit of all, implying that individual species should enjoy their role within a larger system, in relationship with other species.

3. PROTECTING THE ENVIRONMENT IS PART OF DHARMA

Dharma, one of the most important Hindu concepts, has been translated into English as duty, virtue, cosmic order and religion. In Hinduism, protecting the environment is an important expression of dharma.

In past centuries, Indian communities — like other traditional communities — did not have an understanding of “the environment” as separate from the other spheres of activity in their lives. A number of rural Hindu communities such as the Bishnois, Bhils and Swadhyaya have maintained strong communal practices to protect local ecosystems such as forests and water sources. These communities carry out these conservation-oriented practices not as “environmental” acts but rather as expressions of dharma. When Bishnois are protecting animals and trees, when Swadhyayis are building Vrikshamandiras (tree temples) and Nirmal Nirs (water harvesting sites) and when Bhils are practicing their rituals in sacred groves, they are simply expressing their reverence for creation according to Hindu teachings, not “restoring the environment.” These traditional Indian groups do not see religion, ecology and ethics as separate arenas of life. Instead, they understand it to be part of their dharma to treat creation with respect.

4. OUR ENVIRONMENTAL ACTIONS AFFECT OUR KARMA

Karma, a central Hindu teaching, holds that each of our actions creates consequences — good and bad — which constitute our karma and determine our future fate, including the place we will assume when we are reincarnated in our next life. Moral behavior creates good karma, and our behavior toward the environment has karmic consequences. Because we have free choice, even though we may have harmed the environment in the past, we can choose to protect the environment in the future, replacing environmentally destructive karmic patterns with good ones.

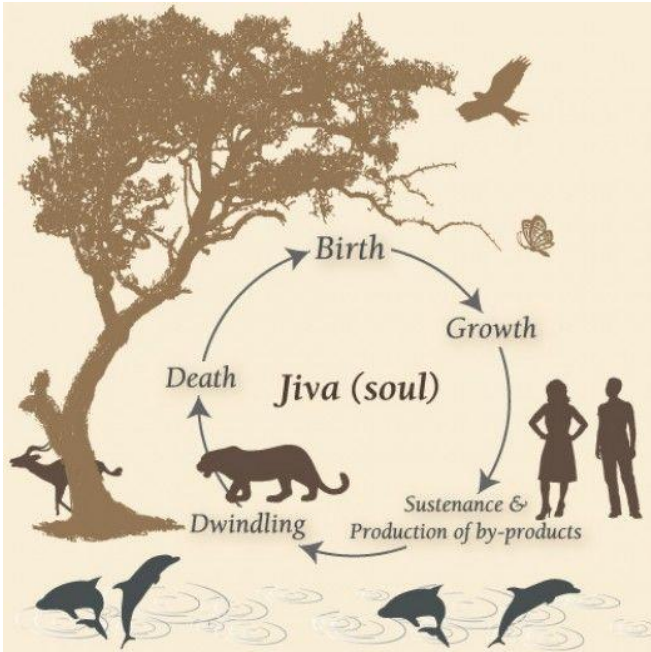
5. THE EARTH — DEVI — is a goddess and our mother and deserves our devotion and protection.

Many Hindu rituals recognize that human beings benefit from the earth, and offer gratitude and protection in response. Many Hindus touch the floor before getting out of bed every morning and ask Devi to forgive them for trampling on her body. Millions of Hindus create kolams daily — artwork consisting of bits of rice or other food placed at their doorways in the morning. These kolams express Hindu's desire to offer sustenance to the earth, just as the earth sustains themselves. The Chipko movement — made famous by Chipko women's commitment to “hugging” trees in their community to protect them from clear-cutting by outside interests — represents a similar devotion to the earth.

6. HINDUISM'S TANTRIC AND YOGIC TRADITIONS affirm the sacredness of material reality and contain teachings and practices to unite people with divine energy.

Hinduism's Tantric tradition teaches that the entire universe is the manifestation of divine energy. Yoga, derived from the Sanskrit word meaning “to yoke” or “to unite,” refers to a series of mental and physical practices designed to connect the individual with this divine energy. Both these traditions affirm that all phenomena, objects and individuals are expressions of the divine. And because these traditions both envision the earth as a goddess, contemporary Hindu teachers have used these teachings to demonstrate the wrongness of the exploitation of the environment, women and indigenous peoples.

7. BELIEF IN REINCARNATION supports a sense of interconnectedness of all creation.



Hindus believe in the cycle of rebirth, wherein every being travels through millions of cycles of birth and rebirth in different forms, depending on their karma from previous lives. So a person may be reincarnated as a person, animal, bird or another part of the wider community of life. Because of this, and because all people are understood to pass through many lives on their pathway to ultimate liberation, reincarnation creates a sense of solidarity between people and all living things. Through belief in reincarnation, Hinduism teaches that all species and all parts of the earth are part of an extended network of relationships connected over the millennia, with each part of this network deserving respect and reverence.

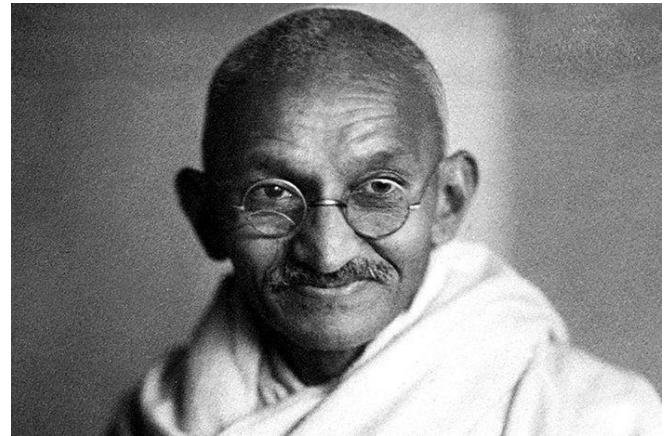
8. NON-VIOLENCE — ahimsa — is the greatest dharma. Ahimsa to the earth improves one's karma. For observant Hindus, hurting or harming another being damages one's karma and obstructs advancement toward moksha — liberation. To prevent the further accrual of bad karma, Hindus are instructed to avoid activities associated with violence and to follow a vegetarian diet. Based on this doctrine of ahimsa, many observant Hindus oppose the institutionalized breeding and killing of animals, birds and fish for human consumption.

9. SANYASA (asceticism) represents a path to liberation and is good for the earth. Hinduism teaches that asceticism — restraint in consumption

and simplicity in living — represents a pathway toward moksha (liberation), which treats the earth with respect. A well-known Hindu teaching — *Tain tyakten bhunjitha* — has been translated, "Take what you need for your sustenance without a sense of entitlement or ownership."

One of the most prominent Hindu environmental leaders, Sunderlal Bahuguna, inspired many Hindus by his ascetic lifestyle. His repeated fasts and strenuous foot marches, undertaken to support and spread the message of the Chipko, distinguished him as a notable ascetic in our own time. In his capacity for suffering and his spirit of self-sacrifice, Hindus saw a living example of the renunciation of worldly ambition exhorted by Hindu scriptures.

10. GANDHI is a role model for simple living.



Gandhi's entire life can be seen as an ecological treatise. This is one life in which every minute act, emotion or thought functioned much like an ecosystem: his small meals of nuts and fruits, his morning ablutions and everyday bodily practices, his periodic observances of silence, his morning walks, his cultivation of the small as much as of the big, his spinning wheel, his abhorrence of waste, his resorting to basic Hindu and Jain values of truth, nonviolence, celibacy and fasting. The moralists, nonviolent activists, feminists, journalists, social reformers, trade union leaders, peasants, prohibitionists, nature-cure lovers, renouncers and environmentalists all take their inspirations from Gandhi's life and writings.

Source: <https://www.huffingtonpost.com>

VEGETARIAN DIETS ALMOST TWICE AS EFFECTIVE IN REDUCING BODY WEIGHT



Dieters who go vegetarian not only lose weight more effectively than those on conventional low-calorie diets but also improve their metabolism by reducing muscle fat, a new study published in the *Journal of the American College of Nutrition* has found.

Losing muscle fat improves glucose and lipid metabolism so this finding is particularly important for people with metabolic syndrome and type 2 diabetes, says lead author, Dr. Hana Kahleová, Director of Clinical Research at the Physicians Committee for Responsible Medicine in Washington DC.

Seventy-four subjects with type 2 diabetes were randomly assigned to follow either a vegetarian diet or a conventional anti-diabetic diet. The vegetarian diet consisted of vegetables, grains, legumes, fruits and nuts, with animal products limited to a maximum of one portion of low-fat yoghurt per day; the conventional diabetic diet followed the official recommendations of the European Association for the Study of Diabetes (EASD). Both diets were restricted by 500 kilocalories per day compared to an isocaloric intake for each individual.

The vegetarian diet was found to be almost twice as effective in reducing body weight, resulting in an average loss of 6.2kg compared to 3.2kg for the conventional diet.

Using magnetic resonance imaging, Dr. Kahleová and colleagues then studied adipose (fat-storage) tissue in the subjects' thighs to see how the two different diets had affected subcutaneous, subfascial and intramuscular fat (that is, fat under the skin, on the surface of muscles and inside muscles).

They found that both diets caused a similar reduction in subcutaneous fat. However, subfascial fat was only reduced in response to the vegetarian diet, and intramuscular fat was more greatly reduced by the vegetarian diet.

This is important as increased subfascial fat in patients with type 2 diabetes has been associated with insulin resistance, so reducing it could have a beneficial effect on glucose metabolism. In addition, reducing intramuscular fat could help improve muscular strength and mobility, particularly in older people with diabetes.

Dr. Kahleová said: "Vegetarian diets proved to be the most effective diets for weight loss. However, we also showed that a vegetarian diet is much more effective at reducing muscle fat, thus improving metabolism. This finding is important for people who are trying to lose weight, including those suffering from metabolic syndrome and/or type 2 diabetes. But it is also relevant to anyone who takes their weight management seriously and wants to stay lean and healthy."

A plant-based diet improves beta-cell function and insulin sensitivity in overweight adults with no history of diabetes,

according to a new study

published in *Nutrients* by researchers from the Physicians Committee for Responsible Medicine.

Measuring the function of beta cells, which store and release insulin, can help assess future type 2 diabetes risk.

The study randomly assigned participants—who were overweight and had no history of diabetes—to an intervention or control group in a 1:1 ratio. For 16 weeks, participants in the intervention group followed a low-fat vegan diet based on fruits, vegetables, whole grains, and legumes with no calorie limit. The control group made no diet changes. Neither group changed exercise or medication routines.

Based on mathematical modeling, the researchers determined that those on a plant-based diet increased meal-stimulated insulin secretion and beta-cell glucose sensitivity, compared to those in the control group. The plant-based diet group also experienced a

decrease in blood sugar levels both while fasting and during meal tests.

"The study has important implications for diabetes prevention," says lead study author Hana Kahleova, M.D., Ph.D. "Type 2 diabetes affects approximately 30 million Americans, with 84 million more suffering from prediabetes."

Physicians Committee researchers posit that because the intervention group experienced weight loss, including loss of body fat, their fasting insulin resistance decreased (i.e. improved), and their beta-cell function improved as a result.

"If nothing changes, our next generation—

the first expected to live shorter lives than

their

parents—is in trouble.

A third of young

Americans are

projected to develop

diabetes in their

lifetimes," says Dr. Kahleova.

"Fortunately, this study adds to the

growing evidence that food really is

medicine and that

eating a healthful plant-based diet can go a long way in preventing diabetes."

Previous studies have shown that plant-based diets not only have the power to prevent and reverse type 2 diabetes, but that they also lead to weight loss, improved cholesterol levels, lower blood pressure, and less heart disease.



Source: <https://medicalxpress.com/>

HUMAN RIGHTS: AUSTRALIA

2017 EVENTS

Despite a strong tradition of protecting civil and political rights, Australia has serious unresolved human rights problems. Undeterred by repeated calls by the United Nations to end offshore processing, Australia continued in 2017 to hold asylum seekers who arrived by boat on Manus Island in Papua New Guinea and on the island nation of Nauru, where conditions are abysmal. Indigenous Australians are overrepresented in the criminal justice system. Half the prison population has a disability, and inmates face violence, neglect, and extended periods of isolation. Abuses in juvenile detention centers and overbroad counterterrorism laws persist.

In October, United Nations member countries elected Australia to the UN Human Rights Council (UNHRC) for a three-year period for the first time.

Refugees and asylum seekers on Papua New Guinea's (PNG) Manus Island have suffered repeated violent attacks and robberies by locals, with inadequate hospital care on the island and no action by police.

Asylum Seekers and Refugees

At time of writing, there were around 840 refugee and asylum seeker men in Papua New Guinea and 1,100 men, women, and children on Nauru, transferred by Australia. They are from countries including Afghanistan, Burma, Iran, Pakistan, Somalia, and Sudan, and most have been there for more than four years. Many suffer from mental health conditions, exacerbated by years of detention and uncertainty about their futures. At least nine refugees and asylum seekers have died on Manus and Nauru—three due to suspected suicide—since Australia introduced the offshore processing policy in 2013.

In September, the US accepted 54 refugees from Manus and Nauru, through a resettlement arrangement with Australia. Nauru and Papua New Guinea do not offer refugees meaningful opportunities for local integration or adequate and safe long-term settlement options.

These refugees and asylum seekers regularly endure violence, threats, and harassment from residents, with little protection from local authorities. Since June, refugees and asylum

seekers on Manus have faced increased violent attacks and robberies by local men, with no police action. They endure unnecessary delays in, and at times denial of, medical care, even for life threatening conditions. Australian and Nauru authorities have ignored doctors' recommendations by blocking transfers to Australia for nearly 50 refugees and asylum seekers on Nauru.

AUSTRALIA: 2017 IN NUMBERS

Self-harm and suicide attempts are frequent. Two refugees with histories of mental health conditions reportedly committed suicide on Manus in separate incidents in 2017.

2017
IN NUMBERS

AUSTRALIA



61.6%

of Australians voted for marriage equality.



1,940+

asylum seekers and refugees are held by Australia on Papua New Guinea and Nauru.

2

refugees on Papua New Guinea's Manus Island reportedly committed suicide.



28%

of Australia's prisoners are indigenous, yet indigenous people make up 2% of the population.



50%+

of Australia's prisoner population has a disability.

On October 31, the Australian and PNG governments closed the Manus Island regional processing center, ostensibly to implement a 2016 PNG Supreme Court ruling that detaining men at the main center was unconstitutional. Food, water, and power were stopped and refugees and asylum seekers urged to move to other less secure facilities in the main town.

For three weeks, hundreds of refugees and asylum seekers refused for to leave the closed facility, terrified by escalating violence against them in the main town and frustrated by the lack of a long-term solution to their predicament. Australia will pay PNG A\$250 million (US\$192 million) for the next 12 months of operations to provide services to about 840 refugees and asylum seekers.

In September, the Australian government settled a class action lawsuit agreeing to pay A\$70 million (US\$56 million) to men detained on Manus Island.

Reacting to a High Court challenge, in August the government introduced amendments to the Border Force Act to reduce the threat of criminal charges against service providers who speak out about abuse or neglect in offshore processing centers.

INDIGENOUS RIGHTS



In May, over 250 Aboriginal and Torres Strait Islanders from 13 regions met and issued the “Uluru Statement from the Heart,” which urged constitutional reforms, including the establishment of a First Nations voice in the constitution and a truth and justice commission. In October, Australia’s government formally rejected the key recommendation of the Referendum Council to establish an Indigenous advisory body to parliament.

Indigenous Australians are significantly overrepresented in the criminal justice system, often for minor offenses like unpaid fines. Aboriginal and Torres Strait Islanders are 13 times more likely to be imprisoned than the rest of the Australian population. Aboriginal women are the fastest growing prisoner demographic in Australia.

In December 2016, the Western Australian state coroner found that the 2014 death in custody of a 22-year-old Aboriginal woman, Ms. Dhu, was

preventable, and made a number of recommendations, including that Western Australia end imprisonment for unpaid fines. At time of writing, Western Australia had yet to implement the recommendation.

CHILDREN'S RIGHTS



State inquiries have documented significant abuses against children in the criminal justice system. Incarceration disproportionately affects indigenous children, with a juvenile detention rate about 25 times the rate of non-indigenous youth.

In May, the Victorian Supreme Court ruled for the third time that detaining children at Barwon adult prison was unlawful. The government moved children to the maximum security prison following riot damage to a youth justice center in 2016, and decided to reclassify a section of the prison as a “youth justice facility” just days after the Supreme Court ruled against this move. Some of the detained children were as young as 15, and authorities isolated and handcuffed them for extensive periods.

In July, the Western Australia inspector of custodial services found a substantial increase in “critical incidents and self-harm” in a juvenile detention center. In November, the Royal Commission into the Protection and Detention of Children in the Northern Territory concluded that the territory’s youth detention centers are “not fit for accommodating, let alone rehabilitating” the children they lock up, and called for their closure. The report recommended that the Northern Territory raise the minimum age of criminal responsibility from 10 to 12 years, and that children below the age of 14 should only be detained for the most serious offenses.

TERRORISM AND COUNTERTERRORISM

Since 2014, the Australian government has introduced several draconian counterterrorism laws in response to the threat of “home-grown terrorism.” Support for tough measures increased following a June siege in Brighton, in which a gunman who pledged allegiance to the extremist group Islamic State (ISIS) and Al-Qaeda killed a man and injured three police officers.

In July, Prime Minister Malcolm Turnbull proposed new legislation that would force tech companies to provide “appropriate assistance” to intelligence and law enforcement agencies to access encrypted communications, which risks undermining cybersecurity for all users. In December 2016, the government passed legislation that allows a judge to authorize detention for offenders who have served terrorism-related sentences but who pose an “unacceptable risk” of committing a serious offense if released.

In October, Australian authorities unveiled a proposal that would allow terrorism suspects as young as 10 to be held for up to two weeks without charge.

DISABILITY RIGHTS



Over half the prison population has a physical, sensory, psychosocial (mental health), or intellectual disability.

Human Rights Watch research in 14 prisons across Western Australia and Queensland found

that prisoners with disabilities experience bullying, harassment, physical, and sexual violence from fellow prisoners and staff. Due to a lack of staff sensitivity and training, prisoners with disabilities are frequently punished for behavior resulting from their disability and end up disproportionately represented in punishment units.

In 2016, the UN Committee on the Rights of People with Disabilities reviewed a communication against Australia concerning Marlon Noble who was incarcerated for more than 10 years in a Western Australian Prison and declared unfit to stand trial. The committee found that Noble could not exercise his right to due process and was deprived of liberty without trial. It recommended an effective remedy and to revoke the conditions attached to his release. The Western Australian government acknowledged significant failures in the way Noble’s case was handled, and released its review of the Mentally Impaired Defendants Act in April 2016. At time of writing, no reforms had been enacted.

SEXUAL ORIENTATION AND GENDER IDENTITY



In 2017, the Turnbull government held a non-binding postal survey on same-sex marriage. In November, Australians voted overwhelmingly in favor of marriage equality, and parliament passed a marriage equality law in December.

VIOLENCE AGAINST WOMEN

In February, UN Special Rapporteur on Violence Against Women Dubravka Šimonović visited Australia. She expressed concern over inadequate policies to protect Aboriginal and Torres Strait Islander women, and the plight of

asylum seekers and refugee women transferred from Nauru to Australia for medical treatment, including women who were raped.

The Australian Human Rights Commission released a report on sexual assault at Australian universities in August, finding 21 percent of students were sexually harassed in a university setting in 2016.

FORCED LABOR

In August, Australia's justice minister proposed legal reforms to require the biggest companies in the country to report on practices to prevent forced labor in their supply chains. At time of writing, the government was consulting stakeholders on the proposal, which lacks meaningful due diligence requirements or penalties for noncompliance.

FOREIGN POLICY

Australia acted inconsistently and rarely showed leadership at the UN on human rights issues relating to particular countries. During the year Australia rarely raised human rights issues publicly in countries it works closely with on border security or trade, such as China, Cambodia, and Vietnam, preferring to engage in "quiet diplomacy."

In October, Australia deepened diplomatic ties with Cambodia while ignoring its sharp crackdown on civil and political rights. In November, it upgraded diplomatic relations with Vietnam despite its escalating crackdown on freedom of expression.

In October, Australia was elected to the UNHRC. The government said it would prioritize gender equality, freedom of expression, indigenous rights, good governance, and national human rights institutions, and that it would advocate for global abolition of the death penalty.

Australia has shown little transparency as a member of the US-led coalition conducting airstrikes against ISIS. In May, the Defense Department began releasing reports on strikes

by the Australian air force, but more detailed reporting on civilian casualties in Iraq and Syria is needed. Australia has approved military exports to Saudi Arabia, despite concerns about alleged war crimes by the Saudi-led coalition in Yemen. Australia has not released information on the types or quantities of equipment sold.

KEY INTERNATIONAL ACTORS

In 2017, the UN special rapporteur on the human rights of migrants; the Committee on Economic, Cultural and Social Rights; and the High Commissioner for Refugees urged the Australian government to end offshore processing of asylum seekers.

Following his visit to Australia in December 2016, UN Special Rapporteur on Racism Mutuma Ruteere raised concerns that "xenophobic hate speech, including by elected politicians" was on the rise in Australia. The UN special rapporteur on the rights of indigenous peoples Victoria Tauli-Corpuz said the "routine detention of young Indigenous children" was the "most distressing aspect" of her visit to Australia.

In February, the government announced it will ratify the Optional Protocol to the Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment (OPCAT) by the end of 2017. Under OPCAT, independent inspecting bodies would monitor Australia's prisons, and juvenile and immigration detention facilities.

In November, the UN Human Rights Committee expressed strong concern for Australia's human rights record in key areas, including refugees, indigenous rights, lesbian, gay, bisexual, and transgender (LGBT) rights, and certain counterterrorism measures. The committee urged Australia to end its offshore detention arrangements, and condemned the same-sex marriage postal survey as "not an acceptable decision-making method."

Source: <https://www.hrw.org>



STEPHEN HAWKING

By Dr. A. P. Jayaraman

The most luminous star in the firmament of modern Li cosmology who had tantalised us with a promisory clue to the glue of the Universe and a 'Theory of Everything' has now become part and parcel of the immortality of the past by the arrow of time and the play of entropy, abetted by the tragedy of a neurodegenerative disorder. Science which originated by divergence from natural philosophy once again saw its consilient convergence to its origin in his monumental work.



VEDIC INTUITION

Hawking's genre-defining book, *A Brief History of Time*, has mind of God. He sketched a large picture of the Universe with neither a beginning nor an end in time, nor even an edge in space. Swami Ranganathananda had made illuminating explorations into the semantic space of Indian cosmology as expounded in *Nasadiya Suktha*, where the significance of the concept *Bindu* finds an irresistible collocation with the paradigm of singularity, propounded by Hawking. By building a bridge between singularities of Big Bang and Penrose, Hawking looked at the black hole to understand the Universe. He argued for a point (*Bindu*?) where space and time dissolve into a singularity and added that if the arrow of time were reversed, it would be valid for the Universe.

M.D or Ph.D

Stephen William Hawking was born in Oxford, England on January 8, 1942. With justifiable pride, he used to state that his date of birth was noteworthy as it was the 300th death anniversary of Galileo Galilei. Hawking died

peacefully at home in Cambridge on March 14, 2018, on the birth anniversary of Albert Einstein with whom he is often equated.

Stephen was the first of four children of Oxford University graduates, Isobel and Frank Hawking. He grew up in an indulgently intellectual family that read books at their dinner table eccentrically immersed in academics!

“With justifiable pride, he used to state that his date of birth was noteworthy as it was the 300th death anniversary of Galileo Galeili. Hawking died at home peacefully in Cambridge on March 14, 2018, on the birth anniversary of Albert Einstein with whom he is often equated.”

Frank Hawking was a reputed medical researcher and he wanted his son to follow his profession prosecuting a career in medicine, but biology and medicine did not measure up to the exacting standards of rigour set by Stephen in his mind. To be Dr. Stephen Hawking M.D or Not to Be! Thus he turned to the study of mathematics and physics which brought him to the frontline of thought leaders. Stephen Hawking belonged to that eclectic class of beautiful minds of physics having written the most beautiful paper in the history of physics. He won the Albert Einstein Award, the Wolf Prize, the Copley Medal, and the Fundamental Physics Prize. Hawking was not awarded the Nobel prize for want of experimental evidence for his theories. A little over a year ago, Jeff Steinhauer announced that he had found evidence of Hawking radiation in a laboratory analogue made of extremely cold atoms but this evidence was not definitive.

EARLY COLLEGE CAREER

Hawking did not display the blinding brilliance of his intellect in his early college days. He had smartly estimated that he had put in 1,000 hours of study during his three year undergraduate programme at Oxford. That works out to just under two hours per college day! At the end of the course, he was perilously close to the borderline between a first and second class degree. Convinced that he was seen as a difficult student, he told his viva examiners that if they gave him a first he would move to Cambridge to pursue his PhD. If they gave him a second class he threatened to stay back. His examiners awarded him an 'A' grade and he moved to where he wanted to be.

His research career started with despondency. He desired to have Fred Hoyle, the most famous astronomer as his guide but there was no room there. He had to work with a lesser known or rather unknown physicist Dennis Sciama who was very supportive and encouraging. Under Sciama's encouragement, he worked out the maths and was able to prove that the universe according to general relativity began in a singularity.

DISMAL PROGNOSIS

His fragile frame was an eerie spectacle of tragic triumph of mind over matter, of physiology over neurology. His was a rare textbook case of pathology. He was diagnosed with a neurodegenerative disease called Amyotrophic Lateral Sclerosis (ALS) when he just crossed his teens. It involved the neurons responsible for controlling voluntary muscle movement involved in chewing, walking and talking. The disease is progressive, meaning the symptoms got worse over time. Currently, there is no cure for ALS and no effective treatment to halt, or reverse, the progression of the disease. Only half the patients afflicted with ALS survive three or more years after diagnosis. Hardly 20 per cent live for more than five years, and a mere 10 per cent make it beyond 10 years. In a rarest of rare case, Hawking made it for full five decades!

They were poignant decades. The muscles lost their tone. In 1985, he lost his ability to speak. Though speechless and immobilized, he thrilled the world of science as a scientist, and the people at large as a public intellectual in his signature style. With death in line of sight, he refused to recognize its presence in such

proximity, and plunged into scientific activity. A sure case of postmodernist absurdity! He spoke also of death, an eventuality that sat on a more distant horizon than doctors thought. "I'm not afraid of death, but I'm in no hurry to die," he said.

BLACK HOLES

In the annals of science, Hawking's name is associated with the physics of black holes, which he began to study when they were still considered mere mathematical curiosities in Albert Einstein's general theory of relativity. In the early 1970s, he began to investigate what quantum physics could reveal about the event horizon, a black hole's surface of no return. He shocked the physics world when he calculated that this surface should slowly emit radiation which is known as 'Hawking radiation'. Black holes were not truly black. This emission, he reasoned, should ultimately lead the black hole to shrink and disappear. Hawking radiation should erase information from the Universe, in apparent contradiction to some of the basic tenets of quantum theory.

Strange are the ways of black holes. They are super, hyper, dense stuff that challenge our imagination. They have such incredibly strong gravity that absolutely nothing escapes from them. If you can make an imaginary travel to the core of a black hole, you will discover a strange singularity. Matter is condensed to such concentration, into a very small space where gravity is infinite. Tearing the fabric of physics was the metaphor used in Guardian.

Still stranger things are in store for us from Stephen. Vacuum is not empty. It is teeming with an eerie concoction of particles and antiparticles. At the edge of the black hole they part with the negative mass particles falling into the black hole. They become smaller and smaller and ultimately explode brighter than thousands of suns.

He was the first to show that radiation escapes from black holes and that the holes are not completely black. His theory explaining what came to be called Hawking radiation made him a scientific superstar. Unsurprisingly he expressed his desire to have the equation of this radiation be engraved on his tombstone. It is a magnificent confluence of the gravity of Isaac Newton, quantum constant of Max Planck,

thermodynamics of Boltzmann and the relativistic light velocity of Albert Einstein.

“He was the first to show that radiation escapes from black holes and that the holes are not completely black. His theory explaining what came to be called Hawking radiation made him a scientific superstar.”

GRAVITY GURU IN ANTIGRAVITY

In 2007, Hawking who has been redefining gravity and was dissecting its paradigms accepted an offer from Zero G Corporation to experience weightlessness. The company uses a plane that climbs and then dives in such a way that for 25 seconds at a time, everyone inside the plane feels weightless. He magnificently floated in zero gravity, a feat the fittest of the fit would shy away from. Poetic justice to a scientist who did thought experiments with gravity floating freely and cheerfully from the constraints of the very gravity. Santhosh George Kulangara of 'Sancharam' fame once gave me a detailed description of the antigravity training he received and I used to wonder how Hawking withstood such hostile unearthly space. They would have been co space travellers!

IN MUMBAI

Some seventeen years ago Hawking visited Mumbai and was accorded a grand reception at Taj Mahal Hotel. It was an indelibly magnificent event. Watching him as he wheeled himself in his motorized wheel chair equipped with the most sophisticated communication equipment, his head contorted slightly to one side and hands crossed over to work the controls, followed by a team including a nurse, was an out of this world experience. His computer generated voice in American accent spiced with British humour reverberated the Taj hall. It was mindboggling how he could manipulate Einsteinian equations in his mind when he could no longer hold a pen or a paper in his deformed hands! A well known media person asked me if I could help her with a one liner that would aptly describe the great work of Hawking. I clumsily scratched my retrievable memory and in a tongue in cheek style, blurted out, "He derived the quantum gravity integral for the total universe."

Both of us smiled enigmatically and the byte did see the light of the next morning. His iconic cultural status with the augmented reality of his physical disability made him a media celebrity. He was the most visible and luminously maverick scientist of our times. He was also a passionately romantic and an obsessively compulsive science communicator.

Source: Bhavan Journal April 15, 2018



SENSING THE ESSENCE OF THE UNIVERSE

By Ashok Prabhu

Modern science is about 500 years old. It is a systematic study of the nature and behaviour of the universe by observation and experimentation and has great impact on the quality of life of people. Generations of people across the continents over the past few centuries have developed great interest and belief in scientific knowledge. Vedic scriptures including Upanishads are considered to be products of revelations to sages and seers in ancient India and people in India have believed in them for thousands of years. This faith is firmly grounded even today. Thus we have a situation where there are two areas of human accomplishments, spiritual and scientific. This raises interesting questions to curious mind.

What do we learn regarding the Essence of the universe when we explore both the scientific discoveries and the scriptural teachings in terms of the birth and the nature of the universe?

Can modern scientific discoveries corroborate ancient scriptural teachings?

Can we hypothesize physical mechanisms for spiritual progress leading to enlightenment prescribed in scriptures based upon current scientific knowledge?

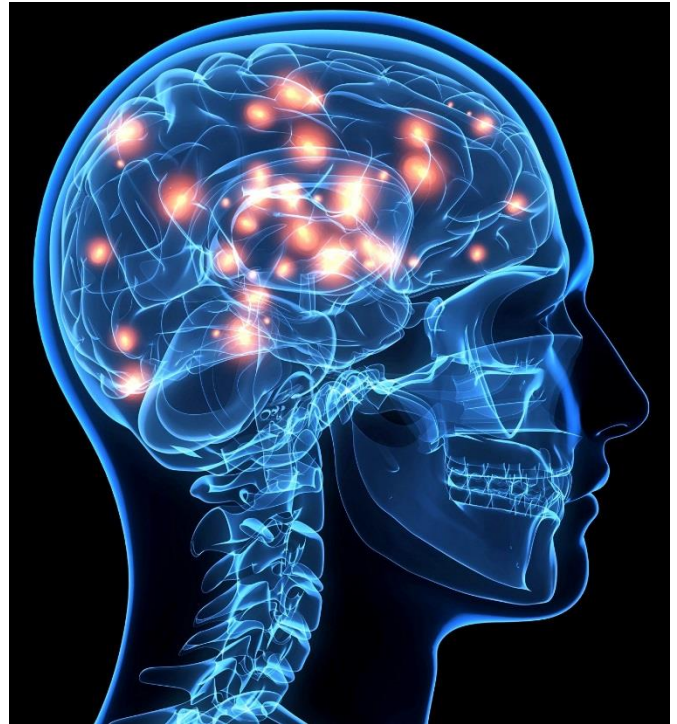
In order to answer these interesting questions, important aspects of spiritual and scientific accomplishments are explored and further analyzed here. These include modern scientific discoveries, Vedic scriptural teachings, synergy between scriptural teachings and scientific discoveries, play of Universal Consciousness in this universe and impact on religious practices.

MODERN SCIENTIFIC DISCOVERIES

Modern science is quite young. Within a short time, we have gone from classical mechanics to particle physics to relativity to quantum mechanics to the unified field theory. We have learnt important aspects of the nature of the universe and continue to learn more every passing day. The source of the universe is a singularity. The first product of this source is energy. From energy came the fundamental forces, particles and matter. Thus out of this

source came the universe and its fundamental forces and objects.

Advances in quantum physics and unified theory state that at a fundamental level, all universe's objects are fields. Everything in the universe, including matter and fundamental forces, can be traced back to fields. Field is the source of energy and matter. Matter is equivalent to energy. The substratum of energy is the field. Field gets converted into energy and into matter particles. We notice the substances spread throughout space through the vibrations in the fields. These appear to us as particles. The electric field, the gravitational field, and even particles like electrons and quarks are really vibrations in certain kinds of fields. The Higgs boson is a vibration in the Higgs field, and



imparts mass to matter. At this time physicists continue to explore the unified field theory.

The current scientific knowledge of the physical nature of the universe in terms of four of nature's forces, matter, dark energy, and dark matter may not be the whole story. There may be another force which is the fundamental force to everything in the universe. This may be the force responsible for creating the universe in the first place. Such a line of thinking opens up additional research opportunities for physicists to further probe the essence of the universe.

Story of the birth of the universe and arrival of humans on Earth highlights the significance of the universal gift, the human brain, born after trillions and trillions of universal events. The brain is a complex sensing machine that has given humans their intelligence. Recent discoveries in neurosciences when extrapolated suggest that the human brain is capable of directly sensing the forces in nature without the routine five sensory inputs of sight, sound, smell, taste and touch, provided such force fields can connect with appropriate receptor cells. Neuroscientists will continue such research activities to further understand capabilities of the human brain for thought transmission and sensing the essence.

Scientific Discoveries teach us that universe and all its objects were born from an energy super source, singularity; at fundamental level all objects and forces in the universe are force fields; and human brain appears to be capable of directly sensing force fields existing in nature.

VEDIC SCRIPTURAL TEACHINGS

Vedic History teaches us that revelations to seers and sages served as the foundation for the sacred scriptures and Vedic religion. Vedic scriptures state that our universe is a manifestation of Universal Consciousness or Brahman. From this single source of Universal Consciousness, all universe's objects appeared. All objects in the universe are identical with Brahman. This is referred to as Advaita or Monism in the Upanishads. The Upanishads describe their teachings on the spiritual nature of the universe in the following dicta: Thou art That; The Self is Brahman; Consciousness is Brahman; I am Brahman. Universal Consciousness manifests as all existing things, sustains, preserves, and receives back into itself again everything that was created.

Universal Consciousness force is the Essence of the universe. In the manifestation of the universe, Universal Consciousness force conceives forms. Creation of the universe with forms requires the power of Brahman which is energy, maya. Creation of the universe also requires a designer and a controller, Ishvara. We call Ishvara as God, and the creative power maya as Shakti. Universal Consciousness is governing everything in the universe. Humans have an opportunity for unity with Brahman by practising scriptural teachings for sensing the

essence of the universe which is Universal Consciousness.



The theory of unity with Brahman is elaborated in the Upanishads. After stripping off individualization, we discover by mystical experience that our real most essential being, the Individual Consciousness or soul is identical with the Universal Consciousness or universal soul. Mysticism is based on sensing the Essence which is the nature of the Absolute Reality governing the universe. Mystical experiences do not occur without a long preparation. A variety of techniques have been prescribed in the scriptures and other related literature for sensing the essence of the universe. The basic aim here is to silence the thinking mind. When the rational mind is silenced, there is experience of oneness with the surrounding environment. Final destination is unity with Brahman.

We learn from scriptures that our universe is manifestation of Universal Consciousness, Brahman; Universal Consciousness force continues to govern the universe; and humans have a unique opportunity to realize Brahman and become one with Brahman.

SYNERGY BETWEEN SCRIPTURAL TEACHINGS AND SCIENTIFIC DISCOVERIES

The scriptures state that the universe manifested from Brahman. From this single

source, all the universe's objects appeared and continue to appear and disappear. Scientists refer to the starting source of the universe as a singularity. Out of this source, the universe along with its fundamental forces and objects was born. Scriptures refer to Brahman as maya or the energy responsible for creation. The first product of the source referred to as the starting point of the universe by scientists is energy. From energy came nature's forces, fundamental particles and matter. The scriptures teach that all the universe's objects are identical to Brahman, Universal Consciousness.

Scientists tell us that at a fundamental level, the universe is in the form of fields. Everything in the universe including matter, fundamental particles, and nature's forces can be traced back to fields.

The scriptures state that Universal Consciousness is pervasive in the universe and continues to govern everything in the universe. This force may be the creation force, which started this universe and also makes everything in the universe work, from fields to particles to galaxies. Scientists may someday identify the true and exact nature of the Universal Consciousness, the Essence of the universe.

Information from Vedic scriptures and sciences shows that scientific discoveries when extrapolated corroborate teachings in the scriptures and highlights the significance of Universal Consciousness as the Essence of the Universe.

PLAY OF UNIVERSAL CONSCIOUSNESS

Brahman or Universal Consciousness is Absolute Reality from which the universe was manifested. Consciousness is still the governing force of everything in the universe. The cell's ability to evolve is driven by Universal Consciousness. Human organs including liver, heart, kidney and brain are simply various combinations of cells and perform different functions. But the driving force for these machines to perform comes from the Consciousness in each and every cell that makes such an organ. The aspect of Universal Consciousness as it pertains to anyanimate object is what we refer to as Individual Consciousness. Brain as a machine gives the human mind its thinking power along with the

ability to sense the presence of the driving force, Consciousness, as the fundamental entity.

The human mind serves as an intermediary between the Individual Consciousness and the brain. When the mind is exercised properly, the brain can control the five routine senses, focus internally, and directly sense the force fields of the Universal Consciousness force. According to the scriptures, this requires discipline to look deep inside, focus and meditate. During meditation, this silencing of the thinking mind is achieved by observing and concentrating one's attention on a single item, like one's breathing or the chanting of a mantra. The end experience is one of unity with Brahman, the Essence. Saints are among the very few who realize that they are Brahman or God, 'I am Brahman' (Aham Brahmasmi).



Goddess Durga as Shakti

Universal Consciousness is the reservoir of infinite knowledge. Saints and seers were successful in acquiring some of this universal knowledge by practising scriptural teachings. Advances in neurosciences suggest that the human brain can directly sense force fields. The Universal Consciousness force responsible for the creation and governing of the universe may be in the form of fields. The receptor cells in the human brain then can sense

these Universal Consciousness force fields. Subsequent processing of such sensed information will help the human brain to connect with the Consciousness Force. This can possibly explain physical mechanisms for the human brain to directly sense Universal Consciousness force fields which led to revelation experiences of saints and seers. Such thinking opens up the possibility for acquiring other new information from the universe by adopting lessons from these scriptural teachings.

Universal Consciousness is the essence of the universe. Scriptures outline processes for achieving spiritual progress all the way to Enlightenment by realizing

Universal Consciousness. Discoveries in physics and neurosciences can be extrapolated to formulate physical mechanisms for the process of human mind achieving enlightenment.

IMPACT ON SPIRITUAL JOURNEY

Vedic religion progressed from ancient Vedic religion to spiritual Vedic religion to popular Hinduism.

Current religious practices are primarily focused on faith in God, image worship and various rituals. During installation of images or idols, the creation energy of the universe which is in the form of Universal Consciousness force fields gets transferred in a focused form to an image of God using scriptural teachings. During image worship, a devotee's mind focused on the image of God is sensing this energy emanating in the form of force fields from the image. We worship Ishvara and Shakti in the form of Shiva, Krishna, Durga, and other forms of God. When we worship God, we are, in fact, worshipping Brahman from whom this universe manifested. A guru or an expert with his or her intense training and acquired knowledge is quite advanced in the art of harnessing this universal energy through yoga and meditation. People try to follow instructions from gurus and experts on spiritual practices, involving yoga and meditation and find stress relief, improved health and peace of mind.

In rare instances, individuals will actually go through the process of detachment and subsequent meditation practices for sensing the essence of the universe and achieve enlightenment. During enlightenment, one will

have immediate experiences of and realization as 'I am Brahman', 'All is pure Consciousness'. This is Self Realization, and is the goal of spiritual journey in Hinduism.

Religious practices that have been developed over thousands of years rely on sensing Universal Consciousness force fields. As long as we are pursuing these religious practices and activities with sincerity and detachment, the journey of sensing the essence of the universe is going to be satisfying and joyful, and time will tell the extent of our spiritual progress.

IMPACT BEYOND SPIRITUAL PROGRESS

We observed that discoveries in physics and neurosciences can be extrapolated to formulate physical mechanisms for the process of human mind achieving enlightenment. This then makes one ponder if the lessons learnt from scriptures can be leveraged to obtain as yet undiscovered important information from the universe which is an infinite reservoir of knowledge. If so, how will one go about it? Such thinking opens up possibilities for advanced research in the field of accessing universal knowledge.

As lessons learnt from scriptural teachings and scientific advancements regarding the nature of the universe begin to merge, humans stand to gain significantly both in spiritual progress and in other aspects of quality of life.

SUMMARY

This paper, Sensing the Essence of the Universe, story of the universe and its forces, the evolutionary gift of the human brain, scientific understanding of nature's forces and functioning of the brain, Vedic scriptural teachings and saintly experiences of enlightenment, gives us several interesting insights.

Teachings from Vedic scriptures regarding Brahman, Universal Consciousness and manifestation of Brahman in the forms of this universe, and scientific discoveries of singularity at the birth of the universe and universe being force fields at a fundamental level provide a sound spiritual and scientific basis for our thinking regarding birth of the universe and its nature and governance. Advances in Neurosciences suggest the possibility of the

human brain directly sensing the Universal Consciousness force fields existing in the universe.

“Advances in Neurosciences suggest the possibility of the human brain directly sensing the Universal Consciousness force fields existing in the universe.”

These observations then collectively point out how our religious practices were developed to sense Universal Consciousness either by image worship and/or by yoga and meditation practices. They also remind us how we can leverage the unique opportunity provided to humans to become one with the Absolute Reality. Such knowledge can be quite inspiring for humans to think about how they should

make use of the precious opportunity for spiritual progress.

What does this mean to us today? Exploring both the scientific discoveries and scriptural teachings in terms of the Essence of the universe gives us an understanding of a truly rational scenario for God, working of the universe, human goal, and spiritual progress. Given that humans spend a significant amount of time and resources on religious practices, such knowledge can be helpful in adjusting our religious practices to maximize benefits in our spiritual journey. The spiritual journey in addition to being more joyful can become greatly satisfying in terms of driving us towards the ultimate end goal. Such synergy and convergence of scientific and spiritual thinking will also help us conduct advanced research in subject areas that include scriptural teachings, physics and neurosciences to further uncover the Essence of our universe and derive benefits for humankind beyond spiritual progress.

Source: Bhavan’s Journal April 15, 2018



MEMORY, SOUL AND REINCARNATION

By Bhupendra Madhiwalla

Only human beings think, plan and worry about losing memory. It is not that other living organisms do not have memory but none of them have the facility to store it like us, and preserve it for posterity.

Since thousands of years humans started writing and drawing on leaves, stones, barks of trees, etc. In fact all our old scriptures were in these forms until humans invented the art of printing on paper and then fabric and plastic. For such writing, humans developed scripts, symbols and shapes of hundreds of types all over the world. But it was almost impossible to preserve the information, data, pictures, etc., for a very longtime, except in archives.

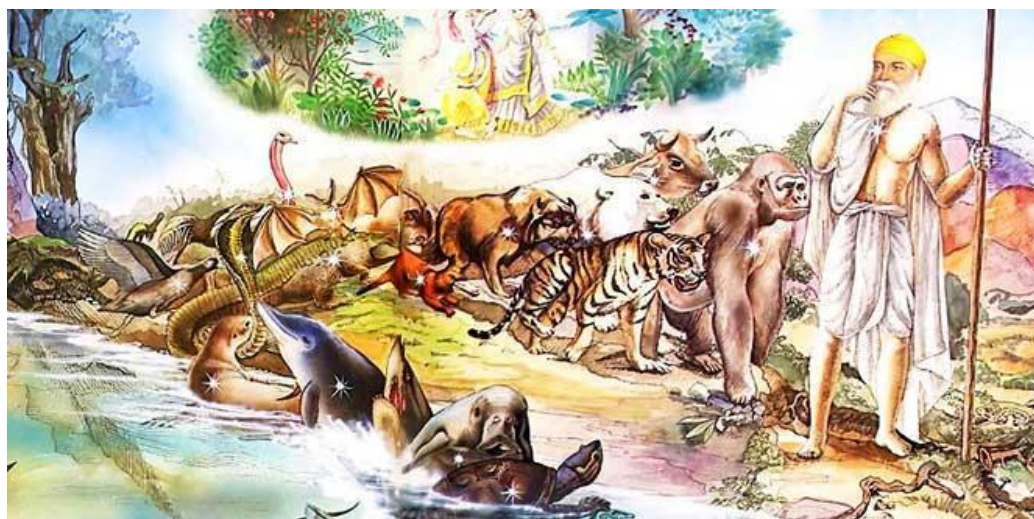
In the 20th century humans invented digital encoding in binary language of 0 and 1, the only language computers and other electronic devices can understand. They were written on paper cards, plastic tapes, floppies, circular flat CDs and DVD disks, hard disks, pen drives and so on. In very small space, billions of bits of information can be stored. These records remain for a very long time unless they get physically damaged or get corrupted due to a virus. Information can be accessed sequentially or randomly. Some are in removable or erasable form and some encrypted. Earlier access to the records was local, in the sense that they were available on a particular device only. But then after the invention of the Internet and Cloud Server, the information is now available anywhere in the world as it travels in space in an electromagnetic wave form which needs to be received and converted in a readable and viewable form. Thus only space and wave forms are required for manifestation in reality.

For an individual human being the storage is in his own brain but the access and retrieval are not always easy, automatic, complete and having high

fidelity, unlike electronic memory. As age progresses even this limited access too is not easily available. On the death of a human being, whatever is in his brain, conscious or sub-conscious mind, is lost to humanity at large but still is available if documented and stored in libraries. But the un-fructified actions, thoughts and words get recorded in a folder of that individual in the form of Akashic records or 'archetype or collective consciousness' of Carl Jung or 'morphic field' of Rupert Sheldrake or 'implicate order' of David Bohm in space just as electronic information remains and gets accessed from space. The size of the library is unfathomable. We call this 'sanchit karmas' of a deceased person in the form of 'soul'. If digital information can remain in space and travel then it is no surprise or doubt that the memory of the soul too can remain in space. Unlike digital information, the soul has sequential memory and when reincarnated it manifests in a sequence of events and episodes.

'Soul' does remain in contact with planets and other celestial bodies and at an appropriate and opportune time enters into an unborn human body so that the so far un-fructified 'karmas' can get manifested in a new life. Un-disputable evidences of memory of a soul manifesting in the present life are instances of child prodigies, xenoglossy, birth marks and verified narrations of people.

Source: Bhavan's Journal April 15, 2018



OF ASTRONOMY, ASTROLOGY AND ECLIPSE

R. Ramdas Thampuran

One exciting and a rare event was witnessed by sky gazers on January 31st, 2018. A total eclipse of the moon, a super moon and a blue moon were seen in many parts of India. The second full moon in a month is termed as a Blue Moon. The moon appeared bigger and brighter as it was closest to Earth in its elliptic orbit. This phenomenon is also termed as a Super Moon. The lunar eclipse occurs when Earth passes between the sun and moon, blocking sunlight from the moon.



**The Super Moon and Blue Moon
on January 31st, 2018**

This astronomical phenomenon has an astrological significance too. The Sun and Ketu were in the zodiac of Capricorn. The Moon and Rahu were in the zodiac of Cancer and the eclipse occurred in the asterism of Purnima. The Sun stays in a rasi (zodiac) for one month, the moon for 2 1/2 days and Rahu and Ketu for 1 1/2 years. The next eclipse will occur in an about six months (July 27-28), when the Sun and Rahu are in Cancer and the Moon and Ketu are in Capricorn on a full moon day, in the asterism Uttarashadha. According to Hindu mythology, Rahu and Ketu

cause eclipses (note the position of the Sun and the Moon and that of Rahu and Ketu).

According to the Puranas, when the devas and the asuras were churning the milky ocean, Lord Danwantri appeared with a pot of amrita (ambrosia). On consuming amrita one became immortal. The asuras snatched the pot of amrita and ran away. The devas were terrified. If the asuras consumed the amrita, they would become immortal and the sovereignty of the devas would be lost forever. The devas prayed to Lord Maha Vishnu. Lord Maha Vishnu appeared in a female form as Mohini (the enchantress) and deluded the asuras to give the pot to her. She made the devas and asuras stand in two rows. While actually giving the amrita to the devas, she made a show of giving it to the asuras. An asura who understood this, disguised himself as a deva and stood along with the devas. When Mohini poured the amrita in his cup, Surya deva and Chandra deva, who were watching this became alarmed and brought it to the notice of Mohini. Mohini immediately cut the head of the asura with her discus. But since the asura had consumed the amrita, he became immortal. The head portion became Rahu and the body became known as Ketu. Since Surya deva (sun) and Chandra deva (moon) exposed the asura, Rahu and Ketu became bent on warring against sun and moon for all times to come. According to Hindu mythology,

eclipses occur when Rahu and Ketu try to devour the Sun and the Moon. Rahu and Ketu are considered shadow planets (Chhaya Graha) in astrology. They are at all times at the opposite points of the zodiac like the head and tail. According to astrology both Rahu and Ketu are very powerful planets. When positioned badly in a horoscope, they produce unfavorable results during their major dasa or bhukti. A badly positioned Rahu may cause wounds, skin diseases, eye misunderstandings, etc. A badly positioned Ketu may cause skin diseases, fear of animals and reptiles, accidents, body heat, enmity, etc. Rahu is said to be a great devotee of



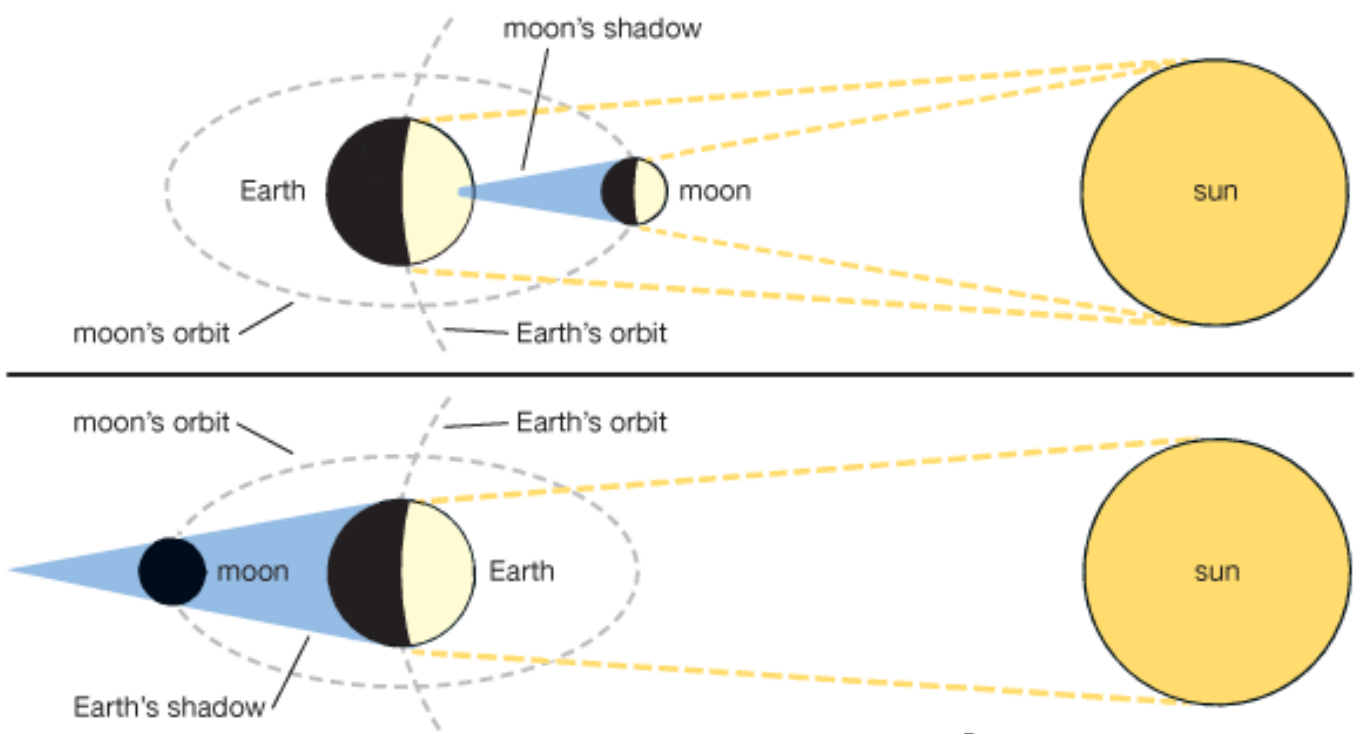
Goddess Durga. So on worshipping Goddess Durga during Rahu Kalam, the bad effects get mitigated and favourable results occur. Ketu is much pleased when Lord Ganesha is worshiped. A benefic Rahu gives one a powerful physique, wealth, high position and victory over enemies. A benefic Ketu gives one wealth, high position, sons and an inclination for spiritual knowledge. In the past, the approach to instill discipline was penal. 'Spare the rod and spoil the child' or as the Marathi proverb 'Chhadi Laage Chamcham, Vidya Yei Ghamgham' was the approach.

Such penal approach is no longer acceptable. The Right to Education 2010 specifically bans corporal punishment. Then what is the alternative?

The alternative approach is to create an atmosphere conducive for self discipline amongst students. This can be done by making education an enjoyable experience for the students. By combining classroom education with games, physical exercises, field trips and a number of comisunderstandings, etc. A badly positioned Ketu may cause skin diseases, fear of animals and reptiles, accidents, body heat, enmity, etc. Rahu is said to be a

great devotee of Goddess Durga. So on worshipping Goddess Durga during Rahu Kalam, the bad effects get mitigated and favourable results occur. Ketu is much pleased when Lord Ganesha is worshiped. A benefic Rahu gives one a powerful physique, wealth, high position and victory over enemies. A benefic Ketu gives one wealth, high position, sons and an inclination for spiritual knowledge.

Source: Bhavan's Journal, 15 March 2018



© 2010 Encyclopædia Britannica, Inc.

HOW CLIMATE CHANGE AFFECTS EXTREME WEATHER IN THE US



Klamath National Forest image Credit: Matt Howard
By Bobbi Peterson

You get heat, you get wild fires, whether in Australia, Spain, Portugal or southern France. The West Coast of the USA has become, more and more, one of the prime candidates for these extensive fires, particularly in California. This one is in the north of the state, in Siskiyou County.

Global warming is a bit of a misnomer. While the average earthly temperature does climb in correlation to the amount of atmospheric carbon, people tend to rely on their observations of the weather to validate or repudiate the science behind climate change. After an unusually warm winter, many will claim they have personally experienced the effects of global warming, while others might point to record low temperatures in other parts of the world as evidence to the contrary.

While such observations are convenient to use as evidence for already-formed opinions on the matter, these should not hold as scientific proof for or against the climate change science. When observing weather-related phenomena, it is important to look at the factors concerning the weather and to determine how slight changes in global temperature might impact them.

Tides, for instance, will shift depending on the temperature of the water and the seasonal currents. One of the most significant controlling factors in weather across the globe, tides oscillate in somewhat predictable patterns, supplying cold and warm water to various parts of the world. With the changes in global temperature and the melting of icecaps, infusions of cold water from ice melt drastically change the orderly machinations of the tides.

In this instance, strange weather is indicative of global climate change. The following are a couple of extreme weather phenomena and how global warming can exacerbate them.

DROUGHT/FIRES

The West Coast has been experiencing increasingly worse droughts each summer. Many scientists are attributing the dramatic uptick in dryness and wildfires to global climate change. Here's how:

Increased global temperatures have reduced the annual snowpack on mountains around the West Coast. Because of this, and the little remaining snow melting earlier in the season than usual, the availability of water during peak dry season is harder to find. Other human activity, including using water for irrigation and in urban settings, put an ever-greater strain on the water and result in drier summers.

With hotter, drier summers, vegetation suffers the most. Trees and shrubbery dry out quicker, and the buildup of dry, dead fuel in and around forested areas results in more forest fires, as seen this year in California. Fires become harder to control because the water is so limited and the availability of fuel has significantly increased.

HURRICANES



A plethora of oceanic factors contributes to the worsening of tropical storms and hurricanes in recent years. First, simply having a higher ocean temperature will naturally intensify storms and hurricanes, which feed on warm air and water as they intensify. Warm air rises, creating the cyclone motion of hurricanes.

However, other factors also contribute to the worsening tropical weather. A warmer atmosphere naturally carries more humidity

and moisture, which worsens rainstorms and adds to the ferocity of the storm at hand and the flooding that comes with it. Keep in mind that the majority of the destruction caused by hurricanes is due to flooding, even more so than the initial storm surge.

SNOW

Ironically, global warming is contributing to severe snowstorms in different areas of the world. Snowfall comes down to slightly increased atmospheric temperatures and the increased moisture associated with said warmth. More moisture in the atmosphere means snowstorms are more likely — snow is freezing atmospheric precipitation — and more severe when storms do occur. Expect continuing harsh winter weather, and make sure you prepare accordingly this season. The science runs deeper than just this, however. The increased atmospheric temperatures also allow for more days when the atmosphere hits the perfect Goldilocks temperature — when the temperature is slightly below freezing, allowing for maximum atmospheric moisture while still supporting snowfall. On winter days when the temperature might typically fall too far below that threshold, resulting in scattered, tiny flakes, we instead experience massive, thick snowfall.

A LOOK TO THE FUTURE

Things are going to get strange over the coming decades. We can expect continued coastal beatings from increasingly powerful tropical storms and hurricanes. KL. Rasmussen of Colorado State University gave us this paper yesterday on exactly how we expect climate change will be affected locally by global warming: This summary can be used to reach *Climate Dynamics*, the journal involved. What we expect is that some parts of the U.S. will progressively dry into desert, while others will see massive snowfall in the winter. Temperature fluctuations may not be noticeable for a while, but strange weather patterns will continue, showing us just how severe global climate change can be.

Source: <http://www.earthtimes.org/>



HYDRATION IS ABOUT MORE THAN JUST DRINKING WATER – HOW TO HYDRATE AT THE CELLULAR LEVEL TO IMPROVE HEALTH AND LONGEVITY

By Dr. Mercola

Dr. Zach Bush is a physician and researcher with a practice in Charlottesville, Virginia. Bush is triple board-certified in internal medicine, endocrinology and metabolism, as well as hospice and palliative care, giving him an unusually broad range of expertise. Before he switched his focus to nutrition and natural medicine, he was a cancer researcher.

In our last interview, we discussed intracellular communication and the importance of soil microbes in the growing of food. Here, our focus is on hydration.

"A lot of our discussion last time was around the gut. There's rising awareness in the medical industry, as well as in the lay public, of the importance of gut health for human health.

However, even though this general correlation has now been largely assumed, if not proven, there remains a disconnect between understanding why gut health is so important and how it impacts so many phases of health and disease. Hydration, this topic we're covering today, is a huge piece of that puzzle," Bush says.

REDEFINING HYDRATION

Your gut is an important part of the hydration cycle. The question is, how do you move water from the intestinal lining into your bloodstream and, more importantly, into your cells? As noted by Bush, when we talk about hydration, we're not simply talking about drinking enough water throughout the day but, more specifically, getting water inside your cells.

"That's two vastly different things," he says. A common recommendation to ensure hydration is to drink water until your urine runs clear. Unfortunately, even most medical professionals are stuck in this simplified mindset. "It's not unusual to put 5 liters of water into somebody's vein in a matter of hours in the operating room or the emergency room,"

Bush says, "And so, we have this huge infusion into the bloodstream, but unfortunately, that does not necessarily translate into water inside the cell. That, as it turns out, is really a crux of what we call the aging process."

About two-thirds of your body is composed of water, and a majority of that water — about 66 to 70 percent — is within your cells and lymph system. With age, your body tends to lose its ability to get water from the vasculature, the extracellular environment, to the inside of your cells. "If we could stay perfectly hydrated in the intracellular environment, our aging would slow down if not reverse," Bush says. The reason is because water is an important mechanism by which you remove toxins and naturally-produced oxidants from your body.

Intracellular Hydration Is Key for Health

So, the crux is to hydrate your cells, and simply drinking water is not typically the most effective strategy to achieve this. Oftentimes the water you drink will simply be urinated out before it has a chance to get into your cells. And, without proper intracellular hydration, your health suffers. Bush explains:

"The obvious thing around hydration is the inflammatory processes. Chronic inflammation is the accumulation of oxidative compounds within our cells and then, ultimately, within the bloodstream. That is largely the result of a lack of interaction of hydrogen that's within the water system. Water is one of the main carriers of hydrogen. This affects every signaling system in your body, and perhaps most notable, beyond the [cleansing] part, is actual fuel production.

Your cells run on ATP, adenosine triphosphate. ATP is produced by the mitochondria, which look like bacteria, but they live inside your cells. They're about 100 times smaller than bacteria. These mitochondria take the sugar and fat out of your food system and turn that into ATP. They do that through a series of enzymes. The respiratory chain is a series of enzymes in the wall of the mitochondria that is the one that will ultimately result in the production of ATP.

Interestingly, the F_1F_0 [ATP synthase] pump, a tiny molecular structure at the end of this enzyme pathway, is what will convert one adenosine diphosphate to one molecule of ATP. That last step requires four hydrogens, two oxygens and two electrons ...

When you think about the structure of water, which is going to be a combination of two hydrogen [molecules] for every oxygen [molecule], you basically have two H_2O molecules, and their concerted electrons are going to be necessary for that last step of fuel production.

The clinical manifestation of aging and inflammation is ultimately one of the loss of fuel production at the mitochondrial level. As you get dehydrated, as you fail to get oxygen and hydrogen in the form of water inside the cell, you lose the ability for those mitochondria to be cranking out all of that energy ... used for cellular repair, replacement and the whole anti-aging effort."

Oxygen Derived From Intercellular Water

In aerobic respiration that occurs in the mitochondria, the ultimate electron acceptor is oxygen. A common belief is that oxygen is derived from the air we breathe. But Bush contends that oxygen is also derived from hydrolysis of intercellular water into hydrogen (H_2) and oxygen (O), and that to consistently get the proper ratio of oxygen to hydrogen, you need to liberate the oxygen from the water (H_2O).

"The H_2 molecule is now recognized to be one of the best selective antioxidants for the hydroxyl free radical. What that means is that the hydroxyl free radical, which is the most noxious to the cell membrane and our ability to do cell maintenance, can be scrubbed or picked up by the H_2 .

In this way, the water you're drinking is a delivery of both oxygen and hydrogen in a nice ratio where you can release the O's with their electrons. They become O_2 . They release H's in the form of H_2 . They become a scrubber of inflammation and substrate for the ATP pump."

According to Bush, all of his patients are dehydrated. Indeed, he believes virtually everyone is dehydrated to some extent. In his clinic, he measures hydration by measuring phase angle. Phase angle is measured in a way similar to that of a whole body bioimpedance that is typically done to measure body fat. It uses electrocardiograph leads placed on your limbs and allows you to measure the electrical resistance to a standardized current running through your body tissues.

HOW TO MEASURE YOUR HYDRATION LEVEL

For the phase angle, leads are placed on your wrist, finger, ankle and toe. Lying flat, the resistance and reactions across your entire body are measured. This measurement gives you a good idea of your cells' ability to hold an electrical charge and there's a direct correlation between the phase angle and an individual's hydration level.

As explained by Bush, "An electrical charge across the single cell membrane is a very powerful measure of your capacity to intracellularly hydrate, to get water inside of your cells ... I've never seen somebody coming in with a health complaint with a phase angle better than 7." In the general public, the angle phase bell curve is between 3.5 and 10. Death tends to happen around 3.5.

"Interestingly, all of our cancer patients tend to come in around 4.5 or below, which is interesting because it suggests, from a hydration standpoint ... cancer doesn't happen until you're so dry that you're nearly dead. In this way, cancer is not a disease that pops out of anywhere.

It's simply a lack of water within the cells. You get an accumulation of oxidative damage, which will

then do the DNA injury and all of these other things that we think of as being the cancer process ... Ideal health is up around 10. Death is around 3.5. Most of us in the U.S. are living between 6 and 8, and those are people in good health."



THE HEALTH OF YOUR CELLULAR MEMBRANES

Influences Your Ability to Properly Hydrate

Bush has done a lot of work on tight junctions — Velcro-like proteins that create macromembranes that hold the cells together. One of the primary tools used to measure the health of these membranes is transepithelial electrical resistance (TEER), an ohmmeter with microscopic filament attachments that allows you to measure both the inside and outside of the membrane, giving you an indication of the resistance across the epithelial layer. Bush explains:

"That epithelial layer is acting as a resistor, if you will, just like the rubber on a copper wire. That plastic or rubber coating on the wire is insulating it so that the electricity stays inside the wire and doesn't short out. In the same way, your macromembranes, the barrier systems of your gut lining, of your blood vessel tree, the blood-brain barrier, all of these create an electrical gradient across them at the macrolevel.

What we've shown, with regard to hydration, is that the higher that electrical charge across that membrane, the more likely you are to pull water across ... You've got over a billion cells forming your gut lining. If you just take one of those cells ... the electrical charge across that [cell], when you're healthy, when you're up around the phase angle of 10 to 12 ... that charge is above 10,000 volts.

Imagine the electrical energy of a lightning bolt being held across a barrier that's just a few

microns in space. It defies our normal understanding of Newtonian physics. It's absolutely down in the quantum physics realm that a cell membrane that tiny is able to hold that enormous electrical charge. What builds that electrical charge is ultimately the mitochondria.

We talked about the mitochondria cranking out ATP. In the process of taking glucose or fat and turning it into ATP, the electron transport chain, Krebs cycle — all of these mechanisms of fuel production —

create electrons. You're creating this high electrical force within the cell through mitochondrial energy production. That leads to a gradient. A high electrical gradient is going to pull water inside the cell ...

[So,] you can't talk about mitochondrial health or mitochondrial production or fuel production without talking about water. Those two are absolutely inseparable ...

If you start taking a bunch of supplements but you don't have that electrical charge across the membrane, you can't get the [nutrient] to transit into where it needs to be, because you're lacking all of that intracellular commerce that's being driven primarily by the electrical charge that's driving water that will pull the rest of it with it."

YOUR PHASE ANGLE PROVIDES A SENSE OF YOUR BIOLOGICAL AGE

About a year and a half ago I visited Bush's clinic and had a phase angle test done. To locate a practitioner that can provide this service, see RJJL Systems' Locate a Practitioner page.¹ At the time, my phase angle was about 5.6. I was quite annoyed because I thought my healthy lifestyle would result in a better reading.

But it motivated me to make some changes and in about nine months I got it up to about 6.4 and more recently it has climbed to 7.0. It's a rather slow process, as it's not influenced by temporary situations but a rather long-term reflection of your biology. According to Bush:

"The phase angle ... is the best technique for really developing a sense of biologic age. You went from a 5.6 to a 6.4 over about a nine-month period ... So, in just nine months on some very simple interventions, you reversed your age by 10 to 15 years biologically by getting that phase angle up. The chance of you developing a chronic disease, something like cancer, just went dramatically down because you're getting water inside the cell — you're scrubbing the whole system out ...

We're all very aware that we have toxin accumulation in our body ... But all of our detox efforts are ineffective if we're not getting water inside the cell. With your phase angle going up, now all of your detox efforts are going to be far more potent and effective.

Why is it so slow? It's slow because it's literally showing you the mitochondrial potential in the reservoir of your ability to repair in 70 trillion cells ... It's mind-boggling huge numbers. It's one thing to say, 'I improved kidney health today by hydrating,' or, 'I stopped drinking alcohol, so now my liver is healthier.'

We're not talking about a single organ with the phase angle. We're talking about the total global population in your body of 70 trillion cells. How do we affect that and what is it doing? That's where the phase angle is a powerful tool."

IMPROVING HYDRATION DOES NOT REQUIRE DRINKING MORE WATER

It's important to note that I was able to improve my phase angle without increasing the amount of water I drink. Again, when we're talking about hydration, it's not a matter of just drinking water, because you're likely to just pee the extra water out if you don't have a sufficiently high electrical charge. To actually improve the electrical charge across your membranes, Bush recommends:

- Taking terrahydrate humic compounds, which helps support your macromembranes, allowing for greater intracellular hydration. It also works on the mitochondria to ramp up the reactive oxygen species production in damaged cells, which takes the stress off healthy cells. All of that helps shift the electrical potential of your mitochondria to increase the electrical charge, which allows more water to enter the cells.

- Reducing electromagnetic field (EMF) toxicity. "What is the relationship between hydration and EMF? This is a really cool subject," Bush says. "The tight junction is actually helps maintain ... the integrity of the cell-to-cell adhesion, allowing maintenance of the gap junctions that lay behind the tight junction barrier system."

As explained by Bush, you have tens of thousands of gap junctions between one cell and the next cell — tubules that resemble fiber optic cables when viewed under electron microscopy. These gap junctions pass electrical light energy from one cell cytoplasm to the next cell without ever exiting into the extracellular matrix. In other words, a healthy cell population is one concurrent "mass of electrical energy" that can pass through this virtual "electrical circuit board" of the cells.

A number of environmental stressors can damage your gap junction system, including pesticides and other chemicals, EMF, alcohol and drugs such as nonsteroidal anti-inflammatories. "These compounds are very noxious to the tight junction systems," Bush warns. And, when the gap junctions are disconnected, you end up with a decrease in electrical energy coherence, and a reduction in the frequency resonance between your cells.

In a dehydrated state, you end up accumulating toxins due to a lack of electrical energy flow. When you add in exposure to cellphones, Wi-Fi routers and other wireless technologies that output high amounts of electrical resonance, your already disconnected cells become prone to resonating to the wrong frequency.

"This is one of the critical realities. We cannot talk about tight junction damage or dehydration without mentioning this third toxicity that we're exposed to, which is environmental frequency resonance that's nonhuman," Bush says.

THE IMPORTANCE OF WATER, ELECTROLYTES AND FIBER

According to Bush, a good rule of thumb for water intake is 1 ounce of water per kilogram of body weight. "So, if you're a 75-kilogram, i.e., about 150- or 165-pound individual, you should be drinking around 70 to 75 ounces of water a day," he says. However, as mentioned, cellular hydration goes beyond the need for water.

You also need to address the electrical charge within your cells. Two important measures were just discussed above (supporting your macromembranes and reducing EMF exposure). Drinking electrolyte-rich water is also important, as it too helps build electrical charges.

"The classic electrolyte in our American diet is sodium chloride (table salt)" Bush says. "Sodium chloride has a positive charge around the sodium and a negative charge around the chloride. That chloride anion, or negative charge, is one of the mega potentials there for hydration ... Of course, there are many other important sources.

For example, potassium chloride is a classic delivery system for chloride. However, potassium chloride can stop the heart at a certain dose. There's a fine line between dose and overdose when it comes to just about anything in nature. But certainly, the electrolytes are one of these ... The easy way to titrate your electrolytes is by your bowel movements. If you start to develop loose stools when you're adding electrolytes, you're probably adding a little bit too much electrolyte. You can get electrolyte powders at any natural food store. Some of them are liquids. Some of them are powders. I don't have a brand preference overall. I would say, think about mixing it up, and see what your body tolerates. Some of the liquid ones are so concentrated that they can cause nausea.

A lot of people will get diarrhea or loose stools on them ... Find the dose at which your bowel is

tolerating that electrolyte load. It's important to note that you don't only want to drink electrolyte water. You'd want to drink both free water and electrolyte water intermittently throughout the day ...


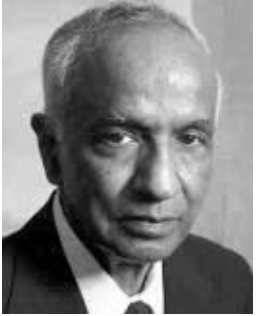



When I'm going through a hydration protocol with my patients, for three days they'll do an intensive hydration protocol where they're drinking 4 ounces every 30 minutes. They'll do that from about 7 a.m. to 7 p.m. Then they'll give their body a break. They can pee off what they need to before they go to sleep at 9:30 or 10 p.m. In that 12 hours of intense hydration every 30 minutes, every other [4-ounce dose] has electrolyte in it."

Another important component is fiber. "Fiber is one of the most important mechanisms by which your fruits, vegetables and, ultimately, your body, are going to manage water," Bush says. Fruits and vegetables also contain other valuable micronutrients, including silica, which not only benefits your gut microbiome, but also helps improve hydration inside your cells. An herbal supplement that provides high amounts of organified silica is horsetail. Avoid mineral silica, as it actually promotes oxidation and is very dehydrating.

Source: <https://articles.mercola.com/>

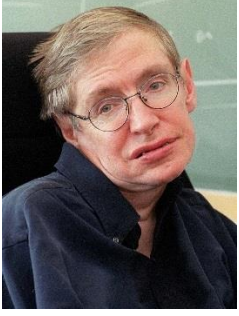
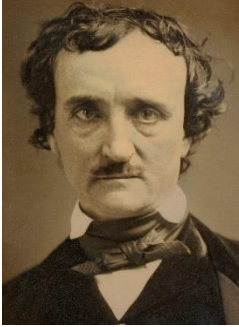
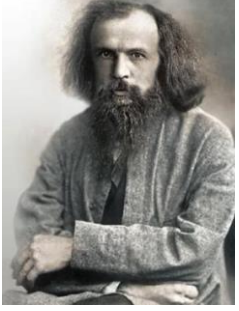




PERSONS OF THE MONTH: INDIA

<p>Homi Jehangir Bhabha</p> <p>(30 October 1909 – 24 January 1966)</p>		<p>Homi Jehangir Bhabha was an Indian nuclear physicist, founding director, and professor of physics at the Tata Institute of Fundamental Research (TIFR). Colloquially known as "father of the Indian nuclear programme", Bhabha was also the founding director of the Atomic Energy Establishment, Trombay (AEET) which is now named the Bhabha Atomic Research Centre in his honor.</p>
<p>Subrahmanyan Chandrasekhar</p> <p>(19 October 1910 – 21 August 1995)</p>		<p>Subrahmanyan Chandrasekhar was an Indian American astrophysicist who spent his professional life in the United States. He was awarded the 1983 Nobel Prize for Physics with William A. Fowler for "...theoretical studies of the physical processes of importance to the structure and evolution of the stars". His mathematical treatment of stellar evolution yielded many of the best current theoretical models of the later evolutionary stages of massive stars and black holes.</p>
<p>Meghnad Saha</p> <p>(6 October 1893 – 16 February 1956)</p>		<p>Meghnad Saha was an Indian astrophysicist best known for his development of the Saha ionization equation, used to describe chemical and physical conditions in stars. Saha was the first scientist to relate a star's spectrum to its temperature, developing thermal ionization equations that have been foundational in the fields of astrophysics and astrochemistry. He was repeatedly and unsuccessfully nominated for the Nobel Prize in Physics. Saha was also politically active and was elected in 1952 to India's parliament.</p>
<p>Paramahansa Yogananda</p> <p>(5 January 1893 – 7 March 1952)</p>		<p>Paramahansa Yogananda, born Mukunda Lal Ghosh was an Indian yogi and guru who introduced millions of Indians and westerners to the teachings of meditation and Kriya Yoga through his organization Yogoda Satsanga Society of India and Self-Realization Fellowship. His book, Autobiography of a Yogi remains a spiritual masterpiece and was included in the 100 best spiritual books of the 20th century.</p>
<p>Gayatri Chakravorty Spivak</p> <p>(born 24 February 1942)</p>		<p>Gayatri Chakravorty Spivak (born 24 February 1942) is an Indian scholar, literary theorist, and feminist critic. She is University Professor at Columbia University, where she is a founding member of the Institute for Comparative Literature and Society.</p>

Detailed profiles of these personalities are available in Bhavan's Journals.



PERSONS OF THE MONTH: WORLD

<p>Stephen Hawking (8 January 1942 - 14 March 2018)</p>		<p>Stephen William Hawking was an English theoretical physicist, cosmologist, and author, who was director of research at the Centre for Theoretical Cosmology at the University of Cambridge at the time of his death. He was the Lucasian Professor of Mathematics at the University of Cambridge between 1979 and 2009.</p>
<p>Edgar Allan Poe (January 19, 1809 - October 7, 1849)</p>		<p>Edgar Allan Poe was an American writer, editor, and literary critic. Poe is best known for his poetry and short stories, particularly his tales of mystery and the macabre. He is widely regarded as a central figure of Romanticism in the United States and American literature as a whole, and he was one of the country's earliest practitioners of the short story.</p>
<p>Dmitri Ivanovich Mendeleev (8 February 1834 - 2 February 1907 O.S. 27 January 1834 - 20 January 1907)</p>		<p>Dmitri Ivanovich Mendeleev was a Russian chemist and inventor. He formulated the Periodic Law, created a farsighted version of the periodic table of elements, and used it to correct the properties of some already discovered elements and also to predict the properties of eight elements yet to be discovered.</p>
<p>Marie Skłodowska Curie (7 November 1867 - 4 July 1934)</p>		<p>Marie Skłodowska Curie was a Polish and naturalized-French physicist and chemist who conducted pioneering research on radioactivity. She was the first woman to win a Nobel Prize, the first person and only woman to win twice, the only person to win a Nobel Prize in two different sciences and was part of the Curie family legacy of five Nobel Prizes. She was also the first woman to become a professor at the University of Paris, and in 1995 became the first woman to be entombed on her own merits in the Panthéon in Paris.</p>
<p>Alfred Bernhard Nobel (21 October 1833 - 10 December 1896)</p>		<p>Alfred Bernhard Nobel was a Swedish chemist, engineer, inventor, businessman, and philanthropist. Nobel held 355 different patents, dynamite being the most famous. After reading a premature obituary which condemned him for profiting from the sales of arms, he bequeathed his fortune to institute the Nobel Prizes.[1][2] The synthetic element nobelium was named after him.[3] His name also survives in modern-day companies such as Dynamit Nobel and AkzoNobel, which are descendants of mergers with companies Nobel himself established.</p>

FESTIVALS OF THE MONTH: INDIA

<p>Ramadan (May 16 - June 15, 2018)</p>		<p>The holy Muslim month of Ramadan is a fantastic opportunity to feast on fresh street food. During Ramadan, Muslims traditionally fast daily from sunrise until sunset. In the evenings, the streets in traditional Muslim areas are flooded with people and the tantalizing aroma of meat being freshly roasted to feed the famished. Ramadan concludes with the festival of Eid-ul-Fitr, with more feasting and shopping.</p>
<p>Sital Sasthi (June 18, 2018)</p>		<p>The occasion of Sital Sasthi, which celebrates the marriage of Goddess Parvati and Lord Shiva, provides a remarkable opportunity to see thousands of folk artists performing dying art forms in Odisha. The performances are part of a carnival-like marriage procession, which also features the deities.</p>
<p>Hemis Festival (June 23-24, 2018)</p>		<p>The two-day Hemis Festival commemorates the birth of Guru Padmasambhava, who founded Tantric Buddhism in Tibet. There's traditional music, colorful masked dances, and a fair full of striking handicrafts. Plan your trip with this Leh Ladakh Travel Guide.</p>
<p>Yuru Kabgyat (June 12-13, 2018)</p>		<p>Visit Ladakh before the peak season starts to catch the Yuru Kabgyat festival at Lamayuru Monastery, the oldest monastery in the region. Two days of sacred masked dances and other rituals take place against a spectacular setting atop a steep hill. Music is a big part of the festival with monks playing cymbals, drums, and wind instruments.</p>
<p>Champakulam Boat Race (June 28, 2018)</p>		<p>The Champakulam Boat Race is the oldest snake boat race of Kerala. It's also the first boat race of the season. A stunning procession is enacted prior to the race taking place. It features exotic water floats, boats decorated with colorful parasols, and performing artists. Read more about snake boat races in Kerala.</p>
<p>Feast of Saints Peter and Paul (June 29, 2018)</p>		<p>This monsoon celebration, by Goa's local fishing communities, sees people sailing up river on rafts while performing plays and songs.</p> <p>Where: Goa, particularly the riverside villages of Candolim, Siolim, Ribandar and Agassaim.</p>

FESTIVALS OF THE MONTH: AUSTRALIA

<p>Great Ocean Road Running Festival (19 – 20 May 2018)</p>		<p>The Great Ocean Road Running Festival from Saturday, 19 May to Sunday, 20 May 2018 offers one of the most spectacular marathons in the world! The course stretches along the coastal towns from Lorne to Apollo Bay and runners of all distances can soak up some of Australia’s most scenic beaches and breathtaking views during the annual two-day running festival.</p>
<p>Vivid Sydney (25 May – 16 June 2018)</p>		<p>Vivid Sydney is an annual outdoor lighting festival with immersive light installations and projections in Sydney. Part of the lighting festival also includes performances from local and international musicians and an ideas exchange forum featuring public talks and debates from leading creative thinkers.</p>
<p>Perth SuperSprint (4 – 6 May 2018)</p>		<p>The Perth SuperSprint is an annual motor racing event for Supercars, held at Barbagallo Raceway in Wanneroo, Western Australia. The event has been a regular part of the Supercars Championship—and its previous incarnations, the Australian Touring Car Championship, Shell Championship Series and V8 Supercars Championship—since 1973.</p>
<p>SYDNEY FILM FESTIVAL (6 - 17 June 2018)</p>		<p>The Sydney Film Festival is an annual film festival held in Sydney, Australia, usually over 12 days in June. The competitive film festival draws international and local attention, with films being showcased in several venues across the city centre and includes features, documentaries, short films, retrospectives, films for families and animations.</p>
<p>BIENNALE OF SYDNEY (16 Mar - 11 June)</p>		<p>The Biennale of Sydney is an international festival of contemporary art, held every two years in Sydney, Australia. It is the largest and best-attended contemporary visual arts event in the country. Alongside the Venice and São Paulo biennales and Documenta, it is one of the longest running exhibitions of its kind and was the first biennale to be established in the Asia-Pacific region.</p>
<p>WILDFLOWERS SEASON June</p>		<p>The wildflower collection in Western Australia is the largest on Earth. With more than 12,000 species, over 60% of which are found nowhere else on Earth, they colour the landscapes from coast to forest and city to outback. The six-month flowering season begins in the north in June and July on the vast outback plains of the Pilbara, Goldfields and Coral Coast where vibrant blooms contrast with pindan earth, rugged canyons and turquoise sea.</p>

6 DAY ITINERARY

EVERLASTINGS WILDFLOWER TRAIL

SEE HORIZONS CARPETED IN EVERLASTINGS AND SOME OF THE RAREST ORCHIDS ON EARTH.

Follow the scenic Everlastings Wildflower Trail to some of the State's most spectacular wildflower hotspots. This is your opportunity to see those beautiful iconic blankets of white, pink and yellow everlastings.

Best time for wildflowers: June to September

HIGHLIGHTS:

Everlasting wildflowers

Pinnacles Desert

Lesueur National Park

Coalseam Conservation Park

Mullewa



Twining Fringe Lily near Eneabba

DAY 1:

Morning: Perth to Gingin
Take the inland route to Cervantes via Gingin, following the Great Northern and Brand highways through wildflower country.

Stop at Gingin to admire the large red gums along Dewar Road and the striking kangaroo paws at the cemetery.

It's also worth taking a detour to Moore River National Park, especially in October when the Western Australian Christmas tree and open-branched dryandra *Kippistiana* are in bloom.

Afternoon: Badgingarra and Cervantes

Head for Badgingarra National Park from the coast or on the inland road to experience a spring wildflower wonderland. The two-kilometre Badgingarra Nature Trail on the eastern side of the park leads you through black and yellow kangaroo paws and purple starflower and mottlecah.

From here, you're just an hour's drive away from Cervantes for a feast of fresh local seafood and stunning Indian Ocean sunsets.



DAY 2:

Morning: Cervantes to Nambung National Park
Just a 20-minute drive south from Cervantes transports you to a different world formed over millions of years – the moonscape of the Pinnacles Desert in Nambung National Park. Enter the Pinnacles Desert Discovery Centre to discover its mysteries, history and habitat, and hit

the walking tracks and drive trails for a closer look at the thousands of limestone spires rising eerily out of the yellow desert sands.

Afternoon: Cervantes to Jurien Bay

Return to Cervantes for a fresh seafood lunch at Cervantes' Lobster Shack before continuing north to one of the most important reserves for flora conservation in Western Australia – Lesueur National Park. Many of the 820-plus flora species in this 27,000 hectare park are found nowhere else in the world.

Follow the short loop road off Cockleshell Gully Road and look out for honey bush, cork mallee, propeller Banksia, large magenta starflowers and the Lesueur Hakeas.

It's just a short drive from here to the popular holiday spot of Jurien Bay for dinner and your overnight stay.



DAY 3:

Morning: Jurien Bay to Eneabba

Enjoy an early morning swim or snorkel in the biodiverse Jurien Bay Marine Park before making the 45-minute drive north to Lake Indoon – a freshwater lake surrounded by the bright lime-yellow flowers of Banksias.

Afternoon: Eneabba to Dongara

More blooms fill the drive between Eneabba and Dongara, along the Brand Highway. Be sure to stop by the Western Flora Caravan Park, for a guided wildflower walk among the orange Banksias, smokebushes, red hairy Leschenaultia and the popular Banksia hookeriana. Tours depart daily at 4.40pm during wildflower season.

Or head for Dongara's Moreton Terrace and enjoy a lazy lunch in the shade of the big fig trees.

Discover the town's history and charming colonial heritage along the 1.6 kilometre Dongara-Denison Heritage Trail.

In the late afternoon, make your way up to Fisherman's Lookout, in nearby Port Denison, for sweeping ocean sunset views.

Overnight in Dongara.

Coalseam Conservation Park

DAY 4:

Morning: Dongara to Mingenew

Pick up a picnic lunch in Dongara and travel inland to Depot Hill Reserve, just to the north-west of Mingenew. Here, the dense scrubland is filled with pretty pink and white thryptomenes and scholtzias.

A short drive north from Mingenew, on the unsealed Coalseam Road, brings you to Coalseam Conservation Park where the acacia scrubland comes alive with everlastings after good winter rains.

Afternoon: Mingenew to Mullewa

Walk the Irwin River Nature Trail looking for marine fossils along the river banks, and enjoy a picnic lunch among the everlastings.

Complete the journey north to Mullewa for your overnight stay in town, or get a taste of real country living at a nearby station stay.



DAY 5:

Morning: Mullewa

Make your first stop at the visitor centre to pick up a free brochure and map, or visit the Canna Landmark for up-to-date local wildflower information.

Take your pick from 8.3 kilometres of Everlasting Cultural Trails surrounding Mullewa, exploring the Spanish mission architecture and

breathtaking hinterland filled with native foxglove, yellow wattles, the unique wreath flower and sprawling carpets of everlastings.

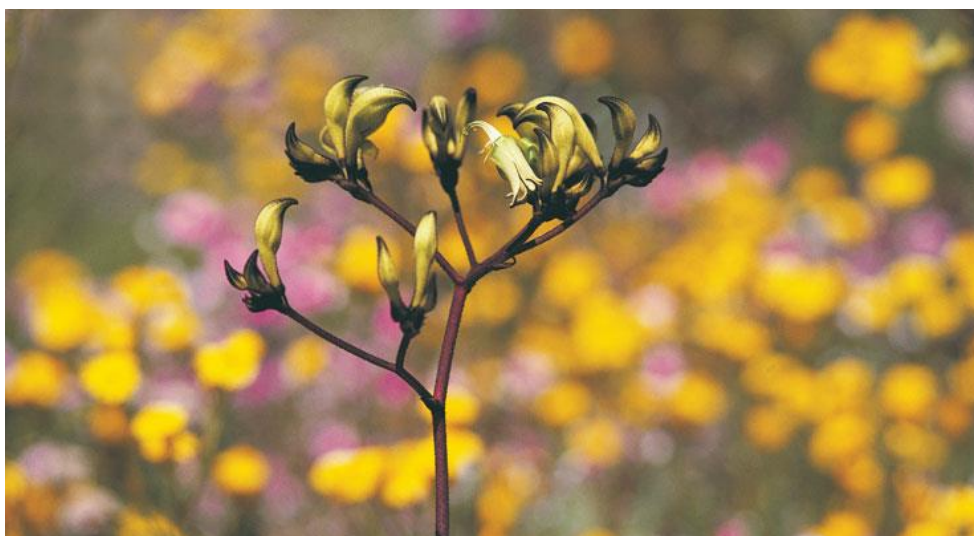
Afternoon: Mullewa to New Norcia

Lunch in Mullewa, or grab picnic supplies and begin the four-hour-20-minute drive south to Australia's only monastic town – New Norcia.

In less than an hour and a half, you'll reach Koolanooka Springs, east of Morawa. It's the perfect spot

to break up the drive with a picnic among the everlastings, wreath flowers, bright orange wild pomegranate flowers, pink foxgloves, purple Darwinia and yellow bells.

Continue on to New Norcia, where you can dine and stay overnight at the New Norcia Hotel, or immerse yourself in the serenity of the Monastery Guesthouse.



Black Kangaroo Paw Black Kangaroo Paw

DAY 6:

Morning: New Norcia to Bindoon

Indulge in the monastery's famous baked goods for breakfast and take a guided tour of the Spanish architecture and museum, or you can join the monks in residence for prayer time – visitors are welcome to do so.

Head off before lunch to journey south to Bindoon, taking a little detour along Old Plains Road along the way. It's reputed to be one of the most picturesque and pleasant rural drives in the State, lined with Leschenaultia, grass trees and yellow Dryandra.

Afternoon: Bindoon to Perth

Bindoon is your gateway to the beautiful Chittering Valley, where you can enjoy a leisurely picnic lunch overlooking the rolling vineyards, orchards, paddocks and pastures.

Join the scenic drive and walk the nature trails looking for spider orchids, Leschenaultia, fringe lilies, kangaroo paws, Banksias and the rare and endangered sun star orchid.

From here, it's just over an hour's drive south to return to Perth.

IMPORTANT TRAVEL INFORMATION

Wildflowers generally bloom in this region between June and September, and displays are more prolific after good winter rains.

TAKE nothing but photos – picking wildflowers is illegal and can attract a AU\$2000 fine. RESPECT private property and don't trespass. PROTECT canola crops and prevent the spread of disease by staying out of canola fields.

Visit the Department of Parks and Wildlife website for information about national park entry fees, passes, facilities, recreational activities, camping and more.

Because of the risk they pose to most native flora and fauna, pets are not permitted in most parks (with the exception of Department of Local Government and Communities Approved Assistance Dogs). However, dogs may travel in boats in the marine park.

1080 is used in the region's parks to help bring native animals back from the brink of extinction. It's also used on leased and privately-owned pastures to control pests. 1080 is highly poisonous to domestic cats and dogs, so if you do take your pets with you, please keep them under control for their safety.



Be Sun Smart. Always apply sunscreen (at least +15 SPF), wear a wide-brimmed hat and sunglasses and drink plenty of water. If you're visiting in the warmer months (December to March), seek some shade between 11am and 3pm. See Cancer Council WA for more advice.

Be aware that drivers are subject to alcohol limits that

are strictly enforced. Moderation is always advised.

SOUL'S MELODY

R. K. Dalai

*I want to brim my words
With the after-hush of birds:
To flood my song with long Silence, that follows sang.
I ache through calm to reach The after-throb of
speech.*

*I want to grasp with ease
Tranquil maturities
Of beauty ever brief,
More beautiful for Grief*

—Harin Chattopadhyaya

Year treads upon year in quick succession and the youth of yesterday is a man of today, and an old man of tomorrow. As the weight of years becomes weary on your back, the silence of the soul deepens into a soulful melody.

Soul has silence which is not an empty nothing. It is a melodious, wordless silence — silence that breathes peace and serenity, fills the heart with the wistful longing for the sight and glimpse of the Great Perhaps — the unknown world from whose bourne no traveller returns. It is a silence that gives you the glimpse of the Infinite within you. And it is the touch of the Infinite that fills you with soulful silence — a peace that passeth understanding.

The inexpressible is only in objective semblance — only in relative terms. The soul's silence is as melodious as the silence of the sky overhead. Do you ever feel that this all-embracing silence of the heaven is ever empty when at night it blazes forth in regal splendour of countless stars, the majestic queen-like beauty of the moon stalking the heavens in gliding steps, flooding the whole earth with its argentine refulgence? The silence is the silence that speaks — nay sings you a lullaby of a dreamless sleep, and you gaze and fill your eyes with its unspeakable beauty that seeps deep into the very fibres of your being. You experience a thrill, a rapture, an ecstasy — nay, an intoxication of 'Sunda-ram,' that is God, the Almighty. Like the sky, the panoramic beauty of Nature is no less sublime and soulful. Nature is the visible garment of God. See the milliard-coloured tints of flowers and leaves and fruits, the mighty majestic foliage of trees, the heart-lifting ranges of mountains with their dazzling peaks in the glory of sunshine, the waterfalls

by steep mountain-sides tumbling in frothy exuberance, the bubbling brook meandering like a school-girl romping out of school, the birds and their lilting melodies and songs, the deep valleys and the high hills — all pass before your mind's eye as it sweeps over this scenic beauty, too inexpressible for words to portray, but easy enough to dive in your aesthetic fervour and surging emotion. Nature sings you a song of wordless beauty — a beauty that enraptures and enchants your ears!

Silence speaks more eloquently in solitude than in the noise and hubbub of a city life of eternal rush and tumble. When you live in solitude, you begin to commune with the silence of God-not the hurly-burly of man. The deepening process is self-intoxicating. The more you dive, the greater you feel the depths of your own being. And when after hours of quietude you wake to the hard realities of the world, you sigh for the moment of bliss that is no more.

It is in such infinite mood that your life's vista is revealed, and you begin to ask yourself how many lame dogs have you helped over the stile, how many tears have you wiped from the face of pain, how many hungry mouths have you fed with food, how many parched throats have you slaked with water. These thoughts assail you and awaken you to an otherwise neglected objective of life. You learn that in silent service, in the devotion to God lies your strength, the objective the be-all and end-all of life!

When you reach and scale the height of soul's silence — the wordless silent ecstasy within you, witnessed by a rapture, a thrill, an intoxication, an ecstasy flowing from the depths of your being — then life is not the same again. It is a life blessed by God!

*From Bhavan's Journal, March 10, 1968
Reprinted in Bhavan's Journal January 31, 2018*

Kulapativani

Students Bring Sunshine

True service, apart from great national crisis where the student must render every assistance, is to bring sunshine in whatever sphere he moves in. It is as great a service as any man can render. An ailing sister in the house; a lonely mother who needs company; an unfortunate neighbour who needs aid; a passer-by who is in distress; a victim of crime as you go along the street; some unfortunate who is being sacrificed at the altar of a social, economic or communal evil; a riot where the innocent requires protection even at the cost of life; a city without sweepers which wants volunteers for scavenging; a great occasion to be organised which needs service; a village needing education for social welfare; a night class where the poor have to be taught; — these are spheres of service in which every student can bring not only help but sunshine.



Dr K.M. Munshi
Founder, Bharatiya Vidya Bhavan

The Test of Bhavan's Right to Exist

The test of Bhavan's right to exist is whether those who work for it in different spheres and in different places and those who study in its many institutions can develop a sense of mission as would enable them to translate the fundamental values, even in a small measure, into their individual life.

Creative vitality of a culture consists in this: whether the 'best' among those who belong to it, however small their number, find self-fulfilment by living up to the fundamental values of our ageless culture.

It must be realized that the history of the world is a story of men who had faith in themselves and in their mission. When an age does not produce men of such faith, its culture is on its way to extinction. The real strength of the Bhavan, therefore, would lie not so much in the number of its buildings or institutions it conducts, nor in the volume of its assets and budgets, nor even in its growing publication, culture and educational activities. It would lie in the character, humility, selflessness and dedicated work of its devoted workers, honorary and stipendiary. They alone can release the regenerative influences, bringing into play the invisible pressure which alone can transform human nature.



Reader.com



We seek Support for Bhavan Australia's Building Project!

Note: *We invite frank opinion from our readers.*

Visit: www.bhavancares.net
A Registered Charity & DGR.

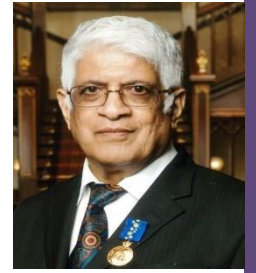
Advertise with us!

Advertising in **Bhavan Australia** offers the best opportunity to brand your company and showcase your products and/or services in a cultural and ethical editorial environment.

Bhavan Australia is the platform to hold aloft the best of Indian traditions and at the same time encouraging the multiculturalism integration.

For more information, please contact

TAXATION & BUSINESS GURU



Gambhir Watts OAM

MALP (SYD) CPA CTA (Chartered Tax Adviser)
FCMA

Call the Taxation Guru, power to help you make the right decisions.

We endeavour to take the burden off your shoulders and make life easy by providing a broad range of tax related services.

Contact us at:

Suite 102 Level L1 (Lower Ground),
515 Kent Street, Sydney 2000

t: +612 9283 5888 f: + 612 9283
7088 e: gambhir@bmgw.com

www.taxationguru.com.au



Tax agent
51544008
73625003

The power to help you make the right decisions

www.taxationguru.com.au +61 2 9283 5888