

ONE INDIA ONE PEOPLE

Patriotism Redefined

India's Mavericks



Leading the kindly innovation light!

**Greasing wheels of innovation,
design**

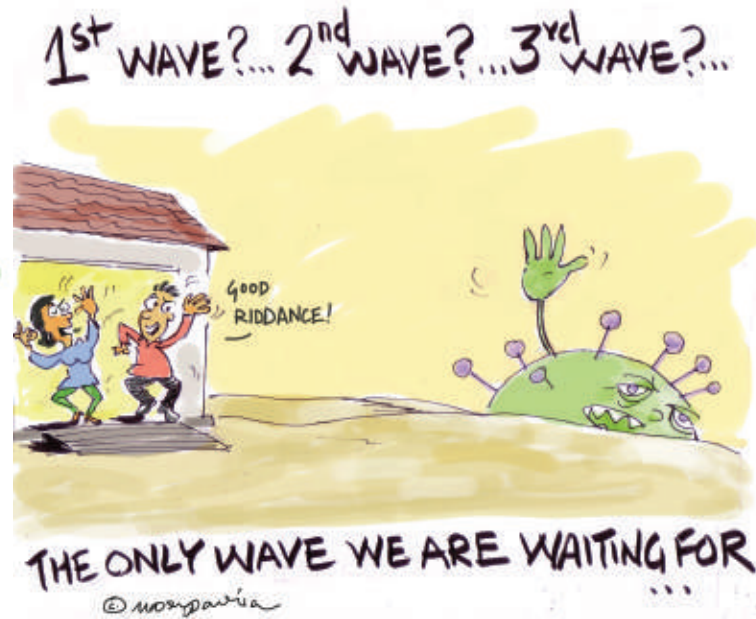
"Think Smart" guardians of environs

Know India Better

Forts of India – III

Face to Face

Farida Kothawala

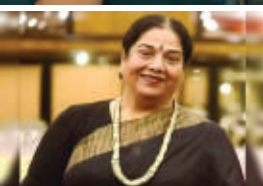


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Leading the kindly innovation light!

*The country is taking a quantum leap in bringing about a sea transformation in changing the lives of people at large for better, thanks to stellar role of the mavericks who are leaving no stone turned to improve lives through pioneering work in Science and Technology, says **Trisha Sharma**.*



Atal Innovation Mission

Innovation, by definition, is the introduction of something new or a change made to an existing idea, product or service. It is the key to success of an organisation and society as well. Innovations, particularly technological, affect all aspects of modern day living.

India is a pioneer when it comes to innovations that benefit the society at large. Indian 'mavericks' behind these innovations and inventions come from different strata of society and educational backgrounds, some even 'uneducated'. But, their ideas and creations are helping in the advancement of society, solving social problems and improving lives of billions of people in India and around the world.

Innovation is the core of existence today. It's important that an innovation brings about a positive change or improves an existing situation. Today, technology is carefully integrated with all human activities and technological innovations are reshaping the society. Innovations improve a nation's economic growth, educational capabilities, general health and well-being of the people and help in curbing social risks too. Innovators are finding solutions to global issues such as climate change and local matters such as designing a drone to spray pesticide on a farm.

India offers nurturing ground to innovators

India has always been a leader in the realm of science, technology and innovations in these fields. Inventions made in the country have inspired and helped the world. India is already a world leader in several technologies and is set to become a global leader in technologies aiding sustainable development and sustainable living. Various government agencies, institutions and educational entities work towards providing an encouraging and nurturing ground to young innovators and those from under-privileged backgrounds.

These entities work to ensure there is proper scouting and support given to grassroots innovations. They also work to ensure there is a distribution of grassroots innovations in a planned and sustained manner. Innovations that meet the environmental needs and socio-economic needs of the society must be encouraged.

It's important to have innovations that further self-reliance where needed and help in the generation of people-generated sustainable technologies. India provides

the right blend of traditional knowledge and modern education and knowledge to innovators. It's important to establish the link between the formal education system and traditional knowledge systems to create a product or a service that serves the society well.

Initiatives to further the spirit of innovation

Besides the support from the various ministries and departments, there are several initiatives of the government that help further the spirit of innovation. The Atal Innovation Mission (AIM) is a Government of India's flagship initiative 'to promote a culture of innovation and entrepreneurship in the country.' Atal Innovation Mission was launched with a vision to 'Cultivate one million children in India as Neoteric Innovators.' Its objective is to develop new programmes and policies for fostering innovation in different sectors of the economy, provide platform and collaboration opportunities for different stakeholders, create awareness and create an umbrella structure to oversee innovation ecosystem of the country.

Atal Innovation Mission is establishing Atal Tinkering Laboratories (ATLs) in schools across India. The objective of this scheme is 'to foster curiosity, creativity and imagination in young minds; and inculcate skills such as design mind-set, computational thinking, adaptive learning, physical computing etc.' ATL is a work space where young minds can give shape to their ideas through hands on do-it-yourself mode; and learn innovation skills. Young children get a chance to work with tools and equipment to understand the concepts of STEM (Science, Technology, Engineering and Math).

There are several other initiatives and programmes by public and private entities that promote social awareness and applications of such innovations. Also, many work towards the incorporation of such programmes in educational spheres starting from school, in the country's developmental policies and other programmes.

Young mavericks shine bright

When *Tilak Mehta* founded *Paper n Parcel*, he became the world's youngest entrepreneur who made a digital courier company by providing one day parcel service with the help of Mumbai's famous Dabbawalas. Tilak got the inspiration to create the company from the swiftness and efficiency of Mumbai's dabbawalas whose accurate tiffin delivery services have garnered world-wide attention. The vision behind his idea was to "Make everyone's life easier no matter if they are a delivery partner, a Dabbawala or a loyal customer."

Tilak Mehta's success story is only indicative of the potential and the surge of millions of success stories around the country where the innovator is a young mind. Such innovations have been recognised by everyone including the State and several other organisations that identify and provide platform to such Mavericks to "help India become a creative and knowledge-based society by expanding policy and institutional space for grassroots technological innova-

tors." Children of all ages are designing products that help the visually-impaired, the physically handicapped, the infirm and those with learning and hearing disabilities. There are those who are environment conscious and have designed apps and appliances to track air pollution, vehicular emissions and to reduce the carbon footprint of human activities.

The start-up landscape

In the last couple of decades, the Indian start-up and innovation landscape has grown tremendously. The affiliated industries have seen a significant boom of inventors and innovators that are bringing positive change through technology and are finding simple, innovative solutions to problems plaguing the society. These individuals draw their success to their power of observation combined with sense of empathy and a desire for change. It's this desire that has helped the innovators to address problems – big and small. These technological innovators are the future of the nation. They are the enablers of change when other solutions fail. They see solutions to problems that others struggle with on a daily basis. They are the trailblazers who have positively affected human lives in India and beyond.

The several realms of innovation

In India, there are plenty of brilliant minds that are influencing several spheres of human existence such as health and medicine, environment, design and technology, public service, education, home appliances, etc. Mavericks in India have created some of the most path-breaking ideas and products that have inspired innovators from around the world. As we embark upon the 22nd century, there'll be new challenges. Today, the world is changing faster than before and the problems that have challenged humanity are evolving every day. No one could have imagined that the most medically-advanced nations would fall down on their knees to the novel coronavirus aka COVID-19.

Had it not been for those who could think 'out of the box' and imagine brand new solutions to eke out a 'strategy' to bring the world out of one of the worst crises of all times, it would have been a very different world today. These brilliant minds worked tirelessly for months on end, with hard work, determination and empathy to find ways to put an end to the pandemic. In India, the COVID-19 vaccination programme, the largest vaccination drive in the world, is set to inoculate the largest democracy in the world.

Over centuries, across the world, innovators of the time have found ingenious solutions to problems of that time. Innovation is essential to a healthy society. They are changing the world one day at a time.

Trisha Sharma is a media researcher with The History and Heritage Project – A DraftCraft International Initiative to document details, analyse facts and plug lacunae generated by oversight or to further national or foreign agenda in History and Heritage Across India and Beyond Borders

Greasing wheels of innovation, design

Prachi Desai pleads for an approach that focuses on design, technological feasibility and a smart business and marketing strategy to create an end-product that will be accepted by the users for its customer value.



Odisha-based Tanmay Sethi who designed an Insect-Killing Dustbin

There are several requirements for a successful invention. It requires genius, hard work, creativity, perseverance and most importantly, a good design. Innovation drives the world and design drives innovation. Design ensures that the product or device being invented solves the simple and complex problems for the benefit of the individual or the group of people to benefit from the invention. A good design also improves the efficiency of the product. Design also makes a product useful for the real world by ensuring feasibility and practicality.

Innovators and inventors design products and appliances to address the requirements of the end-user. An idea, however smart, is of no use till it solves the problem at hand or has a practical use. A new design is successful only when it has value, usefulness, ease of use and market presence. Technology or idea alone cannot assure a good and useful invention. An approach that focuses on design, technological feasibility and a smart business and marketing strategy is what creates an end-product that will be accepted by the users and has customer value.

Innovative designs for household items

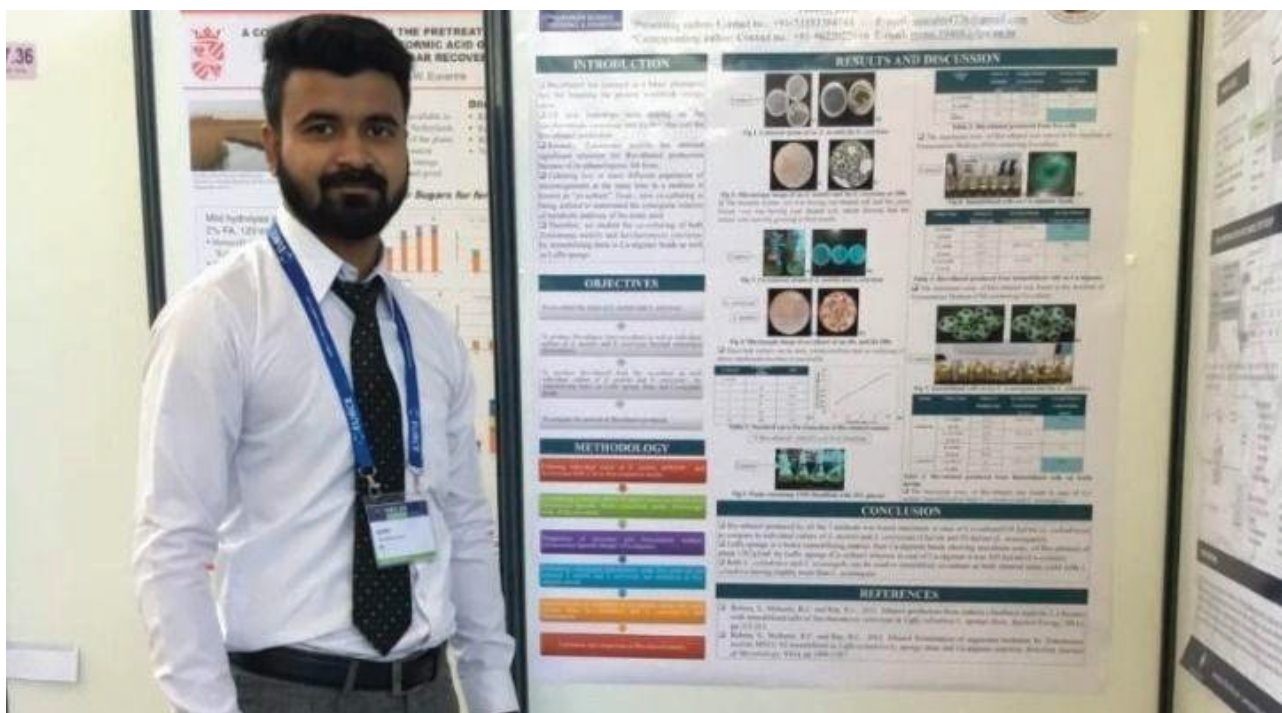
There are many brilliant minds in India with innovative ideas and have managed to implement them into reality with realistic and useful designs. Like Odisha-based Tanmay Sethi who designed an Insect-Killing Dustbin. The dustbin has a bug zapper attached to the top of the dustbin

to trap and kill all the insects immediately. This keeps the area clean and prevents the spread of germs and diseases. The sight of his mother getting tired cleaning the house made Arman Gupta restless. He decided to design a remote-controlled cleaning machine that mops and dries a surface on its own. A robotics enthusiast, Arman developed keen interest in the field at a young age. The portable machine he made has detachable sponges and can be used to clean different kinds of surfaces.

Bihar's Sidhant Kumar wanted to do something to ensure stored water stays clean. He had been seeing how difficult it was to get water and, once stored, to ensure it remained clean. He built an easy cleaning water tank that is designed in a manner that the impurities and the insoluble particles are automatically cleaned. When water is stored in a tank over time the dirt gets settled at the bottom of the tank and it becomes difficult to remove the deposited dirt or to clean the tank. The tank that Sidhant designed has a slope at the base of the tank leading to an outlet. This makes cleaning easy and the dirt can be washed away swiftly and smoothly whenever needed.

Designing for sustainable energy production

A student of Lovely Professional University in Punjab, Saurabh Kumar designed a way to mass-produce bioethanol. He was one of the youngest researchers at a paper presentation conference in Portugal, the 27th



Saurabh Kumar's design to produce mass-produce bioethanol

European Biomass Conference and Exhibition (EUBCE).

Bioethanol is a compound manufactured by fermenting the sucrose and starch-rich parts of crops that are left over after a harvest. It's a form of renewable energy and a high octane number biofuel that can be generated from common crops rich in starch. It's less toxic to the environment and has relatively low net emissions as compared to other commonly-used fuels. Saurabh's method is simple and encourages farmers to grow crops such as wheat and sugarcane. When produced in mass quantities, the increased production of the biofuel provides a viable fuel for automobiles.

It's important to switch to renewable sources of energy such as wind, solar, etc. to ensure sustainability and availability for future generations. A team of 15 girls from Indira Gandhi Delhi Technical University for Women won honours at the Shell Eco Marathon in Singapore for their creation of an energy-efficient vehicle. The all-women team from Asia comprising 15 engineers also won the Perseverance and Spirit of the Event Award for their creation - Iris 2.0 – a three-wheeled vehicle with a mileage of 300 kmpl. Farming needs served by innovative designs

India is still primarily an agriculture-based economy. Farming is an important economic activity in the country. A group of students from Lovely Professional University in Punjab have created a drone, the Flying Farmer, for surveying purposes. The drone equipped with wireless sensors help map the area of the farm it's flying over. It surveys the yield in the farm and the biomass simultaneously and estimates the nutrient content of the soil.

All these variables are valuable information for a farmer to make decisions. The drone created by the students can also be used on the farm to deliver pesticides to certain areas of a farm. The drone is an easy-to-use device and comes at a very affordable price.

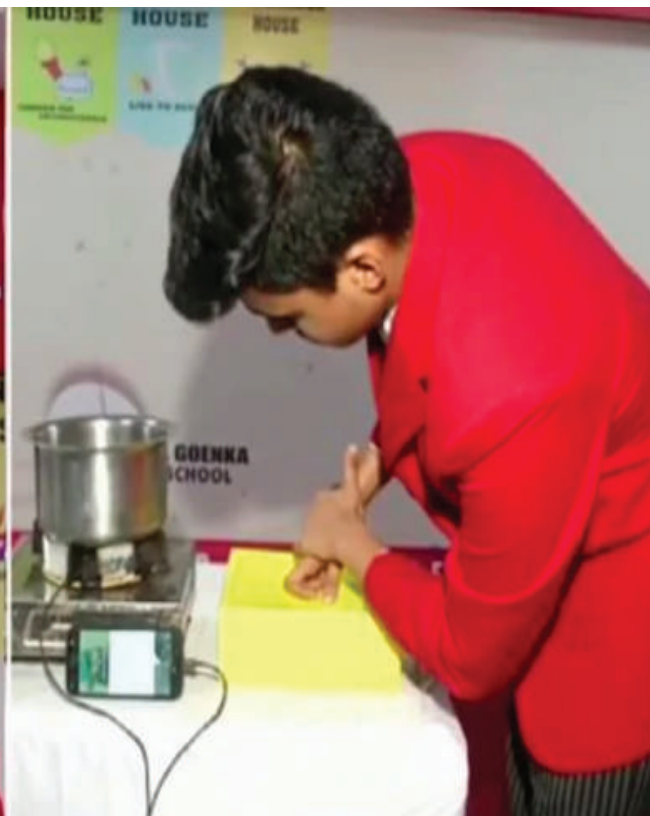
Innovative designs for the kitchen

They say necessity is the mother of invention. Lucknow-based Pranjal Srivastava had seen how difficult it was for his relatives to continue their routine activities in the absence of electricity. They would either use kerosene lamp or another source of energy. Also, during the cooking process, a lot of extra heat would be generated which ends up being wasted if not tapped. Pranjal invented a thermo-electric stove generator that serves dual purposes. It is designed in a manner that it can be used for cooking food and to charge a mobile phone too at the same time.

The stove converts waste heat into electrical energy or electricity. The energy produced is stored in a supercapacitor and a USB port is attached to the other end to harness the electric power so generated. Pranjal designed the appliance keeping in mind the multiple needs of a household. The stove is extremely economical and can be built at a price of Rs 400. For this innovation, Pranjal also received the first prize at the Standard National Inspire Awards as well as the Student Innovation Competition in the Philippines.

Ensuring safety in kitchens

A kitchen is incomplete without an LPG cylinder that brings with it a set of risks too. Most urban homes in



Lucknow-based Pranjal Srivastava (right); The thermoelectric stove generator for which he won an award (left)

India use cooking gas supplied through LPG cylinders. The cylinders come with the safety protocols but accidents involving LPG is common and, in most cases, life-threatening. Gautam Kumar addressed the problem of leakage from the cylinders by developing a simple gas detection system. The system uses a sensor and a communication module to issue warning to the user of the LPG cylinder on his/her registered mobile number.

cylinder in time that causes cylinder blasts in kitchens killing thousands of people every year. It is particularly useful for the elderly, the infirm and those who live alone. The innovation is called 'Suraksha' and is touted to improve safety level in millions of homes in the country.

Bhubaneswar-based Gautam has created two variants of Suraksha – for individual and for commercial use – designed to improve safety levels in Indian kitchens.

A design to help young girls

Three students of Mumbai's Cathedral and John Connon School built and set up a 3D-printed sanitary napkin dispensing machine. The three innovators - Devika Malhotra, Malini Dasgupta and Aditi Arya built the machine using 3D printing technology. The machine uses a coil and a light sensor to release sanitary napkins. The girls had first built a cardboard prototype and later modified it to a prototype using plastic. The idea behind the device came from the realisation that many girls do not have access to sanitary napkins and some even miss school during periods. The first such machine was installed in the school itself in a girls' toilet.



Bhubaneswar-based Gautam has created two variants of Suraksha to improve safety levels in Indian kitchens

Gautam was also named the Social Innovator of the year. His invention is set to detect gas leakage from the

Prachi Desai is a Delhi-based researcher with Maverick – A DraftCraft International initiative to further reach, accountability and the law in Pre-Primary, Primary, Intermediary and Secondary Education

Talent to the fore on tech expressway

*The country is moving into the top orbit as a robust technological hub thanks to the government facilitating innovation and creating a highly conducive atmosphere for the start-ups. This is a great augury for investors and promoters to stake resources in India, contends **Rashmi Singhvi**.*



Bengaluru-based entrepreneur Jonna Venkata Karthik Raja built India's largest newspaper aggregator when he founded Paperboy

In September 2020, India moved up by four places to reach the 48th rank of the Global Innovation Index (GII) and for the first time made it to the top fifty countries in the GI. India's innovation landscape, particularly in technology, is bright and promising to say the least.

India is a technology hub and talented individuals in all parts of the country are designing inventing and innovating in various areas using technology like never before. Even those from remote parts of India are using the conducive environment, support and encouragement from the government and affiliated institutions to create path-breaking technological inventions that are changing the face of the world.

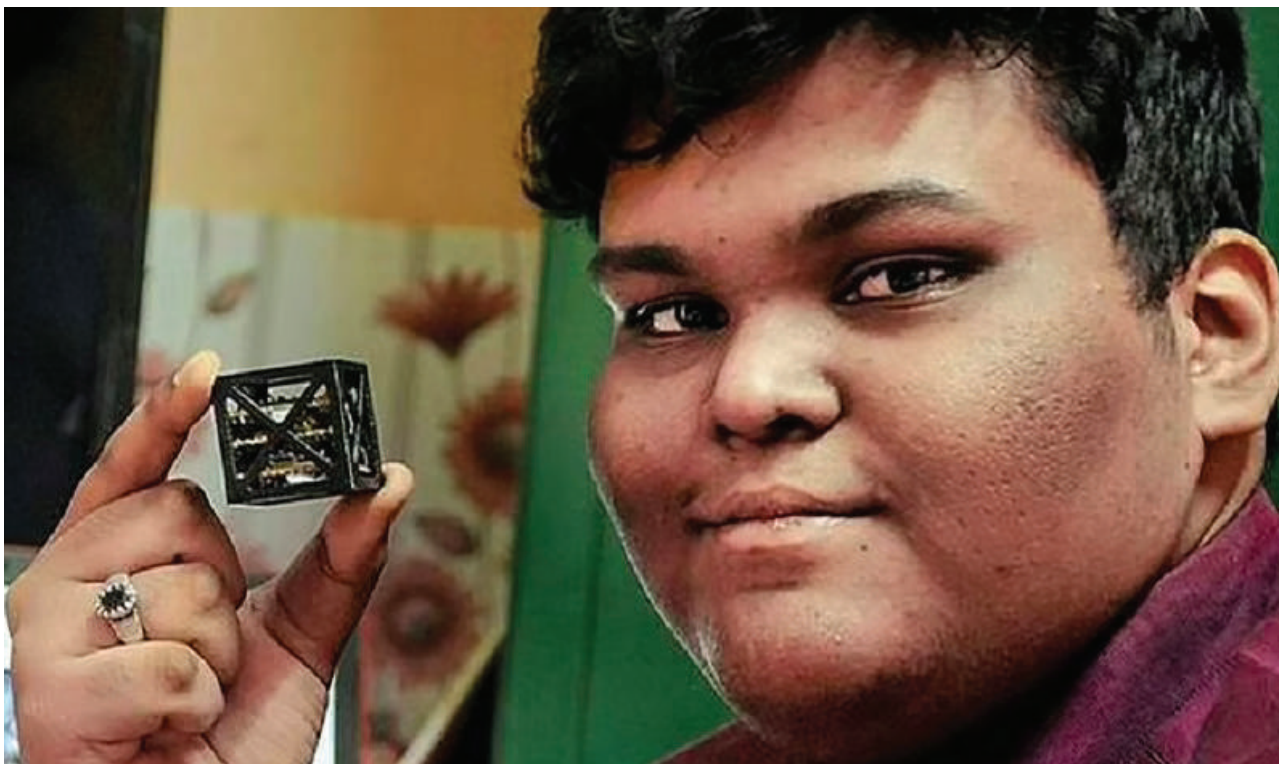
The Indian start-up scene has witnessed many inventors blossom in the last couple of decades. Now, even younger prodigies are inventing every day and entering into the start-up arena with their creations. This has lured investors and promoters not only in India but from all over the

world. Technology giants such as Google, Microsoft and Facebook are diverting a lot of resources to scout for talent in the country.

Tech sector creating opportunities

India's supremacy in the world of technology cannot be understated or ignored. The country ranks third among the most attractive investment destinations for technology transactions in the world. In November 2020, Union Minister of Department of Science and Technology, Dr Harsh Vardhan reiterated that 'technology is a strong priority area for the Government, and it aims to make people science centric'. The concerted impetus and focus on science and technology is providing a nurturing ground for technology innovators to tap in their acumen and present their designs to the world.

For decades now, India has realised the key to economic growth is to focus on science and technology.



Rifath Sharook, scripted history after NASA sent into space a 3D-printed satellite that he had helped build

Government policies and initiatives have been encouraging technological advancements and scientific research to boost economic growth. India is among the topmost countries in the world in the field of scientific research. Not to mention it is one of the top five nations in the field of space exploration and space technology. India has not only fast-tracked its space exploration programme but has been assisting several other countries for the same, especially the SAARC nations.

India has moved up the ranks in the Global Innovation Index (GII) from 52 in 2019 to 48 in 2020. It has also moved up to fifth rank in Global R&D Funding Forecast 2020 that compares the funding for research and development in countries. So, in terms of technological innovations, India is way ahead of the curve and offering nurturing environment to tech innovators from all parts of the country.

Innovative apps and search engines

Bengaluru-based entrepreneur Jonna Venkata Karthik Raja built India's largest newspaper aggregator when he founded Paperboy. A mobile app, Paperboy features the widest range of Indian newspapers and magazines uploaded on a platform real time. The app lists more than 400 newspapers presently and endeavours to include languages other than English in the next phase. He thought of making the app when, while travelling, he realised he didn't have access to his favourite newspapers and tapped on the increasing popularity of the mobile-based news reading platforms in India.

Abhik Saha, a native of Jalpaiguri in West Bengal, built a search engine from scratch and started a company of his own. Abhik had developed an interest in programming at a young age and started learning the same at 11. By 13, he had started his website designing company called Arnabhik Corp that was dealing with clientele from all over the world. Soon enough, he started building a security and anti-virus system to protect the computers at his school from malicious virus attacks. A little later, Abhik developed a search engine of his own called Origgon, to ensure search results generated are more relevant, devoid of spam, improve time efficiency and eliminate redundancy.

Propagating information using YouTube

A science enthusiast and a Youtuber, Samay Godika garnered attention when he created an original video explaining the process of autophagy i.e. a self-cleansing mechanism that could help fight diseases like cancer, Alzheimer's, etc. The video was among the 30 chosen for a platform that curated videos from around the world on complex topics in the field of life sciences, physics, mathematics, etc. Samay was also selected by the Massachusetts Institute of Technology (MIT) for the Launch Entrepreneurship Programme 2017.

Using technology to improve lives

Founder and CEO of Invention Labs, Ajit Narayanan developed an alternate communication system for the disabled who cannot communicate with the usual means and are incommunicado with society. The tool



Haaziq Kazi has designed a ship that patrols the world's oceans and cleans up plastic pollution along the way

called 'Avaz' uses a variety of software and hardware to provide a voice to the mute using the movement of their muscles. These muted millions use just their muscle movements. Avaz AAC is a first of its kind assistive device aimed to help people with speech disabilities to communicate. The disabilities include cerebral palsy, autism, intellectual disability, aphasia and learning disabilities, etc. In 2010, Avaz had won the National Award for Empowerment of People with Disabilities from the President of India. Ajit Narayanan was also listed in MIT Technology Review 35 under 35.

Arunachal Pradesh native Anang Tadar developed a pair of glasses to help the visually impaired navigate easily and with their 'hands free'. The goggles or glasses use the echolocation technology that mimics the way bats sense their surroundings and alerts the wearer about objects within two metres of the field view. The glasses known as G4B have won him the Dinanath Pandey Smart Idea Innovation Award and many organisations have taken a keen interest in the technology to make it ready for the market for public use.

Creating history with their inventions

Making a satellite is no small feat. Big organisations with thousands of employees such as ISRO, NASA, etc. take months to make satellites. In Tamil Nadu, Rifath Sharook, scripted history after NASA sent into space a 3D-printed satellite that he had helped build. The satellite called 'KalamSat' names after India's illustrious scientist and the man behind the country's ambitious space missions, A P J Abdul Kalam. It is also the world's smallest satellite and weighs a mere 64 grams.

Another prodigy from Kochi, Saarang Sumesh, is the youngest innovator in the country. He built his first robot when he was four years old. Till the age of ten, he had created over a dozen robots that include robots that are humanoid, smart seat belt, robotic hand, those used as walking sticks by the visually challenged and the visually impaired, etc.

Technology for the environment

Maverick Haaziq Kazi is on a mission to restore natural habitats of the living world and fix the plastic pollution issue. Studying in Pune-based Indus International School, he has designed a ship that 'patrols' the world's oceans and 'cleans up' plastic pollution along the way. He also happens to be one of the youngest presenters at TEDx.

The ship called ERVIS, set to weigh about 600 tonnes, is designed to be powered by hydrogen and renewable natural gas. Apparatus on the ship's sides create mini whirlpools to suck in nearby water and, with them, the waste floating alongside. This waste is then sorted internally, with storage spaces earmarked for both plastic and spilled oil and the clean water is pumped back out. Once filled, the storage containers can be disengaged and transported to land, where the waste can be recycled.

Mamta Gupta is a Research Associate with Maverick – A DraftCraft International initiative to further reach, accountability and the law in Pre-Primary, Primary, Intermediary and Secondary Education.

“Think Smart” guardians of environs

*Young mavericks are thinking out of the box, rallying round and harnessing technology to arrest environmental depredation and put the disturbed ecological algorithm back on rails. These are viable and sustainable solutions that bode well for mankind too, points out **Sanghamitra Moitra**.*



Delhi-based Kavya Vignesh and her team designed ‘Bee Saver Bot’

India’s Maverick brigade feels very strongly about the environment and related issues. They are coming out in bigger numbers to create awareness among members of the public on environmental problems, thinking out of the box to find innovative solutions to the environmental issues of the day and devise sustainable solutions to tackle problems for the future.

The lot realises how important the environment is for their existence and that of the future generations. The mistakes done by their predecessors have to be addressed and it’s important to find creative and viable solutions to lessen the burden on environmental resources and restore the ecosystems that are essential for humans too. So, these innovators are creating gadgets and devices even using technology to tackle one of the biggest challenges of the century.

Ensuring all lives are protected

Global warming and climate change have affected millions of species of birds, animals and insects. It has impacted their natural cycles and behaviour patterns. While most people choose to ignore how human activity is degrading nature, New Delhi-based Kavya Vignesh decided to do something about it. She built a robot to save the bees while

working with a team of six other students and two teachers from Delhi Public School. Normally, as a common practice, unwanted beehives are destroyed or burnt, killing many bees in the process too. The bot developed by Kavya and her team relocates a beehive without harming the bees in the process.

Kavya’s interest in robotics developed at a young age and since the beginning she was focussed on using robotics and to solve real life problems. It was this

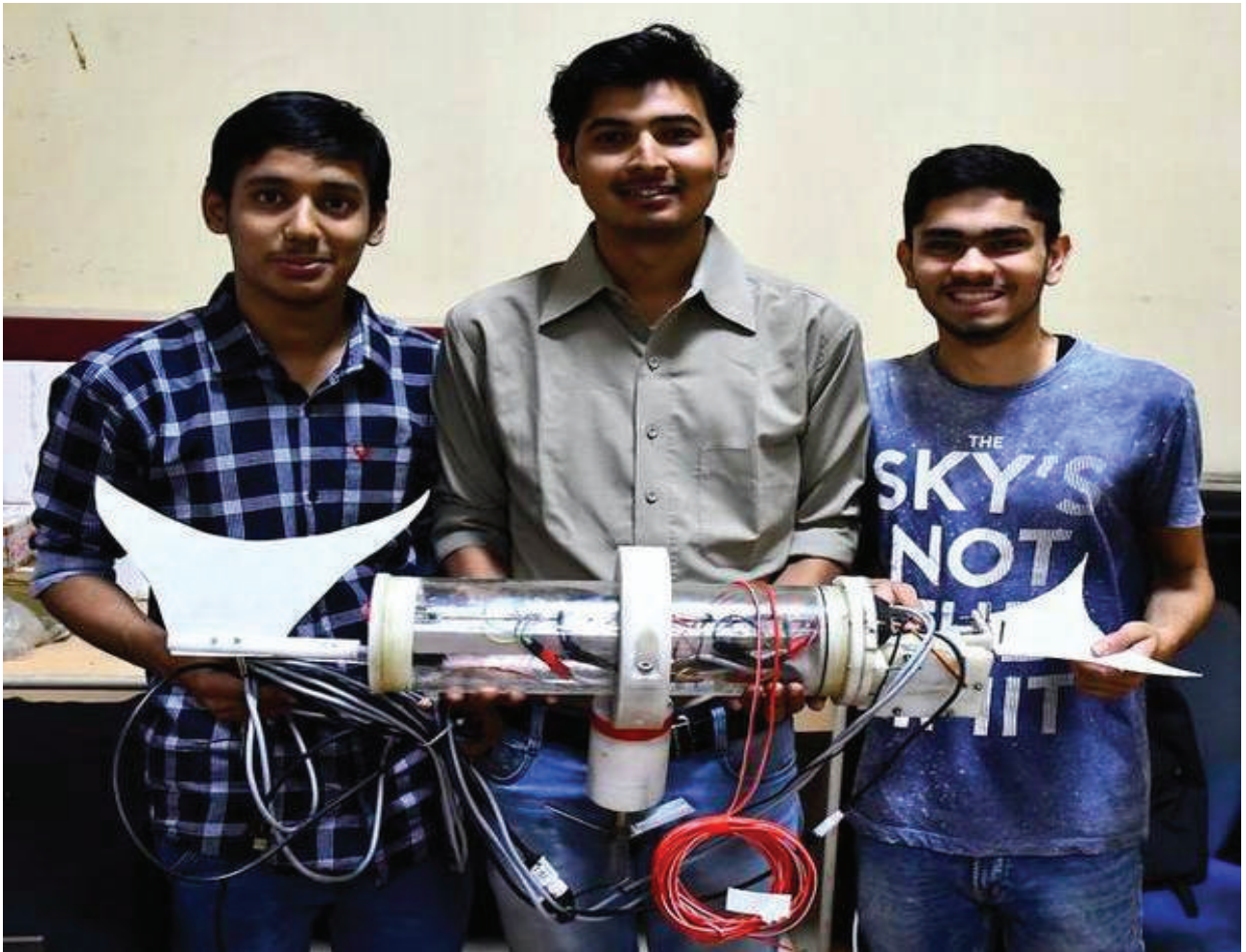
determination that led to the creation of the bee saving bot called ‘Bee Saver Bot’. Kavya’s team, called Supercalifragilisticexpialidocious, was also India’s youngest to qualify for the First Lego League (FLL)-European Open Championship (EOC) held in Denmark in May 2017.

Assisting in sewer cleaning

And, there’s more that robots can do to save the environment. A team of students from IIT Madras built a device, a sewer-cleaning robot called SEPoy Septic Tank Robot in 2019. The current version of the bot, a smaller version of its predecessor, basically swims through the waste in sewers and uses its fins to dislodge and cut the sludge into smaller chunks that are manageable and easier to handle. In this way, the bot helps in clearing the sludge and eliminates manual labour in the cleaning process. So, a sewer cleaning tank pumps the sludge, mostly in the top layer, out of the sewer without any human intervention.

Affordable ACs for the poor

A crucial aspect of environmental degradation is the abuse of natural resources in generating electricity and other sources of energy for human use and comfort. Electricity supply is an essential amenity, particularly in cities, where



A team of students from IIT Madras built a device, a sewer-cleaning robot called SEPoy Septic Tank Robot in 2019

the demand is high and the consumption, excessive. Kalyani Shrivastava, a 16-year-old crusader for environmental issues from Jhansi, built a low-cost and low on carbon footprint air conditioner that is powered by solar energy. The AC costs a reasonable amount of Rs 1,800 and manages a temperature drop of four to five degrees when used for an hour.

The air conditioner built by Kalyani has an ice box made of thermocol where air is released from a 12 volt DC fan. Daughter of teacher parents, Kalyani's invention has managed to garner foreign interest also. The AC has been constructed in a manner that it doesn't cause any pollution and also eliminates the emission of CFCs, the ozone-depleting chemicals, into the atmosphere. The eco-friendly device works on solar power and doesn't use any electricity, further reducing the carbon footprint of the device. Kalyani invention, the Desi AC, is an affordable air conditioner for the poor to bet the scorching Indian summers.

Garbage collection made easy

Mathura-based teenager Sikanto Mandal was in the ninth grade when he designed the unique garbage collecting device built from old wooden furniture and bicycle

brakes and chains. The motivation behind the invention was the 'mundane' daily routine of picking waste from the school grounds that he and his friends had to undertake with their bare hands. The first version of Sikanto's garbage collecting device was a lightweight device that had 'pockets' to keep a broom, water container and waste material.

Sikanto's parents, both daily wage labourers, migrated to Mathura from West Bengal more than a decade ago. He built the device in a period of six weeks. The garbage collection cart is equipped with a picker to collect garbage without touching it, a gripper and a handle which helps with the easy dumping of the garbage. The unique feature of the 'cleanliness cart' is that it is fully manual and very easy to carry around and operate. It is not dependent on any external source for power. Sikanto has been taking his invention through innovation fairs and exhibitions across the country. The device has been picked up by a Gujarat-based start-up for mass production.

Solar-driven bike keeps the environment clean

Vehicular emission is one of the biggest contribu-



Garbage collecting device designed by Mathura-based teenager Sikanto Mandal

tors to air pollution, primarily because of the petroleum products used as fuel in these vehicles. Even the most clean and green technology causes pollution when petroleum products are used as fuel. Haryana-based teenager Avneet Kumar used a bicycle to build a fully functional solar bike that has no carbon footprint and doesn't generate any polluting emissions.

Avneet's solar-powered bike is not only cost-effective but emission free as it is driven by solar power. The power is generated via its back panels that drive the bike forward. The bike can touch a maximum speed of 20 kmph and has several interesting features such as charging ports and an anti-sleeping alarm too. The single seater bike was built as an alternative to pollution causing vehicles running on conventional energy sources i.e. on energy derived from fossil fuels. In the future, Avneet dreams of making a low-cost solar car.

Air and water pollution indicators for timely action

The menace of air pollution is much higher in cities than in rural zones. City dwellers regularly experience the health impacts of bad air quality. The effects are particularly worse for children, the elderly and those with underlying health conditions such as asthma, suppressed immunity, allergies, etc.

Three students of Bharti Vidyapeeth College of Engineering in Delhi - Tanmay Srivastava, Kanishk Jeet and Perna Khanna developed an app that measures the Air

Quality Index (AQI) in an area using a smartphone. The app called 'Air Cognizer' is an Android app and available for a free download.

The app is based on machine learning technology and uses image processing techniques to determine the air quality. The trio even won a cash prize of Rs 1, 09,500 from a US-based organisation for their innovative work.

And, pollution is not just restricted to air. Human activity has polluted all realms of the planet including water. Water pollution causes diseases, even death and affects the quality of life. Gitanjali Rao was only 12 when she realised how water pollution was affecting lives. She wanted to help save lives and developed a device called Tethys that checks the lead content in drinking water.

It's a portable device that is fast and accurately determines the lead levels. Rao's invention is named after the Greek Titan goddess of clean water. The 3D-printed box comprises a battery, Bluetooth mechanism and carbon nanotubes. She got the idea for Tethys after reading about a similar technology used to detect hazardous gas in the air.

Sanghamitra Moitra is a Mumbai-based researcher with Maverick – A DraftCraft International initiative to further reach, accountability and the law in Pre-Primary, Primary, Intermediary and Secondary Education.

Innovative 'fixes' for social issues

India is witnessing a welcome rise in the number of socially conscious young inventors who are fabricating technologies that have the potential to make life easier and bearable for people at large, across spheres, says **Mamta Gupta**.



Shalini Kumari invented a walker with adjustable legs



India's innovation and design landscape has been expanding fast over the last few years. More interestingly, the segment is witnessing many young inventors and designers who are building path-breaking technologies and devices. Many such innovators are also creating solutions that affect the masses and are beneficial for public at large.

More recently, such socially driven young inventors are coming to the fore. They say necessity is the mother of invention. These teen social inventors are empathetic and sensitive to the needs of people and are using their skills and brilliance to make the world a better place to live in. Innovation for the infirm

If it were not for the difficulties faced by her grandfather, Shalini Kumari probably would not have thought of inventing a walker with adjustable legs. She was so moved by her grandfather's plight that she designed a great walker to help the physically weak climb stairs, a formidable task for the infirm, and landed in the NIF-India's league of winners.

A resident of Patna, Bihar, Shalini thought of making the innovative walker when her grandfather met with an accident that left him physically weak and dependent. He

could use a regular walker to walk but not to climb stairs that he used to climb in a jiffy, earlier, to get to the roof of the house for his daily walks in the terrace garden. With the regular walker he could walk on an even surface but it was not flexible enough to be used on stairs. Noticing her grandfather's helplessness to do what is supposedly a 'simple task', Shalini decided to 'fix' the situation.

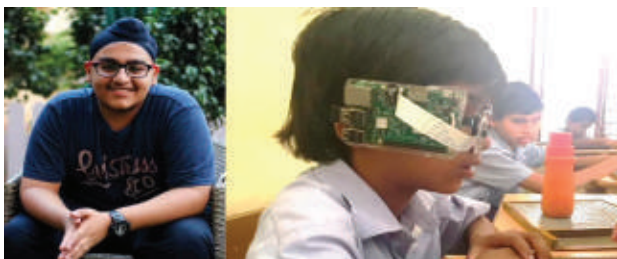
She designed a walker that had adjustable front legs that could be used to climb stairs. The then 12-year-old design was a walker with a spring and self-locking front legs. The person using the walker has to push the front legs of the walker on the upper stair and the rear legs rest on the lower stair. This stabilises the walker and makes it strong enough to hold the weight of the person on it. The flexible and stabilising mechanism enables the user to climb the stairs using the adjustable legs of the walker.

The walker can hold a weight of up to 100 kg and can be adjusted for different surfaces. The adjustable walker also has a foldable seat, horn and a light attached to it. Shalini thought of the design in a jiffy but putting her idea into practice was a challenge given the limitation of resources and experience to create such a thing. It was then the National Innovation Foundation's IGNITE awards for young

innovators came along and gave Shalini the impetus and support she needed at the time.

The issue that Shalini tackled is faced by millions across India, in particular, and the world at large. After China, India is the second highest population in the world. The number of elderly in India, concurrently, is high too. Among health issues that plague the elderly is the one about balance which affects daily life. An innovation as unique as the adjustable walker provides the much-needed adjustment that supplements an elderly person's quality of life immensely.

Device to assist the visually impaired



Gurugram-based teenager Gursimran Singh built a device that helps the visually impaired to read

Gurugram-based teenager Gursimran Singh built a device that helps the visually impaired to read. The assistive device called EyeScribe helps the visually impaired experience the joy of reading. He thought of creating the device when he witnessed the struggles of a relative who was visually impaired. Gursimran would see the relative struggle every day. He would ask himself what he could do to help the visually impaired. The struggles were particularly pronounced when the relative had to read voluminous books printed in Braille.

Gursimran designed the device in three months and it was first screened at the Atal Tinkering Lab Innovation Challenge by NITI Ayog in the FICCI Auditorium in November 2016. EyeScribe is a 'wearable technology that captures images using a camera and produces an audio output using a text to speech engine'. The device has received several recognitions, awards and funding owing to the uniqueness of the invention.

Using coding skills to solve real problems

Naman Tiwari is a developer of 22 apps that cover a wide range of subjects such as women safety and security, malaria detection, education, etc. Even as an 11-year-old, Shahjahanpur-based Naman picked up coding as a hobby and learnt mobile app development on his own. Many of his apps are available on Google Play Store. Despite no access to fancy devices or formal training in app development of programming language, Naman achieved the extraordinary feat with sheer determination and focus.

In the initial phase, Naman was developing entertainment apps. When he saw the problems in the medical industry in the country, he quickly shifted to social aware-

ness apps. Two of his apps called Malaria Defender and Secure Girls are particularly garnering positive response. His most complex and popular application Malaria Defender helps detect malaria in seconds. Malaria is a dreadful disease and wreaks havoc in the endemic zones. The app takes a few seconds to check the symptoms of malaria in a person and gives a prescribed health report. It's a technological solution for those who cannot afford the doctor's fees. The app can even work offline. The app got selected in the Facebook Start Bootstrap Programme.

On the other hand, Secure Girls is an app for women's safety. Secure Girls provides important helpline information to women. It also has a panic button which can be used to send an emergency message. In the future, Naman dreams of running his software development company and creating change in people's lives.

Tool to identify 'strays'

Bengaluru-based Aparna Gupte from National Public School developed a software tool to recognise and track stray dogs for vaccination. She realised that the vaccination attempts by civic authorities could be made more efficient if they had a proper recording system. So, she decided to make one for them. She first obtained pre-trained neural networks capable of identifying dogs in images extracted from video recordings and then used a modified face recognition algorithm to detect unique markings and features of stray dogs. Aparna's model was able to obtain 92 per cent accuracy.

Another student from National Public School, Bengaluru, Rishank Kanaparti realised how using high beam headlights on the roads at night could lead to accidents that could easily have been avoided. So, he used Artificial Intelligence to develop an AI-powered solution to manage the issue at hand. The sensors detect an oncoming vehicle and the system automatically dips the car headlights down until the other car passes, thereby keeping both the vehicles safe. It's an affordable solution and can be integrated with most vehicles.

Innovation to tackle malnutrition

Bengaluru-based Ayush Gharat knew he had to do something when he visited an Anganwadi for a school project. He realised how real the problem of malnutrition in the country was. He decided to help the Anganwadi centres by using technology and designed a software called mNutrition. The tool allows employees to diagnose malnutrition in children below the age of five by comparing their height, weight and age against the World Health Organisation (WHO) standards. This helps in early detection and timely treatment of the affected children.

Mamta Gupta is a Research Associate with Maverick – A DraftCraft International initiative to further reach, accountability and the law in Pre-Primary, Primary, Intermediary and Secondary Education



FORTS OF INDIA - III

Stuff celluloid stories are made of

Each of these forts has an evocative story to tell, a mood to reflect and breathe the magic of its historic and turbulent past. Not just the relics of a bygone era, they are living testimonies of the glorious culture of the past that has survived across generations.

Text & Photographs: Akul Tripathi



The fort of Raigad was and continues to be representative of the Maratha power

Across the world, Bollywood is known for packing so many genres into one movie. The variety, the ease with which it all mingles astounds everyone. For me, forts are just like that. They are all *masala* movies with their own star cast, drama, romance, action, intrigue, family feuds and more often than seems evident, comedies of circumstance, and even dark angst.

The stories unravel as you walk its path. The background music palpable as the twists and turns take you to its womb. The light and how it bounces off the various walls and facades tell its mood; and once you are absorbed with these, the trees and stones that have witnessed the many genres that lived and breathed there will implant these tales in you; and the augmented reality it creates, will make you live the many histories it lived.

Each moment, an act of magic and relativity. Where a year may take pages to unravel, and yet centuries could pass in a comma. Each story summed up in a sentence where entire books may offer not much but a prelude...

Raigad

The fort of Raigad was and continues to be representative of the Maratha power. The history of Raigad, in every way represents the history of the Marathas.

The fort of Raigad however preceded the coming of the Maratha Empire. It was earlier known as Rairi which means royal hill and was the seat of petty Maratha chiefs. The records establish its existence since about the 11th century. In the 15th century, it was a tributary of the Bahamani Kingdom and in 1479 passed to the Nizamshahi rulers of Ahmednagar and was with them till 1636 when the Mughals conquered Ahmednagar and handed the fort over to the Adilshahi kings of Bijapur.

The Raigad forts have the peculiarity of being built on a rocky outcrop that is removed from the other mountains and connected to them by a thin strip of land while the other three sides have steep cliffs which are inaccessible, making the flat hilltop an ideal location for a fort.

It was the fort in which grew from childhood to adolescent, the fiery heart of the Marathas – their leader in whose name and image an empire would be forged – Chhatrapati Shivaji Maharaj; and whose coronation amid these walls would be the grandest, most talked about event of his generation.

For an official recognition of his status, Shivaji arranged for a coronation befitting his vision and ambitions. The coronation was a grand affair and everyone was invited. Even British officers were present. People had come from far and wide to witness the coronation of their king, the hero of their legends, as evident in this eyewitness account of the coronation at Raigad -

“As Shivaji mounted the throne, small lotuses of gold set with jewels and various other flowers made of gold and silver were showered among the assembled throng. Sixteen married Brahman women performed the auspicious waving of the lamps around the newly enthroned monarch. The Brahmans lifted up their voices, chanting holy verses and blessing the king, who bowed to them in return. The crowd set up deafening shouts of “Victory, victory unto Shivaji Raje!” All the instruments began to play and the musicians began to sing at once. By previous arrangement the artillery of every kingdom fired salvoes of all their guns exactly at the same time. The arch-pontiff Gaga Bhatte

advanced to the throne, held the royal sun shade of cloth of gold fringed with pearls over his head and hailed him as Shiva, the paramount sovereign.”

What few people know is that immediately after the coronation, there were a series of unfortunate events. Kashibai, the queen consort, the queen mother Jijabai and the commander-in-chief Pratap Rao died within a short period of time. Priests from a tantric background in Bengal blamed the propitiating of only Vedic Gods for this misfortune. So within a short span of time, another coronation was held as per Bengali tantric rites.

At the time of Shivaji's death, his eldest son, Sambhaji, who was popular among the courtiers was imprisoned in Panhala by Shivaji himself for irresponsible behaviour. After Shivaji's death, Sambhaji's step-mother made plans with various ministers and installed her son, Sambhaji's half-brother on the throne. Hearing this, Sambhaji plotted his escape from Panhala, killed the commander there, came to Raigad and took possession of the fort. Here, he was crowned Chhatrapati in July 1680 and he ruled for nine years.

Sambhaji's death had put the Mughals in disarray and his younger half-brother Rajaram ascended the throne and vowed to continue the battle against the Mughals.



Inside Raigad Fort



Kumbhalgarh – the birth place of Maharana Pratap

However, within a few days Raigad fell to the Mughals and Rajaram had to flee to Jinji in Tamil Nadu.

Differences within the Marathas were the cause for the weakening of the Maratha empire, and after the loss at the Third Battle of Panipat, the empire stopped expanding. The British were getting more aggressive in their dealings in India and in 1818, the Marathas lost to the British and became overlords of India. Cannons were used to destroy the Raigad fort and the buildings inside it.

Kumbhalgarh

The birthplace of Maharana Pratap, it is amongst the grandest and most extensive forts in the world with a 36 km long continuous wall that is second only to the Great Wall of China. Kumbhalgarh was Rajasthan's second most important fort after Chittorgarh and holds the distinction of having been conquered just once in its history!

Built by Maharana Rana Kumbha in the 15th century and after who it is named, it was considered unconquerable and is secure in the protection of the Aravali hills. Encircled by 13 elevated mountain peaks, the fort is constructed on the top most ridges around 1,914 meters above sea level. The huge complex of the fort has numerous palaces, temples and gardens and boasts of seven massive gates, seven ramparts folded with one another with designed walls toughened by curved bastions and





The Roha Fort is an architectural marvel

huge watch towers. It is also known for its famous palace that resides on the top of structure. This beautiful palace is known as 'Badal Mahal' or the Palace of Clouds.

Tales abound from the macabre to the incredible. Rana Kumbha, the founder of the fort was murdered by his own son. The kingdom rebelled against the son and he had to flee from Mewar. Soon, he died -- struck by lightning! Divine retribution for the patricide he committed? Legend has it that the grand walls of Kumbhalgarh were not being built and some ordained that a human sacrifice was necessary. Finally a travelling fakir volunteered and at the place of his death, there is a temple and where his head fell on decapitation is where the foundation of wall began.

In the times of dissension, the fort also offered refuge to the rulers of Mewar. Even, the baby king Udai Singh was kept here safe during the time of battle. After the death of Maharana Pratap, the Mewar resistance to the Mughals was over as his son Amar Singh accepted a treaty with Jehangir. Mewar became a part of the Mughal Empire and later a princely state under the British. In the late 19th century, Rana Fateh Singh once again took the initiative to rebuild this remarkable palace. Parts of the fort walls have never been explored and it is believed that booby traps still exist.

Roha

Built during the 1550s, the fort complex was built in phases and came up over several decades under the various descendants of the rulers of the Rohajagir. The 'jagirdar' or ruler of the place Rao Khengarji-I established the town and his brother Sahebji then took over. There were once 52 villages under this fort.

An architectural marvel, the fort complex has a number of jaw-dropping sites and every corner is intricately carved and ornamented. The structure reveals that the palaces of the king and his queens were connected by a long, raised passage which was completely covered in detailed wooden *jaali* work. The lace-like carved walls allowed those within to have a clear view of the outside but no one from the outside could see in.

History has it that during those days, Roha was considered to be one of the wealthiest provinces in Gujarat. Even during British raj, Roha was so affluent that the reigning family had the power to maintain their own laws and keep the jail. During the period, several changes were also made to the structure, and renovation was carried out in spurts. It is said that during construction of the fort, two



The fort complex has a number of jaw-dropping sites



Every corner is intricately carved

large tanks were built and if the rumours are to be believed, these are filled with gold and silver...and yet to be discovered.

Covering an area of 16 acres, the fort appears like a temple and was mainly built with the use of stone and baked bricks. Over the years, most of the parts of the fort have been destroyed by earthquake and lack of proper management. But one can see a temple at the bottom and another one at the top of a small hill.

Roha is also known as 'Sumari Roha' from a popular folklore that 120 Rajput princesses from Sumra in Sindh sought refuge with Abda who was the Jagirdar of Abdasa. When Abda died in the battle with Alauddin Khilji, the princesses sacrificed their lives here to escape Khilji.

The famous late 19th century prolific Gujarati poet Kalapi is believed to have spent a lot of time on this hill, penning many of his verses on love, nature, and spirituality.

Bathinda

In what was once the frontier regions of Hindustan, a silent sentinel traces its history as far back as when Jesus was walking the streets of Jerusalem. A fort that has been the proud host of great names like Mohammad Ghori, Mahmud Ghazni, Prithviraj Chauhan and where the indomitable Sultan

Raziya was imprisoned; the Qila Mubarak of Bathinda, was once the axe that broke the invaders from the north!.

In its early days the fort was probably a structure made of sand and mud. The fort the way it stands today was most likely built by Ala Singh – the king of Patiala and his descendants in the 18th century. Majority of the bricks in the fort date to this era during which time, Nanakshahi bricks which are decorated bricks and more than a fourth size smaller than the bricks in use today. Architecturally, the fort is a formidable structure built on a roughly rectangular plan, each side extending up to 200 metres. The extraordinarily thick curtain wall of the fort soars up to 30 metres, dwarfing everything in its vicinity.

Bathinda was situated along the ancient route which connected Delhi with Multan, the gateway of Hindustan from the northwest. To check the foreign invasions, a line of strongholds to the north of the Ghaggar river was erected during the early centuries of the Christian era. Of all these strongholds, only one at Bathinda could endure the ravages of time.

Once the Mughals won over Hindustan, Bathinda did not remain a frontier province. Babur, the founder of the Mughal empire came to India with canons, four of which made with an alloy of silver, gold, copper and iron remain here. In 1705 Guru Gobind Singh visited Bathinda and initiated large number of people into Khalsa Panth. It was Bathinda area where Guru Gobind Singh, the tenth Sikh Guru, prepared the full version of the Sikh scriptures called Sri Guru Granth Sahib. Maharaja Karam Singh, in 1835, built a gurudwara – Gurdwara Shri Qila Mubarak Sahib, which still stands in the premises.



Bathinda Fort in its early days was probably a structure made of sand and mud

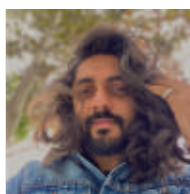


Bathinda Fort was once the axe that broke the invaders from the north



It was Bathinda area where Guru Gobind Singh, the tenth Sikh Guru, prepared the full version of the Sri Guru Granth Sahib

To summarise these mega-blockbusters in few words is often injustice, but without reviews, nowadays, who watches movies? So I guess, it is the same with the forts. Remember though, what you read is just a trailer, and every time you visit, they will feel your presence and play their myriad stories – just for you...



Akul Tripathi is a senior media and entertainment professional. You can follow him on Instagram : <https://www.instagram.com/akul-tripathi/?hl=en>

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“My dream is to become the best makeup artist in Pune by end 2021”

Passionate about the aesthetics of beauty, Pune's **Farida Kothawala** describes her journey as an aspiring beautician and her resolve to be the best in the craft.

**In conversation with
A. Radhakrishnan.**

What fascinates you most about make up?

It's a career where I am living my dream. Making someone look beautiful and changing the way they look gives me pleasure. I enhance facial aesthetics and create customised looks for clients. I feel blessed when my clients look gorgeous.

How did you build up your career?

My journey as a make-up artist began in 2016 when I was seven months pregnant. My baby was just two-month-old when I started freelancing. I wasn't earning much but my objective was to learn and enhance my skills. I began by visiting cosmetic shops in the neighbourhood. Initially, there were obstacles and criticism but I didn't lose my patience and kept focusing on self-development. I spent time researching about the craft. In 2018 I travelled to Malaysia and did a week's course to enhance my skills. My family was supportive all through. Things began to look up in 2019 when people started appreciating my work and I could open my own salon. I kept updating my skills and learning something new. My short-term goal is to become the best make-up artist in Pune and I hope to accomplish it by 2021.

Do you also have experience in wedding make-up application, fashion show make-up and product promotional makeovers?

I specialise in bridal makeup and I use only high-end products. I do have a lot of experience in wedding and fashion show make-up as well as product promotional make-overs. I also have experience in fantasy make-overs, prosthetic make-up and Halloween make-up.

How do you remain up to date with new trends in make-up fashion and what is your biggest challenge?

I keep an eye out for celebrity style. Following influencers is



the easiest way to stay updated but if you want to know what the brands are launching you have to follow their accounts.

I follow every major fashion brand -- luxury or otherwise. I also follow the few channels that provide updates on fashion. One of my favourites is Haute Le Mode. They post a video every week discussing celebrity wear and the latest trends in the industry.

Some channels focus on developing personal style and recommend new places to shop and new ways to style yourself. My greatest challenge is when I am doing a celebrity shoot.

What are some common beauty mistakes that women make?

They tend to overuse lower lid eyeliner; applying dark eye shadows the wrong way; select the wrong lipstick tone and apply too much concealer.

What three make-up items should a woman always keep in her bag?

The first make-up item you must have is a great concealer. Second would be a neutral toned lip gloss and third would be mascara.

How do you prepare different skin types before applying make-up?

The first step in skin care routine should be cleansing the dirt, oil, and impurities from the surface.

How does one get rid of wrinkles?

Coconut oil use can help the wrinkles to fade and also acts as a moisturising agent.

Tell me about a time you had a very stressful day at work. What did you do?

I never feel stressed on job. On a hard day, I opt for the Spa to relax.

Which one is more superior - natural beauty or make-up beauty?

It is a bold statement to let your natural beauty shine. Too often, women are encouraged to cover up with make-up and use the latest fashion. Simplicity is the hottest trend that is empowering young women around the globe.

What types of customers have you been handling at your salon?

They are of seven types and I have learned to handle them in my own way and keep them happy. They include the shy, the angry, the unhappy, the impossible-to-please, the hearing-impaired, the visually-impaired types and those who speak another language. Each gives you a learning curve and a lesson in inter-personal relations.

Is make-up women-centric or caters to men too?

These days even men go for it, especially during weddings when we get huge requirements for groom make-up.

Do you dream of launching your own line of cosmetics?

Not yet, but it is on my wish list.

Any expansion plans?

Your goal as a salon owner is to ensure your clients are



leaving happy and your coffers are ringing. Sooner or later, you start contemplating expansion and find out ways to increase profits.

There are two ways of salon expansion. You either move into a bigger space or invest in a brand new location. You have to break it down, understand the costs and have the confidence to take a decision.

What about running costs and government help?

Running a salon profitably calls for physical involvement coupled with sourcing and managing your capital and staff. It may cost a fortune to open a salon, regardless of the scale of business. High costs can put salon owners in debt. However, there are some good funding options and government grants for start-ups.

As salon owner you realise early on that it isn't a bad business at all. The secret is in identifying potential issues that can arise and reducing the risks.

I want government to provide stimulus package with minimum interest rate so that business works smoothly.

What is the most important beauty advice you can give to women?

Sleep well. Lack of sleep leads to dark circles under the eyes. Sunscreen is the best anti-aging product.



A. Radhakrishnan is a Pune based freelance journalist, short story writer and poet.

Bucking up health and living

*Rapid innovations in the health and wellness sector are proving to be a boon what with new techniques and processes that are simple, comfortable and affordable. **Vinita Pathak** argues these are compatible with the existing and traditional systems of medicine.*



Alefia Merchant was named Humanitarian of the Year by the Massachusetts Institute of Technology's (MIT) Technology Review India.

If there's one field that has immensely benefited from innovations, it's the health industry. Modern medical science has made tremendous growth in the last century and along with it, several affiliated areas of medicine and alternate medicine systems such as Ayurveda, Homeopathy, etc. Innovations that have aided the medical sphere are not just medical equipment and devices but also products, techniques and processes that aid in improving human health and living.

Alefia Merchant was named Humanitarian of the Year by the Massachusetts Institute of Technology's (MIT) Technology Review India. A medical student, Alefia developed a simple method to spot eye disorders in young children using images from a digital camera. Children coming from poor families do not have access to economical and cost-effective diagnostic tools. In the absence of timely diagnosis, vision threatening conditions before the age of five are not detected and millions of children continue to suffer with conditions that could have been treated on time.

Easy method for early detection of eye disorders

Alefia developed this easy method as part of her community paediatric ophthalmology project at the Narayana Nethralaya Postgraduate Institute of Ophthalmology, Bengaluru. She was the co-investigator of the project along with Dr Ashwin Mallipatna, a consultant paediatric eye surgeon at the institute. She realised that millions of children never receive basic eye screening owing to economic limitations, ignorance, etc.

The method involves a photo-red protocol that uses a digital camera to elicit red reflexes. In order to obtain a red reflex, all the layers of the eye through which light passes must be transparent and the surface of the retina must be normal. Any noticeable change in the structure of the eye changes the optics of the reflected light and is detected by the altered reflex as seen in the photograph. With little training, health workers in rural and remote areas of the

country can perform the test using a compact digital camera.

Simple ideas help solve complex problems



Tarunendra Tyagi

In Madhya Pradesh's Rewa, Tarunendra Tyagi would watch decomposing animal carcasses lying around on village roads for days. The decaying bodies and the lingering stench bothered him. He also learnt that unattended decomposing animal bodies pose risk of disease and infection to humans too. So, he decided to find a solution to the

problem and designed an animal carcass picking machine. The machine easily picks up animal carcass and makes way for a proper disposal of the carcass, in the process eliminating the risk of any infection to humans and other animals.



Digantika Bose improvised a cervical collar that can regulate temperature

Digantika Bose's grandmother was suffering from cervical spondylosis and would be in a lot of discomfort owing to the condition. Even the regular cervical collar would be uncomfortable to the grandmother. To help her, Digantika made a smart improvisation to the original cervical collar and attached a small fan at the front of the collar.

The fan regulates the temperature and humidity in the gap between the neck and the collar. Digantika also put in an additional air channel that allows for the fresh air to be released at the back of the neck. The smart cervical collar eliminates the physical discomfort and irritation caused by the normal cervical collar and makes it an easy to use product for those with cervical spondylosis.

Delhi-based Madhav Lavakare designed assistive spectacles for the deaf that has a voice to text conversion and display feature. The smart spectacle has a speech to text conversion feature that it can then be displayed on the screen of the glass. This enables those with hearing disabilities to understand what the other person is saying, by way of reading the text converted from the speech of the other person. Madhav wanted to create something that helps the

deaf or those with hearing disabilities.



Madhav Lavakare designed the spectacles to close the communication gap between the hearing-impaired and hearing-enabled

He designed the spectacles to close the communication gap between the hearing-impaired and hearing-enabled. With Madhav's spectacles, people with hearing disabilities can easily communicate with those who can speak.

Another smart innovation was done by Sikkim's Hema Pradhan who designed a shock absorbing stretcher. Hema comes from a region that often witnesses bad roads making travel extremely difficult and 'bumpy' for the villagers. She realised in an area where travelling is this difficult, it will be really challenging to take a patient in critical condition to a hospital without causing any further harm. Often in medical emergencies, patients have to be kept in a stable condition, especially those with spinal or head injuries. The shock absorbing stretcher designed by Hema has a spring that works as a shock absorber. So, when the stretcher is used to carry a patient or when it's picked up or brought down, the shocks during these movements are minimised, keeping the patient in a stable condition.

Using traditional knowledge for new problems

Pushpalata Saikia from Jorhat, Sikkim has been practising a traditional method to fix bone fracture and treat backaches for years. She learnt the process from her late husband and has treated more than 500 patients successfully using the process. Saikia's household has been practising this process of treating broken bones for more than six generations.

The preparation method is unique to the Saikia household and includes a combination of herbs that are available in the forest at specific times of the year. The method and the contents of the preparation are a secret, known only to a few members of the family. The person who knows about the preparation reveals it to the eldest member of the family on his/her death bed. To maintain the secrecy of the family tradition, girls born in the family are not told about the exact specification of preparing the medicine and its application. Pushpalata treats 20 to 30 patients every day without charging any fee for the same.

Another traditional bone setter, Reviben Chaudhary from Mehsana, Gujarat has been treating humans and animals with bone problems, particularly dislocation of

joints. She uses a home-made ointment for treating bones. She also treats children's ailments, pregnancy problems and various veterinary diseases and disorders like fracture and dislocation of joints. She visits over 16 neighbouring villages and treats people and animals for free.

Scooter for the physically challenged



In Gujarat's Kutch area, Dhanjibhai Kerai designed a special scooter for himself on which he can travel 150 km in a day easily. Born in a farmer's family, Dhanjibhai was born physically challenged. He was two years old when a polio attack left him disabled permanently. He cannot use one hand and both his legs. He is one and a half feet tall i.e. about 0.5 metres and weighs 19 kg in all.

Despite his disability, he never lost hope. He could not attend a regular school but went to Praudh Sikshan Kendra – Elders' Education Programme of the government for three months and learnt reading and writing to some extent. He also acquired knowledge and skill of repairing electrical and automobiles appliances. With the grit and determination, self-taught Dhanjibhai designed a special scooter for himself to become self-reliant and be able to live on his own.

The vehicle is basically an assembled scooter with the chassis and engine being that of Bajaj Priya and the outer body of Bajaj Chetak. It has two support wheels on either side for balancing the vehicle and a removable seat has been fixed in front of the usual driver seat for Dhanjibhai to reach the handle bars. A lever has been attached to the rear wheel brake, for the driver to be able to apply the brakes with his hand. The rear two wheels are kept a little higher so that the vehicle does not skid.

Vinita Pathak is an intern with www.HealthAndTheLaw.com – A DraftCraft International Initiative to spread awareness among patients of legal rights and position in law, boost medico-legal awareness, initiate legislative change and enforce accountability among healthcare players

WHO AM I?



A theatre pioneer non pareil

*Usha Ganguly was one of a kind, feisty and ready to tread uncharted territories taking on themes and issues beyond the conventional. Her versatility went far beyond the Hindi plays she was passionate about and made strong political statements for the contemporary audience, says **Shoma Chatterji** in her tribute.*



Usha Ganguly, Founder of Rangakarmee, the only Hindi theatre group in Kolkata

It is difficult to pen a posthumous tribute to a celebrity who also became a close friend over the years. Usha Ganguly's passing on April 23 last year was a personal shock as I had spoken to her over the phone just around four days before when Kolkata was in lockdown and she had no servants, lived alone and had to do all the housework herself. Her son invited her to stay with them and she did. But the independent woman that she was, she chose to come back to her own nest even when her body said "no" in so many different ways.

Fiercely independent, single, innovative, dynamic and forever committed to theatre not only as a performing art but also to make a political statement and a tool of social agency, she founded – 45 years ago – Rangakarmee, the only Hindi theatre group in Kolkata. Her plays reveal how creative, committed and talented she was though theatre was not in her genes. She was born in Rajasthan and her mother-tongue was Hindi. She came to Kolkata as a child but over

time she became more "Bengali" than many born Bengalis. Her sole aim was to spread Hindi theatre across the country and beyond.

When I first saw her perform an extract from Rudali, in Hindi, adapted from Mahasweta Devi's short story of the same name, I was mesmerised by the magic she created on-stage. That was just a seed to know more about this wonderful woman. Theatre, according to Usha Ganguly carries a socio-political context that keeps evolving in terms of form, content, subject. The topicality of the subjects it deals with is evident in every play it performs.

About one of her most outstanding plays Hum Mukhtara, Ganguly said, "My teacher Maitreyee Sengupta presented me as Mukhtar Mai (Pakistani woman who suffered the stigma of rape). I stuck by the extraordinary courage shown by an ordinary girl from a remote village in Pakistan. Shocked to read that the accused had been acquitted, I decided to portray the life of this brave girl for

the Indian audience."

The first performance of Mukhtar Mai happened in Kolkata in January 2013 as the 37th anniversary of Rangakarmee. Its shows were then regularly staged in various cities. "I do not seek revenge, I am not cowed down by terror, all I seek is justice," says Mukhtar again and again, echoing the angry voices of women anguished by the Nirbhaya gang-rape and killing.

Atmaj, the first full-fledged production of Rangakarmee within the Binodini- Keya Mancha Rangakarmee Studio Theatre was presented a couple of years ago to an invited audience. Atmaj which means "son" or, rather, "born of me" is no exception. Ganguly, who designed, directed and composed the music; used thick ropes to convey bondage, or freedom, waves of a river, trapping of a character. When Dr Nandini has labour pains, the girls around her gather some red-and-white ropes to use as a curtain to give her the privacy a mother demands at child-birth.

Antaryatra is a unique blend of the personal, the retrospective, literal and political. Ganguly used the strategy of the monologue to journey through a huge range of historic characters to portray the psyche of the woman and intertwines into this larger framework, snippets of her own life and experience as a woman who has chosen theatre as her way of life. In doing so -- through the aesthetic and imaginative use of minimalist props like colourful geometric shapes of the circle, the square, the triangle -- she brings to life historic characters like Nora from Doll's House, Sanichari from Rudaali, Himmat Mai (Mother Courage and her children) based on Bertolt Brecht's famous play written in



Usha Ganguly is one of her plays

1939, Kamla from Vijay Tendulkar's play and so on.

Among the most outstanding productions was Kashinama. It is grand in scale but sustains its humble location – Benares – which offers a beautiful world in miniature brought alive on stage. The entire stage was converted into a ghat in Benares dotted with early morning wrestlers, local masseurs, dawn bathers, devotees who would not begin their day without first offering prayers to the Gods. On one side of the ghat lives a very poor family, a microcosm of most of the local residents who live a hand-to-mouth existence in the holiest city of India. All these fall together to form the vibrant backdrop against which Dr Kashinath Singh's tale of "mutation" progresses. "It will not be possible for me to stage Kashinama again because it is impossible to gather together so many actors and technical team specially for the marathon rehearsals the play demands," she said when I asked her why she did

not perform the play these days any more.

Rangakarmee has done old plays, especially created plays, classical and contemporary plays to portray the socio-political scenario of sections of society we generally keep away from. Among its major productions over the past three decades are Mukti, Rudali, Court Martial, Kashinama and Holi. Bhor encapsulates a small, sad world of young drug addicts who lend each other their shoulders to weep on, fight and make-up, and try to love, hate, fight, struggle within this small world.

About Bhor, Usha said, "My constant interaction with the urban youth introduced me to the dark and dangerous world of addiction, addicts and rehab centres. I realised that this is kept away from the limelight because people do not feel easy talking about it. I personally visited rehab centres; spoke to the inmates and even to some of their parents. I

learnt about drug addiction and the long and painful process that leads to rehabilitation. The parents did not even want to admit that their children were drug addicts. Bhor was born out of these."

Usha Ganguly also conceived an annual woman's theatre fest called Samanway 7 an event where theatre lovers got a drift of the theatre. Her team has decided to keep the Rangakarmee flag aloft. She lives on, in and through Rangakarmee.



Shoma A. Chatterji is a freelance journalist, film scholar and author. She has authored 17 published titles

and won the National Award for Best Writing on Cinema, twice. She won the UNFPA-Laadli Media Award, 2010 for 'commitment to addressing and analysing gender issues' among many awards.

Whither Hindu temples in Pakistan

*The surprise order by Pakistan's apex court for reconstructing a vandalised historical temple has spelt hope for the minority Hindus but in a country torn by sectarian violence and beset with religious bigotry, it is difficult to visualise how the issue will reach its fruition, observes **Prof Avinash Kolhe**.*



Members of Pakistan Hindu Council hold a protest against the attack on a Hindu temple in the northwestern town of Karak, in Karachi, Pakistan,

In an unprecedented order, Pakistan's Supreme Court, on 5th January 2021 directed authorities to start reconstruction of a century-old Hindu temple vandalised by a mob in Khyber Pakhtunkhwa. It further instructed them to recover the money for the restoration work from the attackers whose act has caused 'international embarrassment' to the country.

It is heartening that the top judiciary in the Islamic Republic of Pakistan took cognizance and ordered the local authorities to appear before the court on 5th January. It also directed the Evacuee Property Trust Board [EPTB] to submit in court details of all functional and non-functional temples and Gurdwaras across Pakistan. The attack on the temple in Terri village in Karak district on Wednesday, 6th January 2021 by members of radical Jamiat-Ulema-e-Islam party drew

strong condemnation from human rights activists and the minority community leaders.

During the hearing, a three-member bench headed by the Chief Justice Gulzar Ahmed ordered the EPTB to start reconstruction work. The EPTB is a statutory board that manages religious properties and shrines of Hindus and Sikhs who had migrated to India following the Partition.

Like all South Asian countries, Pakistan too has a sizeable number of minorities. There are Hindus, Sikhs, Christians, Parsis and Buddhists in Pakistan. According to the 1951 census conducted by the Government of Pakistan, West Pakistan had 1.6% Hindu population while East Pakistan (now Bangladesh) had 22%. Cut to 1998 census. Hindus made up 1.85% and Christians 1.6% or around 32 lakh people.

These minorities live under the dreaded Blasphemy law which states that 'whoever defiles the sacred name of the Holy Prophet Muhammad (peace be upon him) shall be punished with death or imprisonment for life, and shall also be liable to fine'. It is more than clear that the law has been phrased in vague terms which violate the principle of legality. It is often used to level false accusations at people from religious minorities. Asia Bibi became the notable example of a person against whom such a violation did occur.

Religious intolerance in Pak

Then there is the centuries-old problem of sectarian Shia-Sunni rivalry. Add to this the plight of Ahamadiyas declared non-Muslims by the Zulfiqar Ali Bhutto's government in the 1970s. It sums up religious intolerance in Pakistan. In June 2020, Hindus



Pic courtesey : Times Now

conducted the most unusual ceremony for the construction of a temple in Islamabad on 25th June. A week later, the site was desecrated by a fanatic mob of the majority community. On 3rd July, a mob stole about one tonne of iron kept at the site for the construction of the Shri Krishna Temple. The mob then performed 'azan' (Islamic call to prayer) at the site. The police were unable to stop the destruction.

Since then, voices against the temple construction have grown loud. On July 6, the government of Pakistan wrote to the Council of Islamic Ideology (CII) to ask if it is within the tenets of Islam for the government to financially support the construction of a new Hindu temple in Pakistan. On July 7, the Islamabad High Court dismissed three petitions against the mandir in question, each of which argued that there was no provision for the construction of a temple in the city's master plan.

The politicians too jumped into fray. On July 2, Punjab Assembly Speaker Chaudhry Pervaiz Elahi

spoke against the construction of the new Hindu temple. "Pakistan was created in the name of Islam. Construction of a (new Hindu) temple in its capital is not only against the spirit of Islam but also an insult to Riayasat-e-Madina (the Islamic welfare state)," he said. Elahi is a member of the Pakistan Muslim League (Quaid), an ally of the Imran Khan government in Pakistan.

According to the Evacuee Trust Property Board, there are approximately 1,300 temples in the country, of which 30 are functional. In 2014, Ashok Kumar, then a member of the Islamabad Hindu Panchayat (IHP), took initiative and requested land for a temple in Pakistan's capital city, stating that Hindus in Islamabad have to go all the way to Sindh to cremate their dead and perform funeral rituals. In 2017, after three years of arguments and discouragement, IHP eventually got permission. The site was originally meant for the Buddhist community. It then took the Hindus three more years to complete all legal formalities to claim it in 2020. Hindus in Pakistan persevered despite hurdles.

Although the situation in Terry village and Islamabad appear different, at the core, they are part of the same story of religious freedom of the minorities in Pakistan. The events have triggered a debate about the role of state in religious affairs. In a video statement, religious scholar Javed Ahmed Ghamidi said the Pakistan government should assist in the construction of the temple. He argued that since the state supports the construction of mosques, it should also support the places of worship of other religions because all Pakistanis pay taxes and do their duty by the country.

There are no easy solutions and one can only wait and watch.



Prof. Avinash Kolhe retired as Associate Professor in Political Science from D.G. Ruparel College,

Mumbai.

Team India – making 1.3 billion of us proud

In team sports, it is about the playing eleven, and if you are talking a whole series, it is about everyone who played in the series and contributed with runs, wickets, catches and stumpings, feels G Venkatesh.

T rue they had us on the mat,
and went off to enjoy their
summer Christmas.
Without Kohli to go out and
bat,
they all thought it was anyone's guess,
which way the series would end
come the 19th day in a new January.
The wounded tigers first learnt to
defend,
and doing so, attack their way to
victory.
The Aussie arrogance did not subside.
They thought words and wounds
would make it 2-1.
Ashwin and Vihari silently graced,
the Sydney Test which we almost won.
A depleted team took the field at the
Gabba, or so everyone felt,
Why do challenges keep piling on?
No worries though for the young
brigade,
they made the Adelaide loss a distant
bygone.
Pant and Thakur, Siraj and Washing-
ton,
and Gill who came in like a refreshing
gale.
Hats off to you guys of Generation
Zee,
for scripting this very memorable tale.

The Indian team's experiences Down Under mirrored what India and many parts of the world experienced in 2020, doggedly battling the virus, accepting the 'new normal', learning new skills, and unearthing abilities which many did not realise they possessed till they found themselves under the battering ram. What Team India achieved in the end on an overcast evening in Brisbane, mirrors what India and Indians wish to, in year-2021, after numerous epiphany moments, where many thought that all was lost, and Armageddon was near. Some individuals and families suffered multiple blows – personal and professional, psychological and physical, mental and emotional.

Written off by the experts, but silently supported by many others who preferred to look beyond the obvious and trust in turnarounds – inspired by angelic energies from the universe which we struggle to comprehend – the squad endured one shock after another, one injury after another, one unnerving comment after another, to tell the world that it is not a good idea to write off wounded tigers. 'Paper tigers', was how someone labelled them after the loss at Adelaide. They licked their wounds, let the Aussies expend energy with their vocals, and even without the need to growl or roar, ended up as victors.

When we talk of Team India, and in the context of this magazine "One India One People", it is that a team is much bigger than any individual talented bloke in it. A team which takes the field is composed of 11 bodies, minds and hearts working together towards a common goal. Let us remember that team sports are different from individual sports. In tennis, you can shower your adulation on a Federer or a Nadal and that is fine. In team sports, it is about the playing eleven, and if you are talking a whole series, it is about everyone who played in the series and contributed with runs, wickets, catches and stumpings.

It was great to see Rishabh Pant lead the team for the ceremonial walk around the ground, with the Indian flag in hand. It was wonderful to see Pujara from Gujarat bat along with Gill from Punjab and Pant from New Delhi. It was heartening to see Shardul Thakur from Mumbai and Washington Sunder from Chennai come up with that match-saving century partnership. Hanuma Vihari from Hyderabad teamed up with Ashwin from Chennai to rescue us in Sydney, while another similar combi-

nation worked wonders with the ball in Brisbane – Mohammed Siraj and T Natarajan. Skipped by the soft-spoken Mumbaier Ajinkya Rahane, who reminded us a lot of Rahul Dravid at the helm for a brief period in the first decade of this century, the newcomers showed great gamesmanship. Mohammed Siraj who could not travel to India to attend his father's funeral, gave his all to the team and ended up as the leading wicket-taker for India. Natarajan, who could not travel to India to be with his wife when she gave birth to their baby daughter, now can go home to see her with a great deal of satisfaction.

Indians – young and old alike – can take a leaf out of what our cricketers have demonstrated in Australia in possibly the roughest and toughest of conditions. Let each one of us resolve to do good and set good examples, and while doing so, contribute to our society, city, and country.

Cricket is a great metaphor for life....if aficionados would learn to relax their fanatic devotion to this cricketer or that one, and absorb the essence of what the game teaches. Lessons for life!



G. Venkatesh is Associate Professor, Department of Engineering and Chemical Sciences, Faculty of Health, Science and Technology, Karlstad University, Sweden. He is also a freelance writer for several magazines around the world. The author has set up Varshita Venkatesh Girls' Education Fund with Plan USA in memory of his wife and the Varshita Venkatesh Plogging Fund for The Indian Ploggers Army

SUBEDAR RAM SARUP SINGH VC

A true blue Rajput warrior (1919-1944)

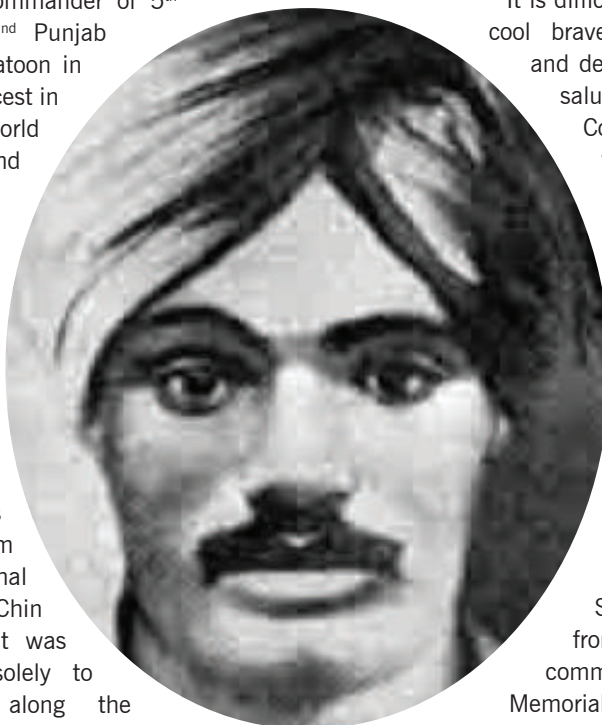
Ram Sarup Singh was born on 13 April 1919 in a Tanwar Rajput family in village Kheri Talwana, Mahendragarh, Haryana. Kheri is a cluster of about forty villages inhabited by Tanwar Rajputs where men traditionally choose a career in the army as duty towards nation. Ram Sarup passed middle class from Ahir High School, Kanina, and then enlisted in 2nd Battalion of 1st Punjab Regiment on 12 April 1937. He excelled in all service matters and he was awarded the Viceroy Commission in April 1943. He was probably the youngest soldier to have been commissioned through the ranks. Ram Sarup, then Jemadar, was Platoon Commander of 5th Platoon in 'B' Company of 2nd Punjab Battalion. At 25, he led his platoon in the last battle of his career - fiercest in Myanmar Campaign during World War II. It showed his bravery and self-sacrifice.

The unit was deployed in Myanmar in the latter half of 1944. Myanmar is covered with hills, forests and rivers. Kennedy Peak is at 8,868 ft peak in Tiddim area. As one of the world's ultra-prominent peaks it rises 4,951 feet above all other peaks nearby. Tedim Road, a 265 km transborder road connects Imphal with Tiddim in the Chin Hills (Chin State) in western Myanmar. It was constructed by the British solely to facilitate army movement along the India-Burma frontier during World War II. The Japanese position at Kennedy Peak was strong and was firmly held by fresh troops from Japan.

Every approach was covered by small and medium machine guns, sited in bunkers and the hill had turned into a fortress. On 25 October 1944, two platoons were ordered to put in a diversionary attack on the flank of the enemy position. Capture of this feature was essential to progress the operations of 20 Indian Division. The platoon commanded by Subedar Ram Sarup charged the enemy position which confused the enemy and forced it to flee from the bunkers and suffering casualties. Ram Sarup was successful in achieving the objective. Despite being severely wounded in both the legs, he stuck. He was consolidating his position when the enemy opened fire with grenade

dischargers along with strong counter-attack.

An undaunted Ram Sarup continued to lead charge. To hit back he activated another light machine gun to give covering fire and led the offensive against the advancing enemy. Ignoring his grievous wounds, he bayoneted four of them himself and killing two more of the enemy. He kept on shouting encouragement. He was mortally wounded by burst of machine gun fire in the chest and neck.



It is difficult to find a better example of cool bravery, cheerfulness, leadership and determination. His action had a salutary effect on the rest of the Company. When volunteers were called for to bring in his body, under the heaviest fire, the entire Company volunteered. He was awarded Victoria Cross (VC) by the Viceroy Lord Wavell on 1 April 1945 in the Red Fort Delhi and the medal now forms part of the collection of Lord Ashcroft collection in the Imperial War Museum in London.

Sadly, Ram Sarup Singh's body was not recovered from the battlefield. He is commemorated on the Rangoon Memorial. His posthumous VC was gazetted on 8 February 1945. In 2013, his medal group was acquired privately by Michael Ashcroft and is now on display in the Ashcroft Gallery, Imperial War Museum.

His legacy is carried by his third generation, proudly serving the Indian Army while his fourth is gearing up to follow in the footsteps of this proud Rajput clan. His martyrdom inspired Khedi Talwana and the village is known in the region as 'Fauji Gaon' since every household has at least one or two serving soldiers, some for three generations. To this day, adolescents in villages around say they want to be like Ram Sarup Singh.

- Brigadier Suresh Chandra Sharma (retd.)

ASHALATA WABGAONKAR

The ubiquitous actress (1941 –2020)

Ashalata Wabgaonkar, popular as Ashalata, was a well-known Hindi and Marathi film actress, theatre personality and television actor. Originally from Goa, she spent her life majorly in Mumbai working in the film industry and doing theatre. She studied at the prominent St. Columba Girls High School at Gamdevi, and was a post-graduate in Psychology from the SNDT Women's University.

Beginning with Konkani and Marathi plays, she acted in more than 100 plays. Her debut in theatre was enacting the role of *Revathi* in the play *Sangeet Sanshaykallol*, presented by the Goa Hindu Association. Her Marathi plays such as *Guntata Hridhya He*, *Varyavarchi Varat*, *Chinna* and *Mahananda* are evergreen in the minds of theatre goers. The drama *Matsyagandha* proved to be a milestone in Ashalata's acting career, in which she also sang the songs *Garda Sabbhoti Ran Sajni Tu Tar Chafekali*, and *Arthashunya Bhase Maja ha Kalaha Jeevanacha*.

Ashalata worked in over 100 Hindi and Marathi films in her four decade career. She was introduced to Hindi films by Basu Chatterjee in *Apne Paraye* for which she was nominated for the Filmfare Award for Best Supporting Actress and also bagged the Bengal Critics Award. She later starred in acclaimed Bollywood films such as *Loyal Servant*, *Jhoothi Shaan and Geeta*, *Ankush*, *Apne Paraye*, *Ahista Ahista*, *Shaukeen*, *Woh Saat Din*, *Namak Halal*, *Zanjeer*, *Shaukeen*, *Yaadon Ki Kasam*, *Police Force: An Inside Story*, *Azaad Desh Ke Ghulam*, etc. in supporting roles.

Some of her best known Marathi films include *Maherchi Saadi*, *Vahinichi Maya*, *Umbarcha*, *Gammatt Jammat*, *Navri Mile Navryala* and *Sutradhar and Sunrise*. She played the role of Rajmata Shakuntala, King Dushyant's wife in Doodarshan's 1998 '*Mahabharata*', among other serials. She was conferred with a Lifetime award for her contribution to Marathi theatre and cinema at the Goa Marathi Film Festival in 2014. Trained in classical music under Pandit Jitendra Abhisheki, she was a fine Marathi

Natyasangeet singer. She also sang Konkani songs broadcast over the Mumbai station of the All India Radio. Besides she was also a playwright. She documented her memories and journey in the film industry as an author with *Gard Sabhowati*, published by Lotus Publications, Mumbai.

Ashalata had been shooting in a Satara village for a month for the Marathi mythological serial in which she was playing the lead role, *Aai Majhi Kalubai*, produced by actress Alka Kubal. In the course of the shoot she and 22 other crew members tested positive for Covid despite taking all precautions. While the others got away with

home quarantine, Ashalata had to be hospitalised and put on ventilator because of her advanced age.

Ironically, she had undergone Covid test in Mumbai prior to joining the shoot. In fact, Ashalata had resumed shooting days after the Bombay High Court quashed the state government's directive that prevented cast/crew members above 65 at sets. She succumbed although showing signs of recovery initially. She was 79.

To Alka, Ashalata was like a mother figure having worked together for 35 years including in the 1991 super hit *Maherchi Sadi*. It was she who performed the last rites, honouring Ashalata's

wish as Ashalata's family refused to accept her body. She is survived by her son. A truly talented actress, Ashalata was all-loving and warm, extremely kind, sensitive and a great artiste, a delight to work with who inspired generations to come, with her splendid performances in theatre and films. She essayed her part beautifully. She had an infectious smile and had friendly disposition. She had a lovely sing-song speaking voice. She used to personally distribute sweets on the film sets.

Who knew that *Aai Mazi Kalubai* was going to be her last? Covid-19 took away a very beautiful life. Ashalata Tai has merged into infinity.

- A Radhakrishnan is a Pune based journalist, poet and short story writer.



ASTAD DEBOO

Peerless, the world was his stage (1947-2020)

A pall of gloom hung over classical dance circles across the country with the passing of renowned contemporary dancer Astad Deboo. Deboo succumbed to non-Hodgkins lymphoma, a virulent form of cancer at 73, the diagnosis coming barely a month before his demise.

In a career spanning over five decades, Astad Deboo created and visualised a dance form that was a confluence of cultures although rooted in the dynamics of Kathakali and Kathak and earned accolades galore. Born in a conservative Parsi family in Navsari, Gujarat on 13 July 1947, he picked up the rudiments of Kathak at six and trained under the late Indra Kumar Mohanty and the late Prahlad Das. After graduation he began to contemplate on choosing dancing as career. A chance dekho of a performance by the American Murray Louis Dance Academy inspired him.

To enlist at the Martha Graham Centre of Contemporary Dance, New York, a young Deboo hitch-hiked his way utilising whatever mode of transport was available and finally landed up at the Academy. He would later enroll himself for a course in the London School of Contemporary Dance as well. He was fascinated with the Martha Graham technique of dancing and imbibed its nuances which he later applied while choreographing. The extensive training in all forms of modern dance stood him in good stead when he decided to branch out on his own.

Deboo returned to India in 1977 and straightaway decided to take up the Indian dance form of Kathakali under the tutelage of Guru Krishna Panikkar in Tiruvalla. One of his earliest performances under his Guru was at the famed Sri Krishna Temple at Guruvayur. The idea of blending Kathak and Kathakali with modern dance popularised in the west came to him in a flash. He created a new style which would be an amalgamation of Indian classical dance and western group dance techniques. A turning point in his career came in 1986 when the world renowned designer Pierre Cardin commissioned him to choreograph for Maya Plisetskaya a premier ballerina in the Bolshoi Theatre Ballet Company. His choreography found merit with the established dance compa-

nies across the world.

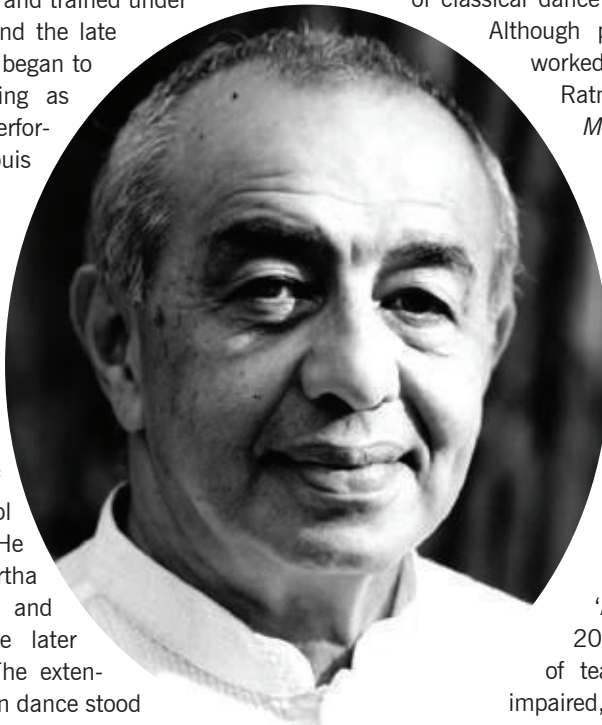
Deboo soon began to collaborate with the likes of Pina Bausch, Alison Becker Chase and the music troupe Pink Floyd. These collaborations took him across the globe and stamped his prodigious talents even further. Among his most celebrated performances was at the Great Wall of China. He also excelled in choreographing for various themes and his outstanding dance recitals included 'The Asylum' and 'Mangalore Street.' Deboo also worked closely with martial artists from Manipur creating a unique fusion of classical dance and martial arts movements.

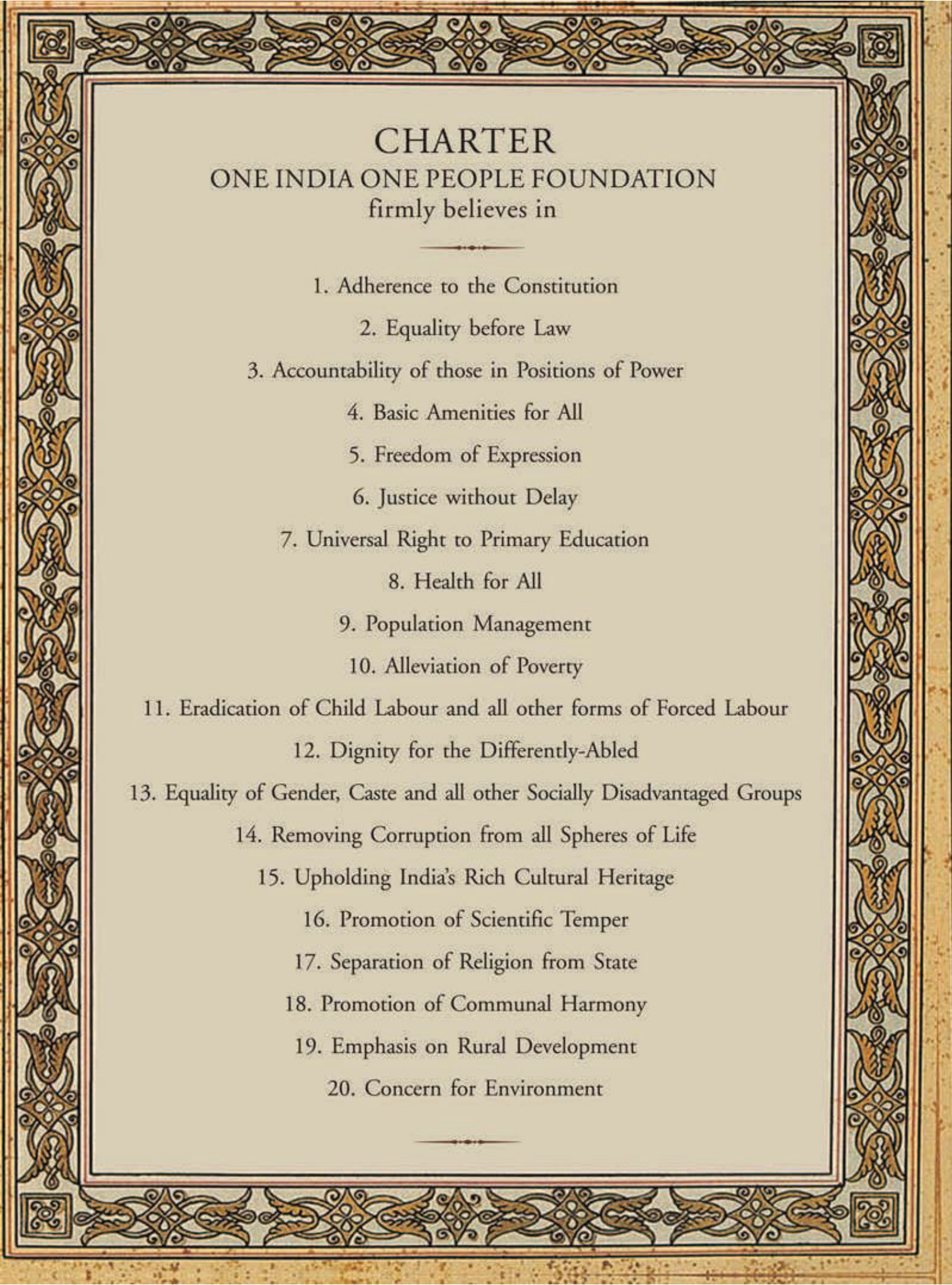
Although pressed for time the dancer worked in films directed by Mani Ratnam, Vishal Bharadwaj and in *Meenaxi – A Tale of Three Cities* helmed by painter M F Husain.

A striking feature of Deboo's repertoire apart from the fluidity and grace of his movements was his sartorial elegance. The long flowing, colourful gowns that covered him from head to toe and fluttered, even as he swirled and swayed, were eye catching and impactful.

Deboo started the 'Astad Deboo Foundation' in 2002 with the avowed objective of teaching dance to the hearing impaired, the marginalised and children with disabilities and it functioned in other countries as well. A performance by his wards at the Rashtrapati Bhavan is reported to have moved the 'People's President' APJ Abdul Kalam to tears. Deboo also courted theatre, designing, fashion photography and community welfare. He was an outstanding cultural ambassador who popularised Indian dance forms in all corners of the world. Significant among the honours and awards that came his way was the Padma Shri and the Sangeet Natak Akademi Award. Deboo passed away in Mumbai on the 10 December 2020 leaving behind a myriad memories and a legion of admirers across the world.

- C.V. Aravind is a Bangalore-based freelance journalist.





CHARTER

ONE INDIA ONE PEOPLE FOUNDATION

firmly believes in

1. Adherence to the Constitution
 2. Equality before Law
 3. Accountability of those in Positions of Power
 4. Basic Amenities for All
 5. Freedom of Expression
 6. Justice without Delay
 7. Universal Right to Primary Education
 8. Health for All
 9. Population Management
 10. Alleviation of Poverty
 11. Eradication of Child Labour and all other forms of Forced Labour
 12. Dignity for the Differently-Abled
 13. Equality of Gender, Caste and all other Socially Disadvantaged Groups
 14. Removing Corruption from all Spheres of Life
 15. Upholding India's Rich Cultural Heritage
 16. Promotion of Scientific Temper
 17. Separation of Religion from State
 18. Promotion of Communal Harmony
 19. Emphasis on Rural Development
 20. Concern for Environment
-

WHO AM I?

Am I a Hindu first or an Indian first?

Am I a Muslim first or an Indian first?

Am I a Christian first or an Indian first?

Am I a Buddhist first or an Indian first?

Am I a Brahmin first or an Indian first?

Am I a Dalit first or an Indian first?

Am I a South Indian first or an Indian first?

Am I a North Indian first or an Indian first?

Am I the President of India first or an Indian first?

Am I the Prime Minister of India first or an Indian first?

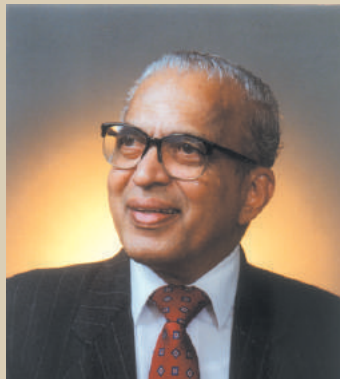
Am I the Commander-in-Chief first or an Indian first?

Am I a supporter of any 'ism' first or an Indian first?

Am I a white-collar/blue collar worker first or an Indian first?

Am I a youth/senior citizen first or an Indian first?

In all cases you are Indian First, Last and Always.
Be a Proud Indian. Make this country Great, Strong and United.



Sadanand A. Shetty, Founder Editor
(Mayober 9th 1930 – February 23rd 2007)
ONE INDIA ONE PEOPLE