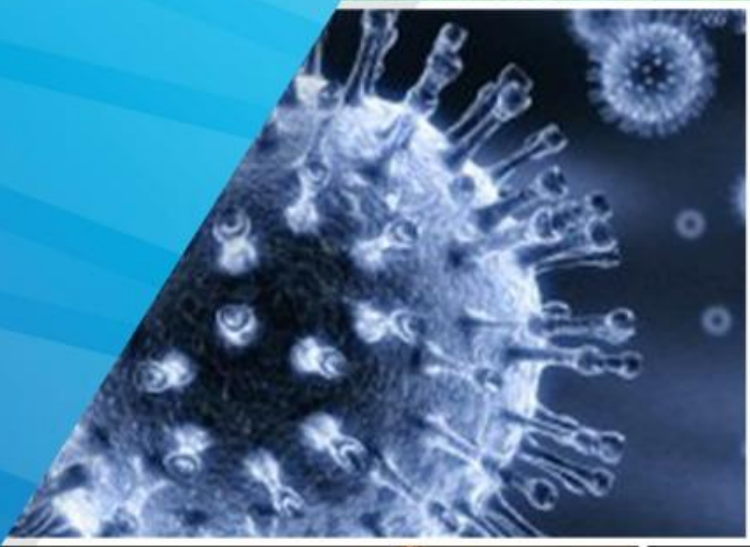


RAVE'21

ROYAL COLLEGE UNESCO CLUB

CONTENT

The dialect of the Gods - Sanskrit

Sanskrit is Hinduism's principal sacred language, and it has been employed in Hinduism, Buddhism, and Jainism as a philosophical language. Sanskrit is an Old Indo-Aryan standardized dialect that dates back to 1700-1200 BCE as Vedic Sanskrit. It is one of the oldest Indo-European languages with considerable evidence, and it is thought to have been the general language.

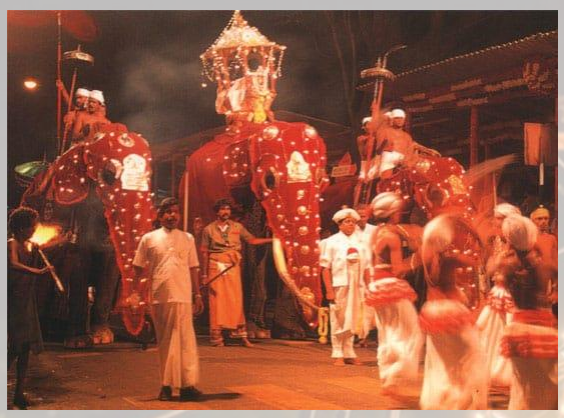
Sanskrit has been traced back to the people who spoke Indo-Iranian, also known as the Aryan languages, as well as the Indo-European languages, a family of several hundred related languages and dialects, through Proto-Indo-Iranian and ultimately Proto-Indo-European languages. Today, over 46% of people speak an Indo-European language in some form.

Vedic Sanskrit is the language of the Vedas, the oldest Hindu texts, which were written between 1500 and 500 BCE. The Vedas are a collection of hymns, incantations known as Samhitas, and theological and philosophical guidance for Vedic priests. The Rig Veda, Sam Veda, Yajur Veda, and Atharva Veda are four major compilations believed to be direct revelations to seers among India's early Aryan people. Vedic Sanskrit was retained verbally as part of the Vedic chanting tradition, several centuries before alphabetic writing in India. The metrical hymns of the Rigveda Samhita, the oldest layer of text in the Vedas, are thought to have been created by several authors throughout several centuries of oral tradition, according to modern linguists.

Panini, an ancient scholar who lived around 500 BCE, standardized Vedic Sanskrit grammar, which included 3,959 rules of syntax, semantics, and morphology (the study of words and how they are formed and relate to each other). Panini's Astadhyayi is the most important of the surviving works of Vyakarana, the Sanskrit language analysis, with eight chapters outlining his rules and their sources. Panini was instrumental in the development of what is now known as Classical Sanskrit because of this standardization.

Senula Deelana

The Kandy Esala Perahera



The Kandy Perahera, also known as Dalada Perahera is one of Sri Lanka's foremost religious celebrations. It has been recorded that the Perahera was held each year since the arrival of Buddha's tooth relic (Dantha Dhathu) to Sri Lanka. It is now one of the better-known festivals in Asia, and it may be the largest Buddhist celebration in the world.

The Kandy Esala Perahera originates with the arrival of Prince Dhantha and Princess Hemamala, the son-in-law and daughter of the King of Kalinga from India to Sri Lanka during the reign of King Kirthisiri Meghawanna (305-331 AD). Following the decree of King Kirthi Sri Meghawanna which states that the Relic should be taken around the city of Anuradhapura once a year, the Esala Perahera had been followed by the succession of kings, though with interruptions caused by foreign invasions.

The Kandy Esala Perahera begins with the 'Kap Situveema', where a young blessed jackfruit tree is cut and planted in each of the four Devales (Hindu temple) processions dedicated to the deities Natha, Vishnu, Katharagama, and Pattini. Following this opening ceremony, the next five nights involve the Devale Peraheras, which occur inside the four Devales of Kandy.

With months of preparation leading up to the public spectacle of colors, lights, dances, and reverence the pageant extends through a period of 15 days. The highlight of the festival is a torchlight procession about a mile long, involving thousands of participants. Men snapping whips lead the parade, representing the whip-crackers who used to be special messengers to the king. They are followed by more than 200 elaborately decorated elephants, priests in flowing silver and gold robes, Kandyan traditional dancers, flute players, and drummers. A canopy is held above the casket, and a white cloth is spread in the elephant's path as a symbol of respect.

The first five nights, the "Devale Peraheras" take place within the premises of the four Devales. On the sixth night, the "Kumbal Perahera" begins and continues for

another five days. Next comes the Randoli Perahera which begins after five nights of the Kumbal Perahera. Randoli refers to palanquins on which the Queens of the ruling Kings traditionally traveled.

The Kandy Esala Perahera has significance to not only Sri Lankans, but the many Buddhists who come to participate and other travelers who simply wish to view the spectacle. Perhaps that's the whole point. The Esala Perahera is more of a nationalistic celebration than a religious one. The king, various government officials, and members of many different social castes in the community all participate in the Perahera or procession, which symbolizes the nation's victory over its enemies.

Deveen Balasuriya

Performing Arts

Performing arts can be described as arts such as dancing, music, and drama which are performed in front of a live audience. In any situation performing arts involves four basic elements; time, space, the performer's body, and a relationship between the performer and the audience.

The people or the artists who perform in these arts are known as 'Performers'. There can be various types of performers- such as comedians, dancers, magicians, actors, singers, and also circus artists. They use stage makeup, costumes, stage lighting, and sound to adapt their appearance. There are a few types of performing arts such as opera, magic, music, dance, circus, puppetry, and musical theatre. Also, performers are improving their skills such as confidence, flexibility, teamwork, self-reflect, organization, and time management to succeed in performing arts.

The classical period of performing arts began in the 6th century BC in Greece. Within a short period, it spread around the world. Some examples of puppet theater in Middle East countries are, 'Naghali' in Iran, 'Kathakali' in India, 'Ramakein' in Thailand, and many more. In the classical period characteristics such as diatonic harmony, elegance and balance, homophonic textures and choosing of contrasting moods can be seen in music in that era. The first musical or the first theater piece Is considered to be the black Crook. It breaks a record of 474 performances in a row.

Performing arts are important for society as it can teach people how to express themselves effectively, help to understand people around them and how they can handle conflicts in different situations in positive ways, and also helps to express creativity.

Ranuk Siriwardena

Professor Proton

Professor Nalin Chandra Wickramasinghe (born 20th January 1939) is a Sri Lankan-born British Mathematician, Astronomer, and Astrobiologist. He studied at Royal College, Colombo and graduated in 1960 from the University of Ceylon with a B.Sc. First Class Honors in Mathematics. Prof Wickramasinghe obtained his Ph.D and ScD degrees from Trinity College and Jesus College, Cambridge.

Prof Wickramasinghe's research interests include the interstellar medium, infrared astronomy, light scattering theory, applications of solid-state physics to astronomy, the early Solar System, comets, astrochemistry, the origin of life, and astrobiology. As a student and collaborator of Fred Hoyle, Wickramasinghe further proposed a radical kind of panspermia that included the claim that extraterrestrial life forms do enter the Earth's atmosphere and were possibly responsible for epidemic outbreaks, new diseases, and genetic novelty that Hoyle and Wickramasinghe contended was necessary for macroevolution. In 1974, they proposed the hypothesis that some dust in interstellar space is largely organic, which was later proven to be correct.

Wickramasinghe published the first definitive book on Interstellar Grains in 1967. He has made many contributions to this field, publishing over 350 papers in peer-reviewed journals, over 75 of which are in Nature (Nature is the world's leading multidisciplinary science journal).

Prof Wickramasinghe was a consultant and advisor to the President of Sri Lanka from 1982 to 1984 and played a key role in founding the Institute of Fundamental Studies in Sri Lanka. He held the position of Director between 1982 to 1984. Prof Wickramasinghe was awarded Vidya Jyothi by the President of Sri Lanka in 1992. In 2017, Prof Wickramasinghe was appointed Adjunct Professor in the Department of Physics, at the University of Ruhuna, Matara, Sri Lanka.

He is currently the Director of the Buckingham Centre for Astrobiology, Honorary Professor of the University of Buckingham, Editorial Board Member of Astrophysics and Space Science, Editorial Board Member of the Journal of Scientific Exploration, Editor of Astrobiology for the internet journal, and a Team Member of the European Space Agency’s Rosetta Mission.

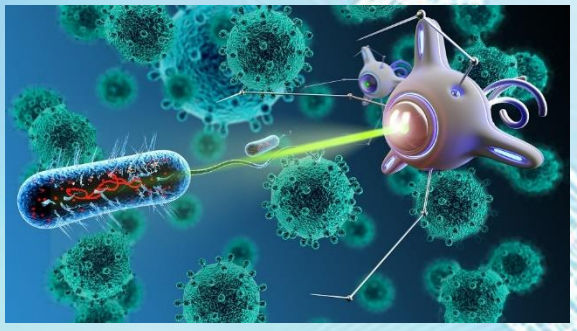
Akmitha Jayakody

Nanotechnology in the future world

Human dreams and imagination often give rise to new science and technology. Nanotechnology, a 21st-century frontier, was born out of such dreams. Nanotechnology is defined as the understanding and control of matter at dimensions between 1 and 100 nm where unique phenomena enable novel applications. Although human exposure to nanoparticles has occurred throughout human history, it dramatically increased during the industrial revolution. The study of nanoparticles is not new. The concept of a "nanometer" was first proposed by Richard Zsigmondy, the 1925 Nobel Prize Laureate in chemistry. He coined the term nanometer explicitly for characterizing particle size and he was the first to measure the size of particles such as gold colloids using a microscope.

In a timeframe of approximately half a century, nanotechnology has become the foundation for remarkable industrial applications and exponential growth. For example, in the pharmaceutical communities of practice, nanotechnology has had a profound impact on medical devices such as diagnostic biosensors, drug delivery systems, and imaging probes. In the food and cosmetics industries, the use of nanomaterials has increased dramatically for improvements in production, packaging, shelf life, and bioavailability. Zinc oxide quantum dot nanoparticles show antimicrobial activity against food-borne bacteria, and nanoparticles are now used as food sensors for detecting food quality and safety.

Today, nanotechnology impacts human life in most ways. The potential benefits



are limitless and very diverse. However, because of extensive human exposure to nanoparticles, there is a significant concern about the potential health and environmental risks. These concerns have led to the emergence of additional scientific disciplines including nanotoxicology and nanomedicine. Nanotoxicology is the study of potential adverse health effects of nanoparticles. Nanomedicine, which includes subsectors such as tissue engineering, biomaterials, biosensors, and bioimaging, was developed to study the benefits and risks of nanomaterials used in medicine and medical devices. Some of the potential benefits of medical nanomaterials include improved drug delivery, antibacterial coatings of medical devices, reduced inflammation, better surgical tissue healing, and detection of circulating cancer cells. However, due to the lack of reliable toxicity data, the potential to affect human health continues to be a major concern.

Isum Senanayake

J.A.R.V.I.S is the new tomorrow

"AI doesn't have to be evil to destroy humanity – if AI has a goal and humanity just happens to come in the way, it will destroy humanity as a matter of course without even thinking about it, no hard feelings.

-Elon Musk-

What is AI or artificial intelligence? Artificial intelligence is a wide-ranging branch of computer science concerned with building smart machines capable of performing tasks that typically require human intelligence. AI is an interdisciplinary science with multiple approaches, but advancements in machine learning and deep learning are creating a paradigm shift in virtually every sector of the tech industry.

Artificial Intelligence was founded as an academic discipline in 1956, and in the years since has experienced several waves of optimism. In 2012, another breakthrough heralded AI's potential to tackle a multitude of new tasks previously thought of as too complex for any machine. Artificial intelligence (AI) and robotics have become increasingly hot topics in the press and academia. In October 2017, Bloomberg published an article claiming that artificial intelligence is likely to be the "most disruptive force in technology in the coming decade" and warning that firms that are slow to embrace the technology may risk extinction. 2020 is the year when an AI system gained the ability to write and talk like a human being on any topic you can think of.

AI applications include advanced web search engines (such as Google, Bing, and Yahoo), recommendation systems (such as YouTube, Amazon, and Netflix), understanding human speech (such as Siri, Alexa, Google Assistant), self-driving cars (such as Tesla, Google Waymo), and competing at the highest level in strategic game systems (such as chess and Go, AlphaGo and Dark Forest)

There are 4 main types of Artificial Intelligence

1. Reactive Machines

Reactive machines are the simplest level of robots. They cannot create memories or use information learned to influence future decisions – they are only able to react to presently existing situations.

2. Limited Memory

A limited memory machine, as the name might suggest, can retain some information learned from observing previous events or data. It can build knowledge using that memory in conjunction with pre-programmed data. Self-driving cars for instance store pre-programmed data, lane markings, and maps, alongside observing surrounding information such as the speed and direction of nearby cars, or the movement of nearby pedestrians.

3. Theory of Mind

Human beings have thoughts and feelings, memories, or other brain patterns that drive and influence their behavior. It is based on this psychology that theory of mind researchers work, hoping to develop computers that can imitate human mental models. That is machines that can understand that people and animals have thoughts and feelings that can affect their behavior.

4. Self-Awareness

Self-awareness AI machines are the most complex that we might ever be able to envision and are described by some as the ultimate goal of AI. These are machines that have human-level consciousness and understand their existence in the world. They don't just ask for something they need, they understand that they need something, just an example; 'I want a glass of water is a very different statement to 'I know I want a glass of water.

"AI can be our friend."

- Bill Gates

Technology is something that changes and evolves within every passing second. Also, artificial intelligence is getting more and more advanced day by day. Artificial Intelligence will bring a huge revolution into the history of mankind. Human civilization will flourish by amplifying human intelligence with artificial intelligence, as long as we manage to keep the technology beneficial.

Deveen Balasuriya

WONDROUS GALLE

Galle is a coastal city of Sri Lanka situated on the Southern tip of the country. Before Europeans arrived in Sri Lanka Galle was known as 'Gimhathitha' meaning the "port near the river gin" in Sinhalese. Galle's name was derived from the Latin word 'gallus' which means rooster. The name was solidified after the western occupation of the coastal areas of the country. In Galle, the most noteworthy historical landmarks came from the western occupation era.

Galle reached the height of its development in the colonized era under Dutch in the 18th century. But the city of Galle was first designed and built by the Portuguese. They fortified the city and further fortifications were added in the era of Dutch and British as well. Remnants of this fortified city are still preserved today. This remnant is known colloquially as the Galle fort. This fortification originally was an earthen structure with palisades covering the inland side of the fort with a rampart and three bastions. The Sea wall of the fort was completed much later. The organized fortification was further enhanced by Dutch with coral and granite stones. Inside this fortification lies many other historical landmarks.

One of them is the Dutch reformed church also known as "Groote Kerk" which was built in 1640. The church is paved with gravestones from the Dutch cemetery which was at the same location.

Another historical landmark inside the fort is the new orient hotel which was originally built for the exclusive use of the Dutch governor and his staff. This hotel building was again modernized into "Amangalla" resort.

Outside the fortification on the coastal line stands Galle lighthouse. It was first erected in 1848 by the British. Originally this lighthouse was constructed with cast iron plates. Later the lighthouse was rebuilt because of a fire. This is the lighthouse we observe today.

All in all, Galle city is a rich melting pot of western and eastern cultures that created a unique ambiance that still stands strong.

Senula Deelana

THE MOST POPULOUS STATE IN THE CARIBBEAN

The Republic of Cuba is an island nation in the Caribbean. Its islands include Cuba, the archipelago of Isla de la Juventud, and the Archipelagos. Havana is its capital and the largest city in Cuba. Santiago de Cuba is its second-largest city. Cuba has a population of 11 million and is the most populated state in the Caribbean. Its people, culture, and customs are diverse and include the original settlers, the Tino, and the Kibuni people. During the Spanish colonial era, African slaves were introduced to the country. Cuba and the United States are about the same size.

The governments of Cuba between independence from Spain and the Revolution have been regarded as client states of the United States.

Cuba is a founding member of the United Nations, the G77, the Non-Aligned Movement, the Organization of African, Caribbean, and Pacific States, ALBA, and the Organization of American States. It currently operates on one of the world's only planned economies, and it is dominated by the tourism industry and the exports of skilled labor, sugar, tobacco, and coffee. Cuba has historically – both before and during Communist rule – performed better than other countries in the region on several socioeconomic indicators, such as literacy, and infant mortality, and life expectancy.

Cuban culture is influenced by its melting pot of cultures, primarily those of Spain, Africa, and the indigenous Tainos of Cuba. The mass media in Cuba consist of several different types: television, radio, newspapers, and the internet. The Cuban media are tightly controlled by the Cuban government led by the Communist Party of Cuba in the past five decades. The PCC strictly censors news, information, and commentary, and restricts the dissemination of foreign publications to tourist hotels.

Methjaya Pathberiya

The Great Barrier Reef

The Great Barrier Reef, which is considered the world's largest barrier reef is a precious wonder located on the North East coast of Queensland state, Australia. This entire ecosystem was named as a world heritage in 1981.

Geography

The Great Barrier stretches about 2600km and most of the place's width takes up to 50KM. This reef is protected by the Great Barrier Reef Marine Park Authority.

History

The Great Barrier reef is a natural structure that covers up a large area and habitat for most marine animals.

20 000 years ago, a large glaucous occurred and the sea-water level raised. Then the lower islands were submerged. Later coral reefs started to grow on them. This is the main reason that caused the formation of this eco-system.

Biodiversity

This barrier reef is a habitat for a handful of major, rare, and unique marine species as mentioned earlier. These extraordinary creatures make this place the most complete natural system on this planet.

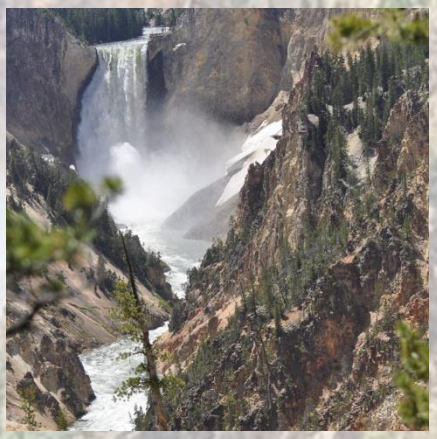
There are about 1625 species of fish, more than 40 species of hard coral, and 6/7 of marine turtles in the world that can be seen in this ecosystem.

The Great Barrier reef is one of the most important parts of this planet Earth. This is the only place where two UNESCO world heritage sites meet each other and also, there are some of the most popular diving sites in the world. Every human on earth must raise their voice against the pollution, coral reef bleaching, and other harmful factors affecting this barrier reef. As always, nature will only exist until humans can protect it themselves.

Ranuk Siriwardena

Yellowstone National Park

Yellowstone National Park is one of the largest and oldest national parks in American history. Yellowstone was the first park to be protected by private investment on March 1, 1872, and the first to be put under the jurisdiction of the National Park Service in 1918, no doubt due to its unique and inspiring landscape and geothermal features. In fact, Yellowstone National Park is home to half of the world's total hydrothermal features. These awesome attractions draw an incredible amount of visitors, an average of two to three million each year, to Yellowstone's immense landscape.



This large amount of people has prompted legislative action to clearly define the park's borders in 1929 and has also inspired park management programs to protect the area's native wolf and grizzly bear population. Tourism to the area has also prompted Yellowstone's Lake Trout problem, believed to be the product of visitors' introduction of this unitive species to the Yellowstone Lake and River. The exotic lake trout has a few natural predators in the Yellowstone area, and the expansion of a lake trout population in this area is likely to lead to an abrupt decline of the favorable native cutthroat trout population as it has in other western lakes. This poses some serious problems for Yellowstone waterways as the cutthroat trout is known as a major food source for 42 species of mammals and birds.

When the wolves were reintroduced to Yellowstone National Park, the wolves' prey decreased in populations, and the predators had population increases. In The Importance of Predators, the Yellowstone Case, it shows that the Yellowstone valley had birds, bison, and beavers about 150 years ago.

Isum Senanayake

E - AGRICULTURE

Agriculture in Sri Lanka is mainly dependent on rice production. Its main objective is to achieve sustainable and equitable agricultural development through the dissemination and development of enhanced agricultural technology. The Government of Sri Lanka has established a Department of Agriculture to achieve this end in the name of the Department of Agriculture - Sri Lanka (DOASL). The basic activities are research, extension, seed planting and transplanting, material production, regulatory services, plant quarantine, pesticide registration. The Media Supply Unit of the Department is the Sri Lanka Audio Visual Center (AVC) Sri Lanka. The Department has established several Agricultural Parks.

Rice production in Sri Lanka

Rice is the staple food of Sri Lanka. It also exports rice annually. But that hasn't happened in the last few years. The Department of Agriculture expects a paddy harvest of about 2.7 million during the Yala season from April to September. Paddy is cultivated in about 807,763 hectares in Sri Lanka. 64% of it is cultivated during the Maha season and 35% during the Yala season. 879,000 farming families are involved in rice production. They make up about 20% of the country's population and 32% of the workforce. Many farmers today use genetically modified seeds for cultivation. A good climate helps to get a more productive harvest. It is advisable to have dry weather at the time of harvest.

The gross domestic product declined substantially during the past 3 decades (from 30 percent in 1970 to 21 percent in 2000), it is the most important source of employment for the majority of the Sri Lankan workforce. Approximately 38 percent of the total labor force was engaged in agriculture in 1999. In the subsistence sector, rice is the main crop and farming rice is the most important economic activity for the majority of the people living in rural areas.

Methjaya Pathberiya

The natural diet of plants

Organic matter is plant parts or animal waste. Organic fertilizers are used when organic matter is used in crop production. Compost production involves the conversion of complex organic matter into simple organic matter by the action of microorganisms. Organically produced as organic fertilizer, organic matter is important in crop cultivation and the commercialization of organic fertilizer. That is, the compost is in a decomposed state and can be used directly on crops, and can be fertilized very quickly for plant growth. Also, in commercialization, organic fertilizer can be defined as adding value to organic waste. Therefore, it is more important to use organically produced organic fertilizers than to use organic waste as a crop.

The main organic fertilizers are peat, animal wastes, plant wastes.

Peat

Peat, or turf, is a plant material that is only partially decomposed. It is a source of organic matter. Soil with higher levels of organic matter is less likely to compact, which improves soil aeration and water drainage, as well as assists in supporting soil microbial health. It is sometimes credited as being the most widely use organic fertilizer and by volume is the top organic amendment.

Animal Sources

Animal sourced materials include both animal manures and residues from the slaughter of animals. Manures are derived from milk-producing dairy animals, egg-producing poultry, and animals raised for meat and hide production, or sport and recreation.

Plant

Processed organic fertilizers include compost, humic acid, grain meal, amino acids, and seaweed extracts. Other examples are natural enzyme-digested proteins. Decomposing crop residue (green manure) from prior years is another source of fertility.

Compost provides little in the means of nutrients to plants, but it does provide soil stability through increasing organic matter.

Grain meals can be made of corn gluten, alfalfa, cottonseed, or soybean. Most supply nitrogen and potassium, but soybean meal provides nitrogen and phosphorus. When initially spread they can cause an increase in ammonia within the soil and burn seeds, it is recommended to use these after plants have developed, to ensure crop success.

Akmitha Jayakody